

Modernising vocational education and training

**Fourth report on vocational training
research in Europe: background report**

Volume 2



CEDEFOP

Modernising vocational education and training

Fourth report on vocational training research
in Europe: background report

Volume 2

A great deal of additional information on the European Union
is available on the Internet.
It can be accessed through the Europa server (<http://europa.eu>).

Cataloguing data can be found at the end of this publication.

Luxembourg:
Office for Official Publications of the European Communities, 2009

ISBN 978-92-896-0527-4

© European Centre for the Development of Vocational Training, 2009
All rights reserved.

Designed by Fotone - Greece
Printed in the European Union

The European Centre for the Development of Vocational Training (Cedefop) is the European Union's reference centre for vocational education and training. We provide information on and analyses of vocational education and training systems, policies, research and practice. Cedefop was established in 1975 by Council Regulation (EEC) No 337/75.

Europe 123, 570 01 Thessaloniki (Pylea), GREECE
PO Box 22427, 551 02 Thessaloniki, GREECE
Tel. +30 2310490111, Fax +30 2310490020
E-mail: info@cedefop.europa.eu
www.cedefop.europa.eu

Aviana Bulgarelli, Director
Christian Lettmayr, Deputy Director
Juan Menéndez-Valdés, Chair of the Governing Board

Table of contents

Foreword	9
Acknowledgments	10
Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research <i>Pascaline Descy, Guy Tchibozo, Manfred Tessaring</i>	12
New and emerging issues in vocational education and training research beyond 2010 <i>Catherine Béduwé, Jean-François Germe, Tom Leney, Jordi Planas, Marianne Poumay, Russel Armstrong</i>	17
The training and development of VET teachers and trainers in Europe <i>David J. Parsons, Jacqui Hughes, Chris Allison, Kenneth Walsh</i>	73
Learning at the workplace <i>Elke Gruber, Irene Mandl, Thomas Oberholzner</i>	157
The learning society as a greying society: perspectives of older workers and lifelong learning <i>Tarja Tikkanen</i>	209
‘Through the looking-glass’: diversification and differentiation in vocational education and training and higher education <i>Torsten Dunkel, Isabelle Le Moullour, in cooperation with Ulrich Teichler</i>	257
Policy learning: applying the changing learning paradigm for policy advice on VET reforms in transition countries <i>Peter Grootings, Søren Nielsen</i>	289
List of contributors	315

Foreword

The skill levels of the European Union's (EU) workforce must be raised to improve competitiveness, growth rates, job prospects, and promote social inclusion. At the Lisbon Council in 2000 the EU institutions, Member States and social partners made a commitment to devise policies to modernise their education and training systems to make them the best in the world by 2010. The EU and the Member States launched the Copenhagen process in 2002, specifically to strengthen European cooperation in improving VET policy. As part of the process, the Member States agreed to work closer together on several priorities. They agreed to look at ways to improve VET's status and quality to attract more people into it; to make VET more responsive to the needs of a labour market that has an ageing workforce and many who find it hard to get a job. They also agreed to encourage more employers to offer training places and adapt training to meet better new demands at the workplace. Cedefop, as the EU's agency supporting vocational education and training (VET) policy development, is actively involved in this process.

Cedefop's strategic objective is to contribute to achieving the Lisbon goal to modernise VET. To serve its strategic objective, Cedefop supports evidence-based policy-making through research findings and policy analyses. Research and policy-making often seem to have different agendas. Researchers' interests may not match those of policy-makers who, in turn, can be too busy to take into account what researchers are saying. Consequently, basing policy decisions on firm research evidence can be difficult to achieve. Cedefop's fourth research report addresses this issue. It brings together experts from the world of research to discuss policy matters for VET in the EU. The common VET policy priorities agreed between EU ministers for education in the Copenhagen process constituted the backdrop to select the issues discussed in the report.

The report provides a thorough review of research into the major aspects of EU VET policy priorities. It forms a valuable body of knowledge to inform European VET policy-making.

Aviana Bulgarelli
Director of Cedefop

Acknowledgments

Cedefop would like to thank Pascaline Descy, Guy Tchibozo and Manfred Tessaring, project managers in Cedefop. It would also like to thank all the contributors of the articles for their valuable input. A special thanks also to Roula Panagiotou, secretary to the project.

Other volumes of the background report

The background report to the fourth research report is composed of two other volumes published separately, the content of which is detailed below.

Volume 1

Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research

Pascaline Descy, Guy Tchibozo, Manfred Tessaring

Geographical mobility
Terry Ward

Social mobility and VET
Giorgos Tsakarissianos

The role of vocational education and training in enhancing social inclusion and cohesion
John Preston, Andy Green

Skill shortages
Olga Strietska-Illina

The private benefits from vocational training: a new framework
Wendy Smits

Modernising vocational education and training: the importance of information, advice and guidance over the life-cycle
Lex Borghans, Bart Golssteyn

Volume 3

Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research

Pascaline Descy, Guy Tchibozo, Manfred Tessaring

Improving the image and attractiveness of VET
Jean Gordon, Johanna Lasonen

Legibility of qualifications: an issue as long-standing as Europe
Annie Bouder, Françoise Dauty, Jean-Louis Kirsch, Philippe Lemistre

The role of national qualifications systems in helping to modernise vocational education and training systems
Mike Coles, Patrick Werquin

European strategies and priorities for modernising vocational education and training
Sandra Bohlinger, Dieter Münk

Towards knowledge-based societies: indicators of European competitiveness
Manfred Tessaring

Introduction: modernising vocational education and training – a fourth Cedefop report on VET research

Pascaline Descy, Guy Tchibozo, Manfred Tessaring

The series of reports on vocational education and training (VET) research have been published by Cedefop since 1998⁽¹⁾. The reports give a comprehensive review of current socioeconomic research related and relevant to VET and skill development in Europe, its results and implications for policy and future research. Research reports are a tool for evidence-based policy making. Attention is always paid to the theoretical and methodological foundations of research.

Each research report consists of a background report of several volumes with contributions from renowned researchers, of which this is one, and a synthesis report written by Cedefop experts.

Fourth research report: modernising vocational education and training

Modernising VET is the overarching theme of the fourth research report. It aims to provide

and discuss the evidence-base for the process of enhanced cooperation in VET which sets priorities for reforming VET to contribute to the Lisbon process⁽²⁾.

This fourth research report aims to document, discuss and analyse the socioeconomic context, and process of reforming VET, based on latest research evidence. The report intends to inform and improve policy-making and develop the VET research agenda.

Enhanced European cooperation in vocational education and training

In 2002, the ministers for vocational education and training of 31 European countries and the European Commission adopted the Copenhagen declaration⁽³⁾. It underlines the contribution of VET to achieving the Lisbon goals and sets priorities for VET reforms systems to be

⁽¹⁾ Cedefop. *Vocational education and training – the European research field: background report*. Volumes I and II. Luxembourg: Publications Office, 1998 (Cedefop Reference document, 3002).

Cedefop; Tessaring, M. *Training for a changing society: a report on current vocational education and training research in Europe*. 2nd ed. Luxembourg: Publications Office, 1999 (Cedefop Reference document, 3001).

Cedefop; Descy, P.; Tessaring, M. *Training and learning for competence: second report on vocational education and training research in Europe: synthesis report*. Luxembourg: Publications Office, 2001 (Cedefop Reference series, 6).

Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training in Europe 2000: background report* (3 volumes). Luxembourg: Publications Office, 2001 (Cedefop References series, 3008).

Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 54).

Cedefop; Descy, P.; Tessaring, M. (eds). *Evaluation of systems and programmes: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 57).

Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 58).

Cedefop; Descy, P.; Tessaring, M. *The value of learning – evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2005 (Cedefop Reference series, 61).

⁽²⁾ http://ec.europa.eu/education/copenhagen/index_en.html.

⁽³⁾ Declaration of the ministers for education and the European Commission convened in Copenhagen in November 2002.

implemented through enhanced cooperation. Every two years, the Member States' progress in modernising VET is reviewed and priorities for reforms are refined.

The first review was in Maastricht in December 2004. The Maastricht communiqué noted progress and refined the VET priorities. It identified reforms to be made and action to be taken at national and European levels. The communiqué focused particularly on:

- (a) the image and attractiveness of the vocational route for employers and individuals, to increase participation in VET;
- (b) achieving high levels of quality and innovation in VET systems to benefit all learners and make European VET globally competitive;
- (c) linking VET with the labour-market requirements of the knowledge economy for a highly skilled workforce, and especially, due to the strong impact of demographic change, the upgrading and competence development of older workers;
- (d) the needs of low-skilled and disadvantaged groups for the purpose of achieving social cohesion and increasing labour-market participation.

The second review of the Copenhagen process by the European ministers for vocational education and training, European social partners and European Commission was in December 2006, in Helsinki. The Helsinki communiqué reaffirmed the need to invest in human capital and skills but proposed a more focused approach with a limited number of priority areas and clear targets. While the Copenhagen and Maastricht priorities remain valid, the process needed strengthening, until work focuses on the following priorities:

- (a) the image, status and attractiveness of VET, placing emphasis on good governance of VET systems, institutions and/or providers;
- (b) further development, testing and implementation of common European tools, which should be in place by 2010;
- (c) strengthen mutual learning and improve the scope, comparability and reliability of VET statistics by 2008;
- (d) active involvement of all stakeholders, as the Copenhagen process moves towards an implementation phase.

The background report – Volume 2

As in previous editions, the background report gathers contributions from renowned experts and researchers. These contributions have been compiled into three separate volumes. This volume addresses various aspects and dimensions of the VET reform process such as the training and development of VET teachers and trainers, learning at the workplace, VET for older workers, and the differentiation and diversification of VET and higher education. One contribution is dedicated to issues likely to remain or become high on the VET reform agenda beyond 2010 and their research dimension.

Béduwé, Germe, Leney, Planas, Poumay and Armstrong formed an international and interdisciplinary team to investigate and discuss issues highly relevant to VET research in the post-Lisbon decade. They explore the main drivers influencing European VET systems and draw up four scenarios for 2010-20, each being a possible outcome for future European and by extension, VET governance. They then examine uncertainties in the demand and supply sides of European and local labour markets. They suggest that research into the impact of these uncertainties needs to consider how individuals adapt to new situations, as well as the nature and structure of VET supply. The paper attempts a forward-looking analysis of innovative teaching and learning in VET – developing the twin themes of facilitating expert learners and the need for a scholarship of teaching and learning in VET.

Parsons, Hughes, Allison and Walsh present a comparative overview of the systems and structures for training and developing VET teachers and trainers across the European Union. The focus is on how national structures in the post-secondary system engage these practitioners to modernise VET. The analysis has developed comparative national profiles for all Member States. It sets out many of the definitional and methodological issues affecting a comparative analysis of very different national structures with contrasting legacies of VET systems and different national policies and priorities for the teaching and training professions in the process of modernising VET. Then there is a critical analysis to define common ground in practice and innovation: national-level enablers (and constraints), labour-

market factors and parity of esteem of VET compared to other teaching pathways. Tentative conclusions are put forward for further research, policy reform and innovation.

Gruber, Mandl and Oberholzner improve and update our understanding of workplace learning to derive conclusions on how to arrange such learning for it to be most effective. First, instead of a definite and straightforward definition or typology, different models, forms and views of workplace learning are highlighted. Second, the spread and use of different workplace learning forms among European companies and the workforce is assessed, with a special focus on small and medium-sized enterprises. They then discuss on conducive and hindering factors for work-based learning. They attempt to establish a broader and more comprehensive view of the subject, including environmental conditions, organisational factors, barriers and employee-related issues. They also discuss assessing the results and benefits of workplace learning, especially the nature of assessments and quality assurance tools used in small and large enterprises. Recent and innovative initiatives introduced at supra-company level (including state VET systems, government policies, support instruments, social partner initiatives) to support workplace learning are analysed before they conclude on relevant conditions to foster workplace learning that would be beneficial at both, micro (company) and macro (public) levels.

The goal of Tikkanen's paper is two-fold. First, it aims to describe the situation of and discussion on lifelong learning of older workers. Second, it seeks to expand this discussion to VET and working life. The approach is limited to work-related learning, acknowledging the increasingly blurred line between it and non-work-related learning. Both the resource and deficit perspectives for older workers are covered. The paper is divided into four main parts. The first describes how combining lifelong learning and extended careers seems to promote a more ageless or age-irrelevant society than our current one. The second reviews learning participation to show that lifelong learning is not yet a reality for most of older workers. The third discusses the role of HRD and learning at the workplaces if lifelong learning is to become a reality for older workers. The discussion refers to the dilemma between the high value of informal, experiential learning and low value of older workers. Finally, the paper characterises existing research in this area and makes recommendations

for research, policy and practice.

Dunkel and Le Moullour, in collaboration with Teichler, analyse recent developments in diversification and differentiation of degrees, curricula and institutions in the VET and higher education (HE) sectors, by identifying and discussing their drift dimensions. Increasing overlap between education subsystems and thus, permeability, lead to possible convergence and complementarity, or take-over between them. Permeability has also become an issue in context of the attractiveness of VET. Learners' choices of their education and training routes often depend on the possibility to pursue learning at a further stage. This leads to introducing the labour market as a strong contextual aspect to VET and HE. Finally, scenarios on developments within and between education systems conclude the line of reasoning.

Grootings and Nielsen explore opportunities for applying active or new learning principles to education reforms in transition countries with a focus is on policy learning. The concept of policy learning is developed through a critical discussion of more traditional approaches of policy transfer and policy copying. It emphasises active engagement of national stakeholders in developing their own policy solutions, based on the understanding that there are no valid models but at best a wealth of international experience for dealing with similar policy issues in other contexts. The paper discusses different dimensions of the new learning concept but focuses on how international assistance, provided by agencies like the European Training Foundation, can contribute better to sustainable reform of national education systems. They argue that there are many similarities between the current international discussions about new learning, new professionalisation of teachers and our own view about the role of international policy advisers. Educationalists are discussing the need for teachers and trainers to shift from being transmitters of expert knowledge and skills to students towards becoming facilitators of learning processes to people who want to become competent themselves. If systemic policy reform is about national stakeholders having – and being willing – to learn new policies rather than being told what to do, then international advisers should take notice of these discussions. After all, the new learning paradigm is firmly based on new insights about how people learn and about how more experienced experts can help them to become competent.

New and emerging issues in vocational education and training research beyond 2010

Catherine Béduwé, Jean François Germe,
Tom Leney, Jordi Planas,
Marianne Poumay, Russell Armstrong

Abstract

This paper is a cooperation between researchers from three areas of vocational education and training (VET) and lifelong learning research. It aims to identify several new and emerging issues that will be crucially relevant to VET research in the post-Lisbon decade. The paper begins by exploring the main drivers currently influencing European VET systems and draws up four scenarios for 2010-20, each of which may be a plausible outcome for future European governance, and by extension, VET governance. The contributors then explore the nature of uncertainty in the demand and supply sides of European and local labour markets, suggesting that research into the impact of these uncertainties will need to examine how individuals adapt to new situations, as well as the impact on the nature and structure of VET supply. The paper also attempts a forward looking analysis of innovative teaching and learning in VET – developing twin themes of supporting expert learners and a scholarship of teaching and learning in VET.

There will clearly remain important and urgent items of unfinished business in European and national VET policy and implementation in 2010. This paper argues strongly that these are still important for Europe's future economic, social and environmental ambitions, that the achievement of currently agreed priorities will remain a vital political issue, and that research should have an important role in overcoming identified barriers and achieving success in these respects. The paper identifies several issues that remain underresearched. These include meeting the learning needs of older workers and diverse migrant communities. Finally, the paper identifies five new issues that VET research should concentrate on.

Since so much policy and research attention at European level focused on the period from 2000 to 2010, this paper intends to make a contribution to opening the debate on European VET research priorities in the decade that will follow.

Table of contents

1. Introduction	19
2. Moving the focus to 2010-20	21
2.1. VET – an increasingly urgent priority on the world stage	21
2.2. The likely legacy of the Lisbon strategy in 2010 and future priorities	23
2.2.1. The renewed Lisbon strategy for growth and jobs	24
2.2.2. Progress towards the main objectives and challenges	24
2.2.3. Likely items of unfinished business for VET	26
2.3. Pressures facing future VET systems	28
3. Future governance of VET	30
3.1. National/supranational/international dynamics; the four futures of Europe	30
3.1.1. Strong Europe	30
3.1.2. Europe <i>à la carte</i>	31
3.1.3. Voluntary cooperation	31
3.1.4. Europe unbound	32
3.2. Implications for VET governance	32
4. Uncertain economic and labour-market environments	34
4.1. What do we mean by uncertainty?	34
4.2. Increases in employment and labour-market risks	34
4.3. Shorter timeframes for choices and actions in the labour market	35
4.4. Decreasing durability of existing practices in regulating employment and training	35
4.5. Uncertainty caused by changes in labour-market demand	35
4.6. Contradictions in labour-market demand and job security	35
4.7. Complexity of qualifications development and uncertainties about defining job profiles	36
4.8. Increasing the collective dimension of work and competences	36
4.9. Emerging questions on the relationship between work, careers and social organisation	37
4.10. A crisis of the <i>métier</i> (<i>Beruf</i> , trade or profession) and diploma – central to the relationship between VET and employment	37
4.11. Managing diachronic trends of supply and demand in the labour market	38
4.12. Changes in the models of competence production and rebalancing the importance of IVET and CVT	39
4.13. Strategies of individuals to increase their capabilities amid uncertainty	39
5. Competence: notion and recognition	41
5.1. Why the notion of competence?	41
5.2. The place of competences in labour-market information and regulation	41
5.3. Different notions and approaches to competence	42
5.4. Development of the notion of competences	42
5.5. Development of the concept of competences and its relationship to VET qualifications	43
5.6. The methodology for recognising competences in national qualifications frameworks (NQFs)	44
5.7. Some questions on national and European qualifications frameworks (EQF)	44

6. The attractiveness of VET supply	46
6.1. Changes in the model of competences production: the place of VET and their modalities	46
6.2. Conditions needed to make VET attractive for young people	46
6.3. Older workers and migrant workers – new VET client groups	47
6.4. Lifelong learning: from concept to reality	48
7. Innovation in VET teaching and learning	49
7.1. Introduction	49
7.2. The impact of technological innovation on European VET research and development	49
7.3. How to develop and optimise initial and continuing training – linking VET teaching expertise to professional/technical expertise	50
7.4. A scholarship of teaching and learning	50
7.5. Is training optional or required for teachers?	51
7.6. A likely scenario	51
7.7. Expert learners: how can training and work organisation make learning optimal? How to avoid deficit and unequal access?	52
7.8. What do we mean by empowering learners?	52
7.9. Why empower learners?	52
7.10. How can we empower learners?	53
7.11. Validating prior knowledge and experience	53
7.12. IT as a developing, useful tool: harnessing new IT to develop pedagogies; learning and accreditation 7.12.1. Online management of competences 7.12.2. Electronic portfolios (e-portfolios) 7.12.3. Shared online tools and contents	54
7.13. Conclusion	57
8. Emerging issues in VET research – conclusion	58
List of abbreviations	60
Bibliography	61

List of tables, figures and boxes

Tables

1. European progress on some EU structural indicators	25
2. Progress on agreed priorities for the education and training 2010 work programme	27

Figures

1. Average hourly labour costs for a range of countries	21
2. Plausible scenarios for VET governance (2010-20)	31
3. Multitutor validation for a set of 20 competences in a group of five learners – Screenshot of an online competence management tool	55
4. Teaching portfolio	56

Boxes

1. Individual strategies for labour-market risk management	40
2. Questions for research on VET teaching and learning	49

1. Introduction

Cedefop's fourth research report theme, modernising vocational education and training (VET), invites some careful analysis on which issues and priorities for VET research and development are to be seen on the horizon, for instance the immediate period following 2010, the deadline of the Lisbon strategy. For European cooperation, it is appropriate to take existing Lisbon programmes as a kind of watershed, with further development also likely to build on current progress. Therefore, we have focused on identifying some new and emerging themes that are likely to be important for the field broadly defined as VET research in relation to 2011 onwards. The dilemma facing policy-makers is whether to pursue less ambitious targets than the original Lisbon goals. This direction, while being more readily achievable, would risk losing momentum towards future development and reform.

It is unlikely, though conceivable, that we will identify tasks, problems and challenges that no practitioner or analyst, researcher or policy-maker has yet conceptualised. Rather, our analysis identifies themes to which little coherent attention has yet been paid at European level, and which should merit considerable priority in the future, bearing in mind the strong emphases placed on innovative research and lifelong learning in the renewed Lisbon agenda for innovation in Europe. Identifying 'crystallising' issues is an appropriate analogy. Other analysts are also looking ahead, but goals and priorities for Lisbon 2010 have dominated the policy and research conversation at European level to such an extent that few people are looking beyond 2010, even as we write in mid-2006. Most notably, the European Commission's communication to the 2006 Spring European Council, *Growth and jobs, working together for Europe's future* refers to a 'renewed' Lisbon strategy, with repeated emphasis on growth and jobs (European Commission, 2006a).

Our paper is a prospective piece of work that no scientific method that we know of can handle. So, we agreed instead a clear methodology with

editors. Our contribution relies strongly on the cross-disciplinary and international expertise of partners in the team: specifically, in economic and labour-market analyses (both quantitative and qualitative research), in teaching and learning/e-learning developments and in lifelong learning and VET analysis at European level. To identify forward-looking priorities we wrote three initial expert papers on specific themes, which we merged into an interim report. To take the argument forward we met several times and had the benefit of a detailed commentary on our interim report from project managers at Cedefop. To widen and nuance our analysis we conducted a small number of interviews with relevant experts who have an interest in shaping future VET research. We also had access to several other papers from the fourth research report, whose outcome could also benefit our analysis. This helped to shape the analysis we present in this report.

From a vantage point that could otherwise become impossibly broad, we chose to concentrate on some specific fields, and these necessarily reflect our diverse experience and expertise. This was reflected in our initial papers, which concerned these themes:

- (a) moving the focus from 2000-10 to 2010-20 and beyond;
- (b) people's changing preferences and careers and the changing labour market;
- (c) innovation and future changes in VET teaching and learning.

The Lisbon goal and the associated programmes that are developing for lifelong learning including VET are the context for this study – as are the wider economic, social and environmental ambitions of Europe. The *Stern review* in the UK (Stern, 2006) and other national and international reports will bring environmental concerns to the top of research and policy agendas. The first point to make here is that, so far, VET research has given a great deal of attention to the associated European economic and social agendas, yet, it has not adequately explored the contribution of VET to environmental sustainability nor the development

of sustainable forms of energy, which is becoming an increasing priority.

That some common goals, priorities, actions and collaborative programmes have developed for lifelong learning including VET is an important step forward. A success of the Lisbon years (2000-10) is undoubtedly the expansion of the European Union (EU) from 15 to 27 Member States while at the same time creating conditions for closer voluntary cooperation in a range of policies. The designation of new candidate countries is a further sign of expansion, although Turkey's accession will continue to raise controversy. Yet the failure of the European constitution project and dilemmas surrounding the mid-term EU budget – the financial perspective 2007/13 – settlement in 2005 indicate some tensions likely to impact on the 'wider and/or deeper' development of the EU. Later, we take up the wider and or deeper theme by looking at a series of scenarios and their impact for governance of lifelong learning and VET at European level.

As far as achieving Lisbon goals is concerned, and although intergovernmental and stakeholder cooperation have improved, progress is in many ways disappointing across the main defined fields of activity, against ambitious goals set in 2000 and following years. The Lisbon programme undoubtedly gave an impetus for greater cooperation between countries, not least through the education and training 2010 work programme. Although this is an encouraging step, the biennial joint report on the education and training 2010 programme provides strong evidence that, while moving forward, developments in policy and implementation for lifelong learning – including VET – are not yet sufficient to constitute across Europe the shift to a European knowledge society and economy, called for by the European Commission and Heads of State or Government at the Lisbon meeting in 2000 (Council of the EU, 2006).

The European Economic and Social Committee (EESC) develops this criticism further; 'the Lisbon strategy will not achieve its objectives of international competitiveness, economic, social and environmental progress and sustainable development without a comprehensive review of the method, the institutional and political arrangements and the cooperation instruments tasked with its delivery' (EESC, 2004, p. 9).

The EESC also outlines future objectives needed to concentrate efforts towards achieving the Lisbon goals. These include:

- (a) 'enhancing the supply of young people with "knowledge industry" skills;
- (b) promoting retraining opportunities to the new skills for all adults;
- (c) expanding the R&D capacity of institutes of higher education and research; departments of business organisations;
- (d) incentives to reduce the risk and enhance the gains from innovation' (EESC, 2004, p. 12).

This is the starting point for our analysis. We begin by identifying some challenges for Europe and key aspects of the unfinished Lisbon agenda. Then we propose some plausible scenarios for the mid-term future (2010-20) and some of the main drivers that will shape lifelong learning and more specifically VET. These suggest some particular issues relating to demographic and population developments, and issues for governance of VET. We next explore how patterns of individual preferences and careers may change radically in a rapidly changing and uncertain labour market, with implications for the supply of training. We also examine new paradigms for teaching and learning that may be emerging, supported by, but not necessarily driven by, developments in technology. The analysis we undertook led us to identify some themes in VET that generate both new and ongoing issues for research and development post 2010, including:

- (a) Lisbon 2000-10: unfinished business;
- (b) the broader picture – the impact of drivers and plausible scenarios 2010-20 on VET;
- (c) governance;
- (d) uncertain economic and labour-market environments and changing preferences;
- (e) the supply of VET;
- (f) competence: concept and recognition;
- (g) empowering VET learners;
- (h) professionalising VET teachers/trainers.

We will identify specific issues and questions on each of these for VET research and development. Key issues and questions are highlighted throughout the text and are summarised in the conclusion.

2. Moving the focus to 2010-20

2.1. VET – an increasingly urgent priority on the world stage

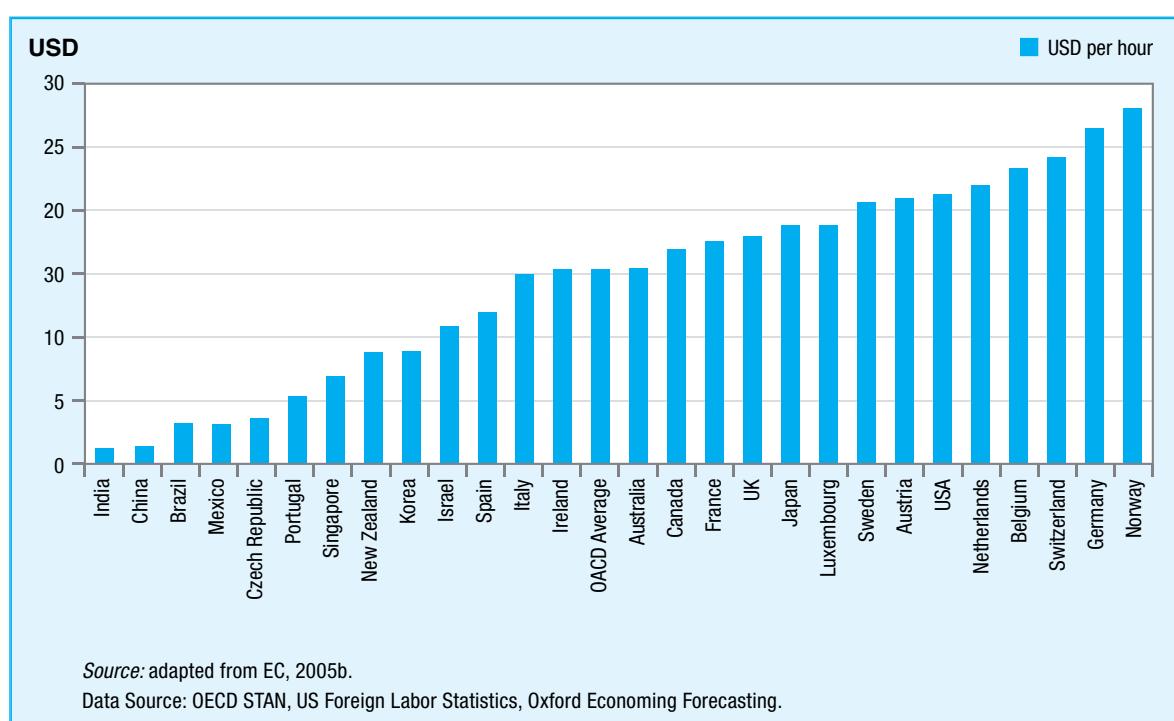
The rapid and uncertain changes in the global economy; the need for new and high skills in work organisation and labour-market development; the pace of technological change everywhere and demographic change in advanced countries; all led to the sharply increased importance of VET on the policy agendas of national and international bodies. Some countries (in the main US and Japan) have settled for an expansion of tertiary VET after a general upper secondary phase, while others – including many European countries – have identified the need to improve rapidly their arrangements for VET provision towards the end of compulsory schooling and/or in the upper secondary phase, as well as in higher education.

Table 1, taken from the European Commission contribution to the October 2005 Heads of State or Government meeting on *European values in a globalised world* (European Commission, 2005b) shows Europe's disadvantageous position in terms of labour costs, compared with some international competitors, not least Brazil, China and India, whose higher education systems are already undergoing rapid change or are likely to expand rapidly in the near future.

The increasing availability of technical and high skills in the labour markets of China and India also serve notice to European countries that the old adage saying Europe cannot compete on costs but can compete on skills, stands to be challenged, even though high skills remains a cornerstone for achieving success in the economic, employment, social and environmental goals of the Lisbon project.

Most governments and international

Figure 1. Average hourly labour costs for a range of countries



organisations are beginning to recognise the importance of increasing the availability of and access to continuing training as a key part of implementing lifelong learning, though achievement in this area remains an enormous challenge.

Thus, it is noticeable how prominent VET has become in recent OECD studies, such as the analysis of the usefulness of qualifications systems for motivating participation in lifelong learning (OECD, 2006) and the current study on recognition of informal and non-formal learning (OECD, 2007). Similarly in Europe, although the Bologna process for higher education began before the inception of the Lisbon goal for education and training, the Copenhagen declaration (European Commission, 2002a) and the Maastricht communiqué (European Commission, 2004a) now ensure that VET has a higher profile and remains an integral part of Europe's developing policies and practices for lifelong learning.

The drivers motivating national and international stakeholders to identify new strategies for lifelong learning have a clear impact on the economic and social wellbeing of both communities and individuals. Further, VET has a key role in resolving challenges in many instances.

Several examples illustrate the dynamic relationship between VET and key drivers.

Uncertainties of global economic development alongside high costs of living, labour and production in most of the world's advanced economies mean that all European countries are aiming for highly skilled workforces to make the best of their opportunities in the competitive world market, in which many European countries are at a disadvantage. This creates changes in work organisation and in the division of labour, linked in turn with a growing likelihood that individuals may wish to or have to change occupation several times over their career. In these circumstances people need broad competences, not easy to define, and traditional skills tend to become rapidly obsolete. The pace of technological change and the rapid development of the information society underpin this change in the demand for skills and calls on individuals – and create uncertainty for individuals because of both the pace and unpredictability of technological innovation and labour-market changes.

Demographic change is an equally well-recognised, though more predictable, factor driving

change. Except for Turkey and to some extent Ireland, EU Member State and candidate country populations are shrinking while, at the same time, ageing. Current projections have identified that, by 2050, there will be one elderly inactive person for every two of working age, as compared to one in four in 2004 (Eurostat, 2006c). The share of population over the age of 65 will increase considerably across the EU, with a concurrent dejuvenation, if fertility rates continue their steady reduction. Achieving competitiveness through raising employment levels, balancing conflicting demands on national budgets and giving older workers a fair chance to make a living, all call for high investment in older workers' skills, as well as others who could join, rejoin or stay in the labour market. Yet, with a few notable exceptions, little research and development activity has asked seriously what skills older people will need to develop and how work organisations can accommodate their needs.

Migration flows can also impact on European demographic shifts, and VET is called upon to have a major impact on social inclusion, by opening opportunities for migrants, and also following generations. Immigration is recognised as a source of cultural and social enrichment, contributing to entrepreneurship, diversity and innovation, bringing with it advantages such as increased labour supply, increased overall production and therefore labour demand (European Commission, 2005c). As the economic and social consequences of demographic ageing are felt, immigration remains a useful, beneficial tool to alleviate negative impacts. However, to maximise this effect, migrants must be integrated into citizenship and working life, and realise their potential to contribute to sustainable development in the EU. This must include intra-EU migrants and their dependents, as well as those originating from non-EU countries. It is here that VET can play a significant role in equipping migrants with knowledge, skills and competences needed to succeed (we address this issue further in Section 5).

Notably, transition into the labour market for many young people is difficult, with youth unemployment more than double the overall European rate for workers aged over 25 (17.9 % for under 25s, compared with 7.7 % for 25+ in December 2004) (European Commission, 2005a).

The argument lying behind this paper is that the sum of these drivers creates change and uncertainty

for economies, communities and individuals, and that VET is one of the policy mechanisms that must make an effective response. Some international bodies, particularly the EU, recognise in their policies how intertwined the economic and social aspects of policy formation and implementation are.

These drivers are dynamic, particularly as they are associated with players who are either growing or diminishing in influence. In VET, international organisations and others crossing State boundaries are among those enjoying a growing influence across the field of VET. Certification tends to be international, as indicated by the growth of MBAs and growing use of internationally based qualifications in ICT. In international terms, the OECD did much to set up the current concentration on lifelong learning, and the PISA tests have themselves become a noteworthy international driver of reform in education systems, to an extent that would have been unimaginable 20 years ago. EU education and training programmes are based on voluntary cooperation (open method of coordination – OMC) between Europe, Member States and other stakeholders, and have since 2000 come to occupy a dynamic role in national and more specific developments. Perhaps changes in higher education practices and the creation of a European higher education space following the Bologna process are the clearest instances to date of Europe's dynamic role in shaping Member States' systems. To a greater or lesser extent, influential pressure is exerted in various parts of the world by international bodies over national systems, whether the EU over candidate and partner countries, the World Bank through its donor programmes or the Asia Development Bank over client countries such as Vietnam.

The *Lisbon Council policy brief* for the European Commission argues that countries and continents investing heavily in education and skills benefit most in both economic and social terms (Schleicher, 2006). The context is one where the most effective modern economies will be those producing the most information and knowledge, and education and training suppliers are finding it a tough challenge to meet demand. Using Finland as a case study of good practice and sustained and successful transformation, Schleicher argues that linking high expectations with good support systems and collaborative networks enabled a successful paradigm shift from centralised

prescriptions to a focused set of educational goals that give schools responsibility for educational outcomes and implementation, focusing on the needs of all students.

Schleicher develops the argument along the following lines. Many of Europe's larger systems have been slow or unwilling to modernise, their performance in world comparisons is mediocre, and they no longer lead the world in producing knowledge and skills through their schools and universities. Successful reform of initial VET – particularly where early differentiation into different types of education or school is the norm – must be sufficient to face these challenges. PISA results show that avoiding early tracking can be a useful strategy. While this is an issue for debate, new research may be able to develop our understanding further.

On education and training supply, two other prominent aspects hold Europe back. First, universities attract insufficient funding in particular from corporate and private sources to keep up with, mainly, North American universities and reflect insufficiently wider stakeholder interests. Second, and as all recent studies for the European Commission have concluded (see the following section), lifelong learning is far from a reality in most European countries, where low workplace learning opportunities characterise many sectors and where inequalities of previous education levels and factors such as age and gender greatly diminish opportunities for large parts of the population. Some countries, however, have successfully grasped the need for major reform, and these include countries as diverse as Canada, Korea and the Nordic countries of Europe.

2.2. The likely legacy of the Lisbon strategy in 2010 and future priorities

Rapid but uncertain developments in the global environment and the challenges suggested in the *Lisbon Council policy brief* (Schleicher, 2006) help to contextualise some of the emerging issues for VET research and development. We will next look at the extent to which the Lisbon strategy is likely to achieve its goals by 2010, in its wider application and for education and training. Then we will return

to the theme of governance and the need for more research on drivers and actors that can be most influential in shaping reforms to VET.

2.2.1. The renewed Lisbon strategy for growth and jobs

The high level reports commissioned by the European Commission (Kok, 2003; 2004) and the recent mid-term review of the Lisbon strategy reformulate the goals and priorities of the original Lisbon 2000-10 programmes. The new vision underlines that economic and employment trends in Europe are holding back progress, and are damaging the prospects for progress towards the aspirations and goals contained in the Lisbon declaration. It is probably fair to conclude that goals have become a little more modest and realistic, and that the emphasis is on implementation of radical but sustainable reform. All recent European analyses stress the important (though not unique) role of lifelong learning in achieving more dynamic momentum towards the overarching goals.

European values are identified and championed by the Commission in its contribution to the Heads of State or Government meeting under the UK Presidency (European Commission, 2005b). The document states: 'Europe must reform and modernise its policies to preserve its values. Modernisation is essential to continue to keep Europe's historically high levels of prosperity, social cohesion, environmental protection and quality of life. Today, the Europe of dynamism, innovation and openness [...] sits side by side with the Europe of 19 million unemployed, child poverty and stagnant growth, where too many are excluded from opportunity and prosperity. This is the uncomfortable duality which undermines the many achievements of the European Union and its Member States after a half century of peace and improved living standards' (European Commission, 2005b, p. 3).

In the renewed formulation of Lisbon economic growth, productivity and high employment are identified as key motors for achieving both economic and social goals, with the emphasis placed clearly on reform and implementation.

Under the Austrian Presidency in 2006 the Commission set out these ambitions for the renewal of the Lisbon process in a way intended

to focus on implementation at all levels, and under the banner 'time to move up a gear', four key areas that need a new emphasis for reform are identified (European Commission, 2006b):

- (a) investment in research and innovation;
- (b) a new business climate that enables entrepreneurship and business start up and growth, particularly among small and medium-sized enterprises;
- (c) employment policies that remove barriers and help people to work and to develop and use their skills at every stage of working life;
- (d) a sustainable energy policy.

Each of these priorities has implications for emerging areas of VET research. Of these four priorities, implications of the need to develop new and innovative approaches to energy production is on the agenda, yet the role of individual skills to secure sustainability of the global environment is a surprisingly neglected theme. Main priorities are to define aspects of priorities in which VET has a significant role and to identify implementation, technology transfer and peer learning mechanisms that can help achieve the goals, bearing in mind the economic and social goals are seen as intertwined.

2.2.2. Progress towards the main objectives and challenges

To identify some of the key future issues for VET research and development we need first to find out how far existing priorities of the Lisbon 2000 declaration are on course for achievement, regarding the whole economic and social programme and then, in particular, lifelong learning. We do this by analysing progress towards some key priorities expressed in terms of indicators and benchmarks.

Overall – and despite some clear successes – Europe as a whole made so far only disappointing progress towards achieving the main Lisbon targets for the economic, social and environmental aspects of the Lisbon declaration. In 2002, 2004 and again in 2006 the European Commission published the evidence to report on the disappointing progress that Europe is making towards achieving the economic, social, employment, innovation and environmental aims that characterise the main features of the Lisbon programme (Leney et al., 2004). Besides, current analysis of international

Table 1. European progress on some EU structural indicators

Indicator	Verdict in 2002	Verdict in 2004	Verdict in 2006
Labour productivity	'[...] gap in GDP per capita between the European Union and the US has remained unchanged' (European Commission, 2002b, p. 9)	'[...] growth rate in productivity [...] has been going down [...] efforts to catch up with the United States are at a standstill' (European Commission, 2004b, p. 9)	GDP per capita remains 65 % of US level, despite accelerating labour productivity growth rate
Employment rate	Economic slowdown 'has interrupted the sustained period of falling unemployment and job creation' (European Commission, 2002b, p. 10)	2005 target of 67 % employment rate will not be reached – with economic growth the 2010 target of 70 % is reachable	Employment rate reached 63.3 % in 2004. Recent work projects further rise to 67 % by 2010, with 70 % target possibly reached in 2020
Employment rate of older workers	Remains low '[...] this segment of the population is increasing which may make the necessary adjustments more difficult' (European Commission, 2002c, p. 5)	The target is for a 50 % employment rate among 55-64 year olds by 2010. However, 'the trend [...] is indeed worrying' (European Commission, 2004b, p. 9)	'Older people have seen employment rates rise markedly since 2000, with an accumulated increase of 4.4 pp to a rate of 41 %' (European Commission, 2006d, p. 8). However, the 50 % target will not be reached
Expenditure on R&D	'Governments and business [...] still invest less [...] than the US and Japan' (European Commission, 2002c, p. 8)	Research investment has been fragmented and sluggish. Annual growth rate for investment is wholly insufficient to meet the 3 % target (2010)	'Relatively low levels of private R&D investment [...] are an impediment to knowledge accumulation and long-run growth [...] the EU-25 would remain substantially below the 3 % target in 2010'
Youth education attainment level	'[...] almost 18 % of early school leavers do not acquire additional qualifications' (European Commission, 2002c, p. 8)	Likely to be met, particularly with new Member States having high attainment at ISCED level 3	'Almost 15 % of young people in the EU still leave school early, reflecting only slight progress towards 2010 benchmark' (Council of the EU, 2006, p. 4)
Business attainment	'[...] new capital raised on stock markets in the European Union increased markedly between 1997 and 2000 [...]. Nevertheless, total stock market capitalisation relative to GDP [...] remains only two thirds of the level in the United States' (European Commission, 2002c, p. 10)	Investment in businesses fell between 2000 and 2002; public investment is also down and also lower than in the US	'Regarding SMEs [national] programmes do not go far enough to foster a more positive attitude towards entrepreneurship [...] related targeted measures to improve investment should also be considered' (European Commission, 2006b, p. 16)
Long-term unemployment	'down from just over 5 % in 1995 to 3.6 % in 2000, even though it is estimated to rise slightly in 2001' (European Commission, 2002c, p. 12)	Significantly down – but some groups and regions will be difficult to progress	After several years of decline, long-term unemployment again increased slightly (to 4.1 %) in 2004 and the job prospects of vulnerable groups have deteriorated

trends in GDP confirm that Europe's economic performance seems to be losing ground compared to main competitors in China, India and the US. This is notwithstanding the good performance of some countries in Europe. Indeed, the World Economic Forum identifies Finland as the leading country, with several other Nordic countries and Austria well placed, and Estonia breaking into the high GDP per capita grouping (Lopez-Claros, A. et al., 2006). Nevertheless, evidence from the United Nations *Human development report 2005* (UNDP, 2005) does provide an encouraging note, since many Member States achieve a high rating on the combined education, economic and quality of life indicators, compared to other advanced countries, including the US.

As Table 1 shows, European Commission's predictions are pessimistic for economic and employment growth and increases in investment in the forthcoming period. Alongside slow economic growth and stagnant employment trends in Europe, we have seen some evidence of negative responses to existing levels of migration in some countries, and a marked response to social exclusion from some young migrant groups in metropolitan Europe.

In terms of lifelong learning and VET some clear objectives for voluntary cooperation involving European and national levels and engaging stakeholders have been agreed and are now at an implementation stage. Yet, progress towards the identified priorities for lifelong learning is mixed, and in 2010 we can expect that many current actions such as European qualifications framework (EQF) and European credits for VET (ECVET) will still be at a developmental or first evaluation stage.

The 2006 Council (Education) and Commission joint interim report of progress towards the education and training 2010 work programme concludes that cooperation in education and training has developed strongly in aspects such as higher education and, more recently, VET. None the less, progress towards several of the priority indicators remains considerably below the progress agreed as necessary by governments (Council of the EU, 2006).

Table 2 outlines the Commission's conclusions.

2.2.3. Likely items of unfinished business for VET

Many Member States are close to achieving the objectives for upper secondary participation, so this will remain a key issue in only a minority of Member States after 2010, but not at EU level. Similarly, the target for graduates in maths, science, technology (MST) will remain an issue in a minority of countries only and not at EU level – unless research and policy priorities suggest the target should be raised to meet the prerequisites of the knowledge economy and a learning society. Further research should show whether participation increases in technological subjects are mirrored by decreases in pure sciences, and what the impact of this would be. The gender imbalance in these areas of higher education remains an issue, despite the strong trend to greater uptake of higher education by females compared to males. An issue that came to the fore in the latter stages of the Lisbon process is to develop new forms of non-traditional, VET-related higher education. This is likely to grow further in importance.

Several of the agreed priority indicators for lifelong learning are most likely to remain high on the research and policy agendas post 2010. The strongest evidence suggests European ambitions in their respect are both important in terms of Europe's economic and social future, and unfulfilled as objectives.

With some countries still choosing to differentiate young people into general and vocational pathways during the later years of compulsory schooling and others looking at vocational or pre-vocational education as a potential mechanism to reengage young people bored and disaffected by general schooling towards the end of the compulsory phase, VET research should be able to identify some of the contexts and policies both for reducing the number of early school leavers and lowering the proportion of 15 year olds with poor basic skills. Both are likely to remain key issues.

VET research should also have a key role in identifying how to engage adults in the workforce in training, and also those seeking to enter or reenter employment. Later we take up the specific issue of engaging older workers and migrants which calls for higher priority than is currently the

Table 2. Progress on agreed priorities for the education and training 2010 work programme

Priority indicator	Commission's conclusion – 2006 progress report
Reducing the proportion of low performing 15 year olds in key competences	In 2000 the share of 15 year olds with poor reading skills was 19.4 % (data available for 16 Member States only). According to the benchmark this share should decrease by one fifth by 2010 (and thus reach 15.5 %). While it has decreased in some Member States (notably Latvia and Poland) no progress has been achieved since 2000 (2003: 19.8 %).
Reducing the number of early school leavers	In 2004 early school leavers represented nearly 16 % of young people aged 18-24. Despite continuous improvement in reducing the share, additional progress are needed to reach the benchmark of 10 % by 2010. However, several Member States, notably the Nordic countries and many of the new Member States, already reduced this share to less than 10 %.
Increasing the number of graduates in maths, science, technology and addressing the gender imbalance	Since 2000 the number of graduates in mathematics, science and technology (MST) has increased by 16 %. The EU achieved thus the benchmark of increasing it by 15 % by 2010. Progress has also been achieved in reducing the gender imbalance in MST graduates. The share of female graduates has increased from 30.4 % in 2000 to 31.1 % in 2003. While Spain, Italy, Poland and Slovakia showed the strongest growth in the number of MST graduates in recent years (annual growth above 10 %), the Baltic States perform best as regards gender balance.
Raising the proportion of young people who complete at least upper secondary education	The share of young people (aged 20-24) who completed upper secondary education has only slightly improved since 2000. There is thus little progress in meeting the benchmark of 85 % by 2010. In some countries improvements slowed down or even reversed. However, some others with a relatively low share, notably Portugal and Malta, made considerable progress. Many of the new Member States already perform above 85 %. Some countries – the Czech Republic and Slovakia, Norway and Croatia raised the share to over 90 %.
Increasing the percentage of the working age population participating in lifelong learning, particularly workplace learning	The percentage of the working age population who participated in education and training in the four weeks prior to the survey amounted to 9.9 % in 2004. Since the data overstate progress as a result of breaks in time series, this represents only a slight real progress compared to 2000, despite the nominal two-percentage point increase. Additional efforts are needed to reach the benchmark of a 12.5 % participation rate in 2010. Nordic countries, the UK, Slovenia and the Netherlands currently show the highest lifelong learning participation rates.

case. Ways of overcoming existing inequalities in access to continuing training, well known but not well addressed in terms of policy or action in most countries and in many sectors, is a task for policy-oriented VET research, considering the needs of both learners and enterprises.

Peer learning as part of the open method of coordination (OMC) is similarly problematic, as OMC has entered the next stage of the 2010 education and training implementation programme. In broad terms, moving from the first stages of OMC – identifying priorities and benchmarking – to the later phase of identifying good practice and conducting peer learning exercises is predictably a

difficult transition. This will need some immediate action on the part of the European Commission and Member States, but in the longer term raises some noteworthy questions of governance for lifelong learning and VET at European level. After suggesting plausible scenarios for European developments, we will return to the question of governance for key VET programmes.

Similarly, some actions being developed at European level with a specific reference to VET will be important but unfinished business in 2010. This includes, notably, the EQF project (Section 4) and associated developments of recognition of informal and non-formal learning and mechanisms

development for credit accumulation and transfer. Each of these is subject to wide ranging comparative study and research at present, but this is likely to have to develop further in the next decade. As projects such as EQF proceed towards implementation at EU level, they will need robust impact evaluation, along similar lines to those explored in Cedefop's third research report on vocational training research in Europe (Coles, 2004). This system of analysis must be more comprehensive than in the past.

2.3. Pressures facing future VET systems

Recent OECD studies (OECD, 2006) and research into progress towards the Lisbon goals (Leney et al., 2004) identify, not surprisingly, economic pressures as the main driver acting on VET systems. Countries want to strengthen the link between education and employment. They also point to discrepancies between skills needed in the workplace, job training and qualifications. Economic pressures arise in response to global economic trends as well as local and national economic needs, such as the need to be responsive to innovation, development of work organisation and human capital. These generic pressures act as a force for national, regional, sectoral – and increasingly international – integration in VET since they focus on responding to skills issues common to different countries. Vocational qualifications systems also have potential to improve the link between education and work, to set up new pathways from education into employment and to reduce barriers to learning, for example by using new forms of pedagogy and assessment.

Another pressure on VET systems arises from changes in labour mobility and the expectation that they should deliver international recognition of skills including e recognition of formal, informal and non-formal learning. At European level, though not necessarily in all Member States, there is a commitment to increase mobility of learners across country boundaries. This would need more transparent VET systems (Cedefop, Bouder et al., forthcoming), and encourage Member States to build education and qualification structures

consistent with other Member States. Adoption of an EQF at European level is designed to ease the connection of one national qualifications system with another, without superseding national systems. Section 4 takes an open and questioning view of EQF developments.

Technological innovation and the global spread of communications technologies are creating pressure for countries to utilise the most modern methods of production and service provision. The move towards advanced production systems and modern working organisations – and the potential for rising unemployment rates – brings with it a need for improved training and retraining in use of new technologies and digital literacy. This means qualifications systems need to adapt to allow recognition of new knowledge, skills and wider competences related to using new technologies.

Economic needs are perceived to drive innovation in production. Research shows that innovation often takes place via continuous learning on the part of people in the workplace and that forms of learning in the workplace are changing; for example, there are increasing efforts to organise learning on-the-job and utilise self-directed learning. Thus, learning structures in the workplace are becoming more complex. In particular, the focus is no longer solely on acquiring technical knowledge but has widened to include softer skills, new values, new codes of behaviour and remodelling past experience. Social and cultural issues are not divorced from economic, demographic and immigration issues facing all Member States. It is generally recognised that people engage in learning for economic reasons such as to improve employment prospects and for personal development and social reasons – social status, better citizenship, and so on. These pressures also include perception of the need to broaden current provision of education to include such aspects as values, behaviour and citizenship and pressure to offer learners more choice and more flexible ways of gaining credit for their learning; the need to recognise informal and non-formal learning also falls into this category.

The pressure to develop learning opportunities means that, in many countries, providers are now challenged to differentiate course offerings in response to increased demands from employers

and changing needs and expectations of learners. This pressure has had a strong impact on the growing amount of VET provision at post-secondary and higher education level in many countries over recent years. This demand is expected to grow as lifelong learning provision expands and develops the need for even more learning (Leney et al., 2004).

Developing VET as part of lifelong learning requires examination of the provision structure including the links between working life, schools and higher education, the content of programmes, the quality and relevance of provision, resource provision and management as well as the roles and responsibilities of different partners and stakeholders. Current lifelong learning discourse accepts there is an argument allowing scope for lifelong learning goals to shape the way the education and training systems work. The OECD study referred to above suggests that stronger links are needed between learning at different stages of life and between formal and informal structures. It also identifies that more diverse settings for

learning and different partnerships between funding sources, providers and qualification bodies will be needed to lead to more integrated provision (Coles and Werquin, 2004). This will call for further substantial research, and reform in most countries (Section 3).

All these pressures on VET systems are common to many countries and might be expected to add impetus to their reform agendas although common pressures would probably not lead to common responses through reform. However, scenarios for future governance developing in practice can be expected to provide direction in terms of voluntary cooperation, coherent responses to common drivers, or perhaps a greater degree of harmonisation than we currently see in Lisbon programmes. The country or regional context will require bespoke solutions. The elements of changing VET infrastructure might be expected to show some commonality and the change itself could have features that are created through policy learning from reforms and trials in other countries and regions.

3. Future governance of VET

3.1. National/supranational/international dynamics; the four futures of Europe

To anticipate new calls that may impact upon European VET research and development, we need some picture of current national, supranational and international environments. The future is characterised significantly by uncertainties, not least as we try to define the policy environment in which EU education and training programmes may develop over the next five to 15 years. A single prediction about policy development on this timescale is difficult to call, but a series of scenarios can usefully describe a range of plausible outcomes. In each case we can assume the OMC will continue to be the adopted policy tool, at least for several years into the future, though with rather different results and opening up different outcomes. Drawing on previous work by de Mooij and Tang (2003), EIU (2005) and Sellin (Cedefop, Sellin, 2002), we explore four scenarios for VET and lifelong learning strategies in Europe:

- (a) strong Europe: a series of Bologna-style agreements between Member States and the EU provide a strong policy steer and impact;
- (b) Europe *à la carte*: formal development of lifelong learning policies, including VET, at European level. But a two-track Europe with some Member States signing up and others preferring to follow their own courses;
- (c) voluntary cooperation continues at EU level, with most Member States and stakeholders showing continuing goodwill and seeking positive learning outcomes from peer learning;
- (d) EU unbound: Member States decide on and drive through their own reforms with little reference to Europe. Voluntary cooperation tends to be minimalist and is often regional rather than European in character.

The scenarios hinge on the balance between two sets of variables. First, the extent to which international, or rather European, governance is influential, as against the role taken by national authorities. For the foreseeable future, subsidiarity remains a dominant principle in particular for education and training, yet who knows whether this will still be the case in the longer view? Second, the extent to which public responsibility is to the forefront of the agenda, as against the extent to which private sector or individual interests dominate. While not identical, the second of these poles can be expected to reflect differences in the priorities attached to the economic and social aspects of VET.

To stimulate debate about future directions of European governance for education and training, the axes can be shown graphically and plausible scenarios plotted on them.

Now we can flesh out the scenarios a little.

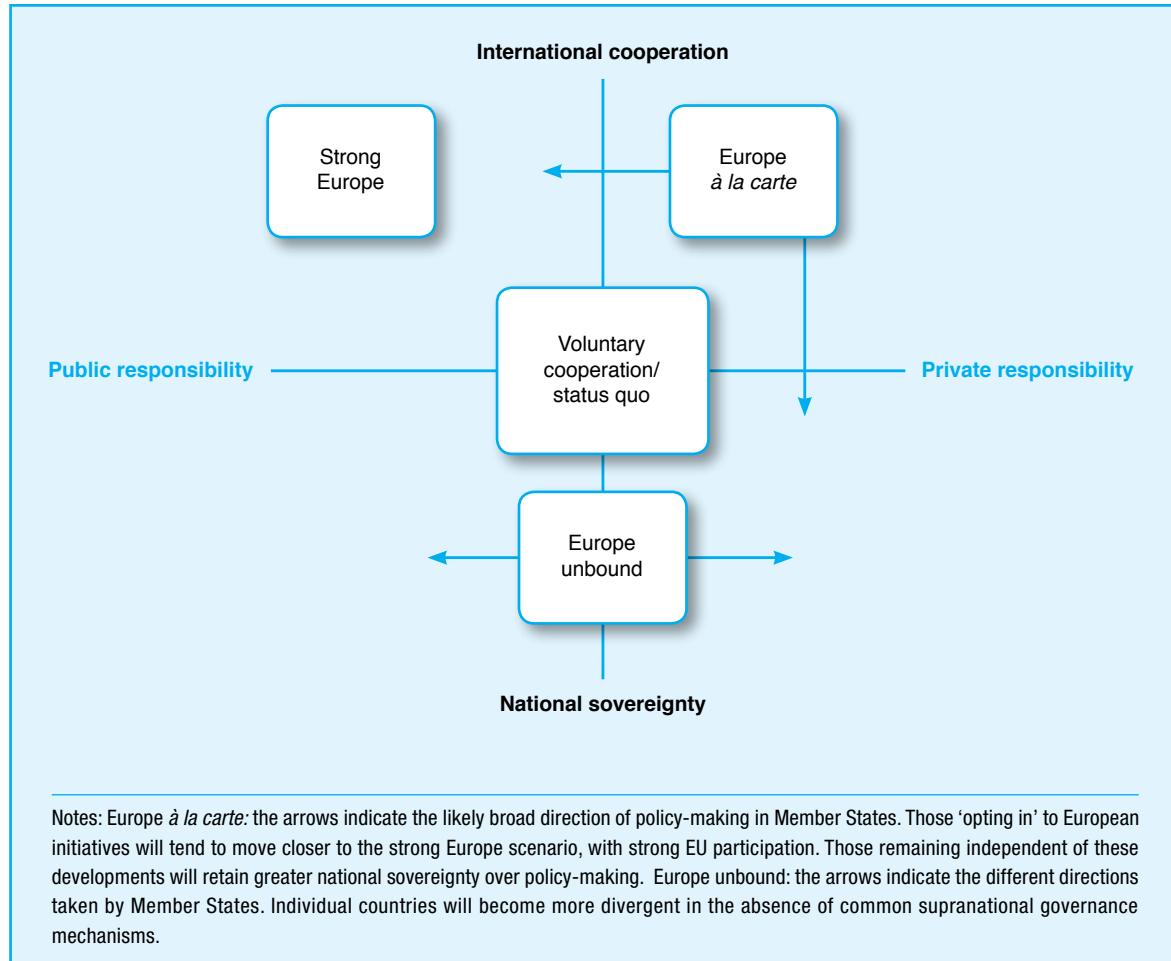
3.1.1. Strong Europe

EU is gaining more robust VET competence. The Bologna process is widely regarded as a successful initiative. Subsidiarity is modified in practice by Bologna-type, binding agreements between Member States and the European Commission⁽¹⁾. The EU is moving through consensus towards developing more harmonised approaches to education and training, with support from key stakeholders. A strong Europe scenario could be identified by the following characteristics:

- (a) more robust European administration and stronger policy institutions, Brussels-based strategy tends to guide national development and reform programmes along more internationally harmonised lines;
- (b) increased funding for cooperation provided by EU budget;
- (c) a stronger relationship between Member States' institutions and EU policy instruments.

⁽¹⁾ In this scenario, for example, EQF will have shifted from the 'meta-framework' approach, which is not currently intended to be a harmonising tool, towards a set of steps and stages that would create a harmonised framework.

Figure 2. Plausible scenarios for VET governance (2010-20)



3.1.2. Europe à la carte

EU successfully formulates forward-looking VET policies as part of lifelong learning strategy. Most EU-10 and some EU-15 Member States adopt approaches derived from stronger European guidelines. However, some countries and stakeholders resist or ignore common approaches, preferring to retain strong independent control. Europe à la carte could display the following aspects:

- EU develops clear policy and implementation guidelines, which remain voluntary;
- optional 'pick and mix' relationship between EU and Member States developments, depending on national circumstances;
- two-speed system allows Member States to accept or decline 'deeper' EU influence;
- the Commission uses structural funds and

lifelong learning funding as incentives. Those opting for cooperation tend to benefit from increased EU funding. Those rejecting the strategy rely on more alternative, private sources of funding.

3.1.3. Voluntary cooperation

The status quo from the mid-2000s continues, with improved voluntary cooperation between Member States, involving closely the social partners for VET developments – with greater or lesser success. While the European Commission is taking a coordinating role, subsidiarity is observed and championed strongly by most Member States and stakeholders. The European Commission seems comfortable to work within these parameters for future education and training work programmes:

- (a) EU continues to set ambitious targets and benchmarks;
- (b) much is learned from the early phases of peer learning between Member States and stakeholders, yet countries are progressing towards new objectives at different speeds, causing tension between high performing and low performing nations;
- (c) social partners and other stakeholders have an innovative role;
- (d) gently increasing funding at European level, distributed equitably between Member States.

3.1.4. Europe unbound

Political and social upheavals in key Member States and at European level lead to reduction in European influence, possibly linked to the decline of the European social model. Member States retain responsibility for their own strategy towards individual economic and social goals for lifelong learning and VET. Cooperation may occur at a more regional rather than EU level:

- (a) struggle for legitimacy at EU level for policy positions and programmes, particularly the European social model;
- (b) slow progress and consensus difficult to achieve;
- (c) aspects of regional and sectoral cooperation remain encouraging;
- (d) limited dispersal of funds at EU level for lifelong learning, though some funding continues to be earmarked for VET funding, especially mobility;
- (e) Europe unbound may be characterised by self-protective State activity, or by unregulated, free market mechanisms.

3.2. Implications for VET governance

Voluntary cooperation appears to be the most conceivable modus operandi at present through the OMC, but this may change over the next 10 to 15 years or longer. We can anticipate that the outcome will be influenced by two sets of developments, which can be summed up by the following questions:

- (a) in 2010, has the education and training 2010 work programme reached several of the main goals, or is it at least on course at sufficient speed to do so?
- (b) which of the scenarios outlined above for governance of the European project for lifelong learning is prevailing?

If sufficient progress is being made, then the OMC is likely to remain, by consensus, the preferred methodology with the status quo being maintained. However, if not, there are likely to be pressures by 2010 to either revise OMC or to move to a stronger form of coordination. Pressure may come from stakeholders in education and training; equally it may come from communities that take responsibility for economic or employment strategies, or innovation, or perhaps social inclusion. A variant model already exists in lifelong learning: the Bologna process is now rapidly harmonising the structure and duration of higher education degrees across the EU and a wider group of linked countries. Here there is voluntary cooperation on the part of partners who sign up to the agreement. There is no EU directive, but the voluntary agreement is perceived as binding and does have the force, but not the legal status, of a mandate. In effect, the Bologna process has extended governance options open under voluntary cooperation within Europe.

In the voluntary cooperation scenario, there is a suggestion that the status quo is maintained, and at least reasonable success of the OMC and peer learning continues. Stakeholders in VET see sufficient merit to continue participation in the process. Key successes, for example in reducing early school leaving and raising workplace training participation will satisfy both VET stakeholders and policy communities beyond the education and training realm. In this case, the OMC, which is not subject to thorough research or evaluation, does not become problematic as a means of governance, because it is seen as delivering its objectives. The efficiency of the tool may be explored further, but not its overall effectiveness.

However, in the event of delivery failure, this scenario would lead to greater scrutiny of both national and European reform policies and the usefulness of OMC and peer learning as a governance tool for future development.

While some EU mechanisms such as EQF are developing rapidly, others – in particular achieving priority indicators such as reaching targets for participation in adult training, gender balance and retaining older workers in employment – are not being achieved. In this case, other scenarios may come in to play.

The strong Europe scenario would be one response to tackle insufficient progress towards key VET targets. Key players could be from within the education and training field and/or the wider economic and policy-making fields. Development of Bologna-style agreements becomes a more prominent feature of the European lifelong learning environment. This certainly also derives from a move towards a ‘deeper’ Europe, in which policy follows a more harmonising agenda, which for VET might have strong implications for EQF and ECVET systems.

Similarly, development of a Europe *à la carte* scenario for VET would imply strong European frameworks, but rather different methods of implementation. However, the Europe unbound scenario suggests a weaker role for European VET governance, which becomes secondary to national developments, or global/local-market mechanisms.

It is curious that VET research is paying little attention to the modes of governance operating at EU level in the field. A notable exception is a recent paper by Roger Dale (2005). Dale distinguishes between the concepts of government and governance, concluding that governing is no longer the exclusive preserve of the State. According to Dale, [...] the OMC processes seem likely to have a depoliticising effect. In addition to the national tactical (blame-shifting) advantages

the OMC may foster, more fundamentally it makes policy decisions into technical matters for long-term negotiation between denationalised/supranational experts, rather than national preferences that have to be defended nationally. In this way it displaces immediate problems, both temporally and spatially; it extends the time horizon over which they are to be addressed and removes the locus of decision to another place. This also makes education policy-making at EU level a matter for technical problem solving between stakeholders within the system, rather than the result of the political resolution of the political conflicts between different interests. Further, the process will tend to converge around the economic interests of the already strong, rather than around their own or anyone else’s political priorities. Finally the OMC will tend to operate on the basis of proscription rather than prescription; that is to say, it will tend to patrol the boundaries of the possible rather than defining precisely what the territory thus defined should contain’ (Dale, 2005).

Future uncertainties that scenarios can help to reveal and the relatively small amount of attention paid to governance as a research issue means that VET governance at European level should be an important area for future VET research.

Similarly, the quantity and nature of cooperation between different Member State ministries responsible for VET should receive more concentrated attention in research, as should developing closer working practice between European Commission directorates. Linking policy-making for VET is key to successful innovation, but the field remains under-researched.

4. Uncertain economic and labour-market environments

This section addresses some transversal research issues in the relationship between VET and the labour market. These raise issues that we consider key for future research in VET. The areas we consider are:

- (a) the effects of uncertain economic and labour-market environments on VET,
- (b) the concept and recognition of competences,
- (c) the attractiveness of VET supply.

Our starting point is the EDEX study *Education expansion and labour market*, (Cedefop, Béduwé and Planas, 2003), associated research, and subsequent studies on the same theme (Germe et al., 2003; Béduwé and Germe, 2004; Mercado and Planas, 2005). We bring to light the issues, whether currently present or not, that we consider will be important beyond 2010 and which call for deeper research work.

4.1. What do we mean by uncertainty?

It is widely agreed that modern economies need flexibility in terms of markets, organisations and companies, while technologies develop rapidly and are permanently changing. This creates a high uncertainty in both economic and social processes. One consequence is that economic agents – including companies, managers, employees, investors and the State – now have to plan in a more uncertain environment, about which less is known in advance and in which forecasting is less easy than in steady State developments that characterised earlier periods. Further, unanticipated events occur, as evidenced frequently in the energy sector. This uncertainty has an impact on major aspects of vocational training. The investment in training by individuals and by organisations carries more risks, while

planning for developing skills and qualifications has become more complex. Nor are pathways for access to employment via vocational training necessarily reliable. A key argument that underpins the analysis in this paper is that uncertainty is now an important constant factor in fields associated with labour market and VET research. As we will indicate, the challenge of managing uncertainties brings both opportunities and risks. A key task for VET research is, therefore, how we can plan for uncertainty, as an increasing an unavoidable factor, in anticipating VET skills needs and supply for future labour markets. Uncertainty takes on several dimensions, some of which we will now identify.

4.2. Increases in employment and labour-market risks

Some risks have long been associated with the labour market and paid employment and, historically, countries have gradually tried to limit or compensate for them. These risks are well known, and include unemployment, illness, old age and poverty; they form the basis for social security measures. Current economic developments increase certain risks for groups of employees: the likelihood of becoming unemployed, the risk of seeing qualifications losing their value and becoming obsolete, the risk of labour-market exclusion and risks related to diminishing access to employment, etc. Often, these changes bring opportunities, such as changing to another economic sector or industry. Choices made by young people and employees on developing their qualifications, which often means their choices of vocational training, are subject to this uncertainty. Making sound choices is often difficult and individuals' choices do not guarantee, for example, chosen training will have value in the labour market.

4.3. Shorter timeframes for choices and actions in the labour market

Uncertainty also means that individuals, companies and organisations have a shortened timeframe for their choices and actions. As we already showed, some key aspects of the future are unpredictable, making confident forecasting difficult. A consequence of increasing uncertainties is a shorter horizon for action planning. The increase in uncertainty means individuals and public institutions decisions – for example in public policies for qualification development – have to be made with limited knowledge of possible consequences, and tend to result in placing more emphasis on quick results over a short time span. If labour-market conditions and development of qualifications are more difficult to anticipate, this also implies that individuals develop projects, based on their own qualifications, only on a shorter-time scale: the more these are long-term projects, the more they become risky.

4.4. Decreasing durability of existing practices in regulating employment and training

Linking employment and training systems has specific characteristics for each country. These are based on specific aspects of regulation of labour markets including training and conditions of access to employment, which depend on benchmarks common to both companies and individuals, on rules or standards linking qualifications and employment through legitimised nomenclature, classifications, systems, etc. These factors are expected to reduce uncertainty for economic agents. They help agents make their choices, confident that they understand their environments clearly. For example, choosing a specific professional training will guarantee access to a certain category of employment. Benchmarks necessary for the labour market to function – job titles, diplomas, classifications –

seem now to be less effective than in the past to secure a good match between job vacancies and job applications in the labour market, particularly relating to future needs. Thus, one of the forms that uncertainty takes for stakeholders is that mechanisms for market regulation and ways of accessing employment are changing rapidly, and information and guidance provision for employers and learners is often not up to date or easy to synchronise.

4.5. Uncertainty caused by changes in labour-market demand

Today, labour-market demand is perceived as unpredictable for two main reasons. First, demand is subject to increasing fluctuations; this contributes to greater insecurity of employment and makes development of both skills profiles and qualifications more difficult to describe and forecast (CERC, 2005). Second, this evolution is accompanied by a decline of traditional collective forms of work organisation, simultaneously giving more importance to individual initiative (a kind of entrepreneurial approach to careers) in the professional trajectory of the employee. We note, however, that some recent powerful analysis suggests the emergence of new collective forms of work organisation, following adoption of new working methods (Falzon, 2004). Thus, important developments are under way in work organisation, affecting the links between the individual and the collective and which, in turn, creates uncertainty about competences needed by individuals in employment.

4.6. Contradictions in labour-market demand and job security

A perceived increase in labour-market uncertainty is shared widely across working populations in Member States, even if there are strong differences between countries. The perception

of a strong degree of job insecurity does not necessarily correlate with the measured insecurity of employment in different countries. This aspect is still subject to debate, and data available are rather contradictory. It has been shown, for example, that the trend is for growth of long-term employment in companies in most industrialised countries (Auer and Cazes, 2002). However, development of short-term contracts and unemployment is a demonstrable reality, particularly for the least qualified and for recent labour-market entrants and probably also for older and other more marginalised workers. It is this development that has probably led to a feeling of insecurity for large numbers of people in work. The dimension of uncertainty related to labour-market demand weighs on individuals' judgements on vocational training. Young people, in particular, may consider vocational training according to its capacity, perceived or real, to protect them from unemployment and also from job insecurity. This is a hypothesis whose accuracy and implications certainly merits further research, not least because of the implied changes in VET supply.

4.7. Complexity of qualifications development and uncertainties about defining job profiles

With the transformation of work organisation, new jobs are emerging whose contours and characteristics prove to be difficult to describe, unlike many traditional job profiles. Often the growth of tertiary employment has created professional activities that do not fit neatly into traditional ways of defining qualifications. The increased importance of indefinite contracts as part of employment has a major impact on the labour market, whether in terms of recruitment, vocational guidance, or the role of VET in access to employment. Traditional ways of characterising and cataloguing jobs are less and less adequate to the task of reflecting the reality of professional activity. Organising vocational training for these activities is difficult, as

is anticipating how qualifications should evolve.

The future shape that employment and qualifications should take becomes more difficult to anticipate both for individuals and for companies, and this creates uncertainty that economic agents must take notice of. At the same time, achieving effective links between VET and employment (which qualifications to obtain for which employment) becomes a question difficult to answer for training providers and policy-makers, as well as for other stakeholders in VET.

Uncertainty is closely linked to the obsolescence of previous signposts linking training and labour markets, in particular those that give shape to VET pathways, provide access to training and employment, and construct professional career paths for individuals. Opportunities offered by different kinds of education and training are more and more difficult for individuals to anticipate. Faced with this difficulty, agents can only make a rational choice of vocational training by chance.

4.8. Increasing the collective dimension of work and competences

Decline of recognised trades and professions as a collective form of labour-market organisation and training is often characterised as individualisation of labour-market operations. The collective dimensions – as evidenced in classifications and agreements at company and branch level leading to access to employment through well identified pathways of VET – have a reduced role as regulation of the labour market has changed. One aspect of these changes is a decreasing value of benchmarks common to employers, employees and labour-market intermediaries – such as job titles, profiles, names (titles) and the content of qualifications. Companies tend to value qualities in their workers that are, in some respects, poorly identified in qualifications or in employees' job titles. This motivates companies to set up individualised forms of employee skills and competence evaluation, to compensate for loss of confidence in traditional signals contained in employment titles, diplomas, etc.

However, it would be a mistake to conclude

that the collective dimension of work is about to disappear from modern work organisation. The collective dimension of work practices is, rather, changing. This can be shown by referring to ‘distributed and asynchronous’ forms of production and development of demanding practices of deliberative confrontation found in modern and highly technical work organisation, in which collective activity functions to ensure the validity and robustness of solutions to problems work organisation has to confront. Collective competence is thus collectively built into action, developed through practice, and does not equate simply to the sum of individual competences. The collective forms of work management and employment in many modern companies, and across a wide spectrum of the labour market, have adapted to these transformations of the collective dimension of work. They give place today to development of new structures (for example, communities of practices gathered around a common objective of production, which might for instance be development of free or shared software). However, these new working methods are not wide or stable enough to constitute stable objectives for competence development, which could in turn be transmitted within frameworks of vocational training. Yet, these forms of organisation will probably be of key importance in the future. They give an idea of what can be called work organisation based on competence and knowledge.

4.9. Emerging questions on the relationship between work, careers and social organisation

A strong requirement of modern economies is the capacity of individuals to develop individual and social resources to acquire competences within their work environment and from wider contexts throughout various stages of their working lives. Workers learn, adapt, and build on their personal and professional trajectories in connection with the development of their work organisation. Increase in specific risks and uncertainties, loss

of effectiveness of collective membership such as trade unions, professional bodies or companies, new requirements of work in terms of autonomy and taking initiative, diversifying life and work trajectories, all help to explain this change.

However, main stakeholders in governance at European level cannot simply accept this situation. It is part of their governance role to develop collective frameworks that support individual action through a strategic approach that combines a range of public policies, including policies for lifelong learning and VET. Traditional questions asked by human and social sciences on the interface between individual choices and collective frameworks have to be revisited. New research and policy questions are emerging, around three main topics that straddle the economic and social aspect of VET policy:

- (a) work organisation: how can we adapt work organisation to ease competence acquisition and insertion of people with different capabilities?
- (b) career trajectories: how will individuals make choices during their learning careers and throughout professional life? What resources help individuals to control their career trajectory, and under which conditions?
- (c) social organisation and individual choices: how can individuals be supported in making their career choices and decisions and in their working activity? Which public and collective resources, including modes of VET provision, can work best under these conditions?

4.10. A crisis of the *métier* (*Beruf*, trade or profession) and diploma – central to the relationship between VET and employment

The reciprocal relationship between training levels and employment entry and progression has been sustained normatively, in a range of European national systems, through the concept of trade, profession, *métier*, *Beruf*, etc. However,

these reciprocal relationships, while commonly accepted, do not provide an effective general explanation of the relationship between VET and employment in the labour market (Béduwé et al., 2005), nor do they often provide a ready correspondence between holding a qualification and improved access to employment (Bruyère and Lemistre, 2005). Besides, important as they are in forming professional identities, they are often not a conclusive basis for linking future skills needs and training provision (Lassnigg, 2002).

The relationship between training and employment is brought into question by changing patterns of employment, increasing uncertainty in VET systems and markets. The correspondence between VET qualification levels and employment levels in France is likely to become more difficult to maintain. Similarly, the German model of initial vocational education and training (IVET) would be less well adapted to a strong degree of labour-market uncertainty, because of strong formal ties established between training and employment. Several current developments can be seen as a response to this trend. These include: modified approaches to job and training needs analysis; deconstruction of the traditional categories of qualification; reconceptualising professional activities using Lego-like banks for constructing competences; development of new tools and management practices in companies. In short, new competence-based approaches work critically to challenge existing, normatively supported relationships between VET and employment, which have been based on a correspondence between qualification/diploma and *métier/Beruf*/trade. These innovations also lead to constructing new ways of evaluating people at work, based on a particular conception of an acting subject, for instance one who keeps competences up to date, ensures employability, and is concerned with transversal cognitive capacities needed for professional activities in rather unpredictable labour markets.

VET and associated qualifications occupy a central place in these developments. New diplomas, certification systems and pathways are being developed and tested. It is important that VET research informs these developments, and also attempts to understand and explain new

paradigms. The task for future VET research is to develop an understanding of the new relationships between VET and employment that are emerging, how individuals may make choices about their careers and labour-market positions, and of new forms of collective activity that may emerge.

4.11 Managing diachronic trends of supply and demand in the labour market

Transformations in European and global labour markets and across the range of work organisation are far from complete or stable. Reforms of VET systems and markets, and the associated modes of access to employment, are also in a state of flux. The diachronic trends referred to in the title above suggest historical movement, with the implication that trends in labour-market demand and supply are not easy to synchronise.

Questions of qualification or competence requirements tend to elicit different answers, depending on the timeframe used. The changes effect taking place in connection with globalisation is that decisions related to the production, circulation and accumulation of capital are governed by short-term priorities, whereas decisions related to human and social skills and reproduction demand a long-term, or indeed ultra-long term, perspective (Vinokur, 1999). Diachronic mismatch between supply and demand for qualifications and skills is a common feature in European and world labour markets. The timeframe is an important factor in the relationship between demand for skills and supply. It delimits the period needed for developing qualifications and acquiring skills, as well as their useful lifespan. At the same time, it is used to define the boundaries of forward planning, and hence is a unit of economic measurement. Managing this diachronic trend needs to be placed in a lifelong learning framework rebalancing the weight of the different kinds of formal and informal opportunities through VET, developing the model of competence production as indicated in a following point.

4.12 Changes in the models of competence production and rebalancing the importance of IVET and CVT

For a long time, systems of IVET provision were the dominant model of skills development in European systems. In the past two decades, raising education attainment has been achieved in large measure through the expansion of IVET. Recently, however, increasing uncertainty about the effectiveness of traditional approaches and the associated shift to competence-led approaches is leading to major reforms of IVET systems in Europe, whatever IVET model has dominated in particular countries.

Development of VET systems may take several directions in the years ahead. First, distinctions between initial and post-initial training and continuing vocational training (CVT) may become blurred, leading to rebalancing investment in vocational training to the benefit of training throughout active life. Instead of alternatives, initial and continuous vocational training would become interchangeable (Gauron, 2000). A second approach is to give greater priority to experience, and develop systems for recognising individuals' competences acquired in practice.

This observation shows that competence-based models are still at a developmental stage. We are also observing development of a greater variety on the demand side for education and training, with young people and others wanting to choose at any time 'such-and-such a type' of training, extension of studies. Their choices consider anticipated skills gaps and shortages, also trying to minimise the perceived risks of unemployment associated with certain categories of qualification. We also note a growth in the investment and returns involved in employment and training, which shows the limits of VET systems organised largely around IVET provision.

These developments tend to result in more complex approaches to VET, encouraging both experimentation and placing more emphasis on recognition of informal and non-formal learning.

4.13. Strategies of individuals to increase their capabilities amid uncertainty

In an uncertain environment the ability of the learner and worker to build their own professional pathway becomes crucial. Amartya Sen's 'capabilities' approach has the potential to develop this line of analysis. The approach was devised in 1985 (Sen, 1985) and developed more recently by other authors (Salais, 2005). The approach promises, both at national and European levels (Salais and Villeneuve, 2005), a helpful and innovative perspective on the reform of VET pathways. In brief, the approach highlights the capacities needed by citizens and workers to achieve economic development of the societies they live in – and those needed for their own personal and career development – are greater than the capacities they need for work, and strongly related to their freedom of choice. The capability concept thus encompasses people's capacity to build up their own lives, work and education strategies, based on their own freely chosen goals.

Taking inspiration from the work of Amartya Sen, this theory focuses on the active freedom people need to achieve their goals in life and work. This concept relates to Castells' approach to the self-regulated worker (Castells, 2000) and connects with the main issues discussed in this section, such as management of uncertainty and people's optimal use of VET provision. As with the idea of the empowered learner, developed in Section 6, the concept of capability returns the active social actor to centre stage. Salais' revival of the concept of capabilities shows that it is not enough to develop rights and resources accessible to individuals (VET programmes, recognition and validation programmes, etc.) to enable them to face the uncertainties of the labour market. What is called for is a strategy for developing capabilities – the effective capacity of individuals to access available resources and to use them relevantly. We will take up this theme again in Section 6, by introducing the concept of the expert learner, and suggest some of the opportunities and challenges this poses for innovative VET teaching and learning, and for VET research.

Here, we look at the impact that changes and uncertainties in the labour market may have on

individual orientations to VET, particularly when these are linked to changing individual lifestyles and preferences.

Many individuals in modern labour markets are faced with contradictory demands. They are encouraged to develop a long-term training and development project as fits the idea of a professional, while they are encouraged to be flexible, to adapt themselves to the labour market and employment trends, maintaining their employability. Individuals thus develop a range of behaviour to cope with uncertainty. The time scales given to their actions are often shorter, frequently leading to short-term planning. Indeed, in the face of multiple labour market uncertainties, developing long-term career

projects is not always adaptive behaviour. Individuals develop new strategies of adaptation to uncertainty, which are not always easy to understand. These strategies are fertile ground for further research, since they will impact on the learning and working situations individuals opt for. These strategies do not yet figure prominently as a subject of VET research. To generate debate, we have formulated strategies, (set out in Box 1) that young people may use.

It is this interplay between new uncertainties in labour-market demand and supply and the active, adaptive orientations of actors (here we looked at learners and working individuals) that form a new, dynamic field of VET research appropriate to the new paradigms.

Box 1. Individual strategies for labour-market risk management

Minimise risks, by selecting safer choices in the labour market

A way of reducing the risks emanating from labour-market uncertainties is for individuals to choose training leading to the most secure and steady forms of employment. This assumes the information on training pathways and careers is reliable and comprehensible. Information and guidance in changing labour-market and training situations, the development of useful signposts and the way that these are used by individuals in their choices and careers are in themselves an interesting area for further research. These are closely linked to systems of accreditation and ranking at all levels from upper secondary VET to postgraduate training, MBAs, etc.

Insure against risks in advance

Whether or not they prove to be effective, we can see insurance against risks as a common response of young learners and people at work. Examples include the following. To protect against the risks of downgrading and unemployment, prolonging the period of education and training is an insurance that improves the level of qualification (extra years, for example, or a more advanced degree). People often anticipate recruitment practices in which a qualifications drift took place, whereby companies expect to take on people who are overqualified for the job. Another insurance is multiple qualifications, ensuring diversification of qualification profile, for example, through double qualification. In practice, some young people complete many training courses, hoping to have a flexible range of labour-market entry and progression possibilities. Similarly, some build up an impressive CVT profile, to impress employers and be able to show they have developed a wide range of skills and competences.

Adapt to risks

Adaptation to the risk approach is illustrated through the behaviour of young people choosing a more adaptable (or opportunist) attitude, frequently changing employment tactic and area, often taking new training courses linked to developing areas of employment. This is seen as a better option than long-term VET projects. Often these young people delay their choices for as long as possible and prefer short training courses. Another option might be patterns of volatile and changing behaviour of individuals who treat the labour market as dubious and unpredictable, seeing it as useless or absurd to choose a steady course of skills acquisition, preferring to work on short-term projects or outside the formal field of employment or self-employment.

Use of IVET/CVT to overcome labour market risks

This involves making best use of both ICVT and CVT (as well as other available mechanisms, such as best use of career planning and guidance) to respond to change and uncertainty with a broad portfolio of certified skills, analogous to the contents of a traveller's chest. At each stage, individuals maximise their employment assets, as a way of building protection, progressively, against the risks. Even if individuals are currently protected against uncertainties of the labour market, they have a careful eye on developing their professional profile, by increasing skills and competences – capabilities in the sense used earlier. This strategy accentuates the role of intermediaries in the labour market, such as guidance and career counsellors.

5. Competence: notion and recognition

Clearly, concepts of competence in labour-market relationships and regulation are central to current developments taking place at national and European levels. The notion of competence helps us analyse the complexities of economic change and development of labour markets and work organisation, as described in the previous section.

5.1. Why the notion of competence?

The notion of competence is an important tool that helps analyse and understand the increasing complexity of education and training pathways for young people and adults. It is at the core of most approaches to lifelong learning and is useful for international and intergenerational comparative analysis. Accepting that people can acquire the same competences in different ways, allows us to understand how the active population from countries with different VET systems and thus formal qualifications, have been able to acquire the necessary competences to produce similar and competitive goods. It sheds light on intergenerational competition, for instance how generations with different education and training opportunities have been able to compete in the labour market. In summary, a competence-based approach allows us to understand how people perform to a certain level or standard, irrespective of educational background, or how they acquired their skills.

In several ways, information on workers' competences is already – and certainly will be in the future – a key issue for the European labour market performance.

5.2. The place of competences in labour-market information and regulation

The subject of competences and their management

has been widely explored in research (Cedefop, Descy and Tessaring, 2001). However, there are still major gaps in our understanding and analysing management of competences is often like shooting at a moving target.

The starting point is simple:

Development of work organisation, not least the rapid development of service industries, makes the performance of people at work dependant on factors other than purely technical ones. These more individual qualities add value to knowledge and know-how, support problem solving and developmental activity, all of which are factors difficult to acquire and identify.

This broadening of the spectrum of individual qualities to be considered in measuring performance has been accompanied by an unprecedented development of investment in and thus in the duration of education. These investments, directed so far mainly at initial and higher education, also receive strong encouragement from lifelong learning developments, not only through formal modes of education and training, but also through new emphasis on informal learning. Continuing training and informal learning seem set to adapt and develop rapidly in terms of both techniques and organisation, in the labour-market and workplace context.

Developing the concept of competences has been followed by attempts to measure and signal capabilities people possess and need for the labour market.

The importance of competences has an impact on many aspects of the labour market, such as recruitment, human resources, career management, as well as demand and supply of training.

The concept of competence and its recognition is at the heart of the relationship between VET qualifications and the labour market. VET qualifications are tools for the labour market in so far as they provide reliable and legitimate information on workers' competences. The competence-based approach runs a risk of reducing the weight of what was previously considered to be at the heart of people's qualifications – their knowledge and know-how; emphasising instead only the directly

observable aspects included in work performance. This is the case when knowledge is not updated steadily through CVT and often increases pressures for more training for older generations of people who did not benefit from the recent rise in levels of education. This leads to questioning traditional models of skills acquisition and lays greater importance on the role of experience, at the expense of formal school-based education. Thus, the question of competence is at the heart of developments in both IVET and CVT.

Competences form a central theme for all prospective research in VET. It is pertinent to ask to what extent the main reforms of VET systems in Europe will be implemented in the 2010 timeframe. Two questions arise. The first concerns the concept of competence. The second is about the methodology, which is linked to the concept, for identifying and recognising competences, and for developing elements of a recognition system to show and record individuals' competences in the labour market.

5.3. Different notions and approaches to competence

Many definitions of competences and skills exist. The most important aspects, for present purposes, concern the relationship between individual competences and their use in education and training systems and the labour market. There is strong debate on the concept of competence, in which the DeSeCo (OECD, 2002) programme constitutes one of the main international elements. However, as Winterton et al. (Cedefop, Winterton et al., 2006) indicate, the theoretical debate and its outcome will have important implications for future VET policies. We concentrate here on the competences concept and their practical development.

5.4. Development of the notion of competences

If we take as a starting point the notion of competences used in EDEX, we can observe development of the concept taking rather different directions:

- (a) following the definition and approach used in EDEX: competence is seen as a vector of individuals' skills and attributes, and labour-market relations are based on competences (Cedefop, Béduwé and Planas, 2003);
- (b) using an adaptionist approach/definition: competences (and related skills) can be translated as a result of appropriate formal learning and adapted to a specific professional area (Kirsch, forthcoming). By this we mean the concept of competence is strongly associated with the concept of profession as a stable set of broad-based skills and aptitudes needed for particular jobs. Competences thus become the bridge between VET programmes and qualifications. This notion of knowledge, skills and competences is a strong component in developing national qualifications frameworks (NQFs).

The concept of competence used in the EDEX project had been the most frequently used definition in socioeconomic research. This can be summarised as follows: an individual's overall competences are vector-like, comprising a series of basic skills. Each individual possesses a specific vector, which is probably unique if it is defined in sufficient detail. It cannot be expressed solely in terms of qualifications. This is sometimes described as the 'genuine' approach.

If competences are seen as a vector of individual characteristics, this means they can be acquired in different ways and various places. Each element of the vector may be acquired through different channels; explicit education (qualifications); implicit education (experience, on-the-job training, learning by doing, etc.); non-occupational social activities; or it may even be innate (or acquired early on through primary socialisation). All elements may be acquired in any way, but there are easier, more natural and more likely ways of acquiring some of them, depending on how the education system is organised and what is learned through work. Competences can be acquired through a combination of these methods.

A vector of competences may thus be acquired in various ways, and may be possessed by individuals with different educational and occupational histories. These differences may relate to when certain skills were acquired (when first starting work, or during the course of an individual's career), how they were

acquired (implicit education or explicit education), the time taken to acquire them, and of course to the broader economic circumstances of different generations' careers.

As a general rule, workers do not use all their competences in any one job. Competences are of value in specific jobs, and even in specific working situations. Individual competence will be used as called for by the work situation. There is no intrinsic (absolute) set of competences. Whether competences are relevant (productive) will depend on the circumstances in which the job is performed (2).

Last, the vector dimension of competence, the combined value of the component elements, and the multiplicity of working situations in which they are exercised, make it difficult to determine productive performance *ex ante*. In any recruitment, the employer will primarily be looking for signals of applicants' potential productivity. In any case, following this notion of competence, we cannot identify individuals' competences with reference to qualifications achieved through IVET.

In the adaptation approach competences (and related skills) are not linked to individuals and their global behaviour but to formal educational cycles, which are carefully defined in advance. The notion of competences has been redefined as the necessary result of an educational cycle. The result of the educational cycle is related to specific qualifications found within the particular NQF.

Moving away from the genuine notion of competences that aimed to capture capacities of people independently of means and place of acquisition, the adaptation approach aims expressly to link acquisition of competences to fragments of specific education cycles and to authenticate acquisition of competences through credits or qualifications, in return for the partial or total validation of education and training formation cycles.

This is the predominant process, for example, in the framework of the European credit transfer system and in many developing national systems of professional qualifications. In fact, the dynamics of training suggest that this translation is a simplistic

step, and that two individuals following the same training will, *de facto*, complete with different sets of competences.

To establish a 'soft' relation between formal educational cycles and acquiring competences is likely to have a positive outcome, because this step can help the educational system to give more attention to the applied aspects of knowledge and skills. In turn, this can help develop awareness of the need to integrate a broader cognitive development, described variously as soft skills, core competences, or underpinning knowledge in IVET programmes (Keating et al., 2002), thus generating an important element for entry into employment and for life more broadly. However, to identify competences as a result of an educational cycle is to diminish and oversimplify the complex process of acquiring competences, during the initial education period and even more so in adult and continuing education and training.

5.5. Development of the concept of competences and its relationship to VET qualifications

Paradoxically, a concept developed to show that avenues other than VET systems could develop competences effectively, risks being used to provide VET systems with a monopoly on recognising competences. In fact, this approach transforms competences, as they become part of formal education and training cycles.

It assumes competences acquired by prior learning can be transformed into educational cycles, while formal education can itself define the competences acquired by people as they complete educational cycles as homogeneous. This somewhat ironic development merits further examination and critique, not least since it is embraced – often uncritically – as a common aspect of many current national qualifications systems. It is also found in the European credit transfer system at European level and the Bologna process.

(2) Some authors, such as de Terssac, even doubt the real existence of individual competences, or at least that these can take material form outside a collective context.

5.6. The methodology for recognising competences in national qualifications frameworks (NQFs)

The genuine concept of competence formation leads to questioning the diploma as a signal of the capacities held by individuals, and suggests that new benchmarks to mark the competences held by individuals are needed.

A key question that calls for further investigation is whether it is possible to use a single, holistic and homogeneous methodology to recognise all kinds of competences. This is important for understanding and developing lifelong learning, which develops in different ways, at different stages of life, involving a wide range of knowledge, skills, competences and capabilities.

Among recent attempts to produce single, coherent schemes, the adaptation approach was most frequently used in VET policies at national and European levels. The methodological impact of this approach to competence recognition is twofold. Recognition of competences is based on a stable and holistic qualifications framework defined at each administrative level; however, each qualification in this qualifications framework is linked to a formal initial educational cycle. The main features that distinguish NQFs from other qualifications systems can be summarised as follows (Young, 2005). All qualifications are:

- (a) described in terms of a single set of criteria;
- (b) ranked on a single hierarchy of levels;
- (c) classified in terms of a single set of occupational fields;
- (d) described in terms of learning outcomes (expressed independently of the site, institution and form of pedagogy or curriculum);
- (e) defined in terms of elements (sometimes referred to as units or unit standards) and ascribed a volume in terms of credit expressed as notional learning hours or outcomes.

This approach is elaborate and sophisticated. It received a great deal of attention across Europe, in relation to developing European tools such as the EQF. It is a detailed and meticulous approach based on preconceived categories of competence, which are attached to formal VET programmes. Yet, all competences may not be susceptible to reduction to single frame, and at the same time it may not be

feasible to attach these to specific VET programmes, certainly not in a general framework. The effect on formal IVET is the assumption that we can describe or define individual competences through their VET courses and diplomas. The consequence risks becoming reductionist, and reinventing a kind of Taylorism in qualifications (a ‘box ticking’ mentality) that introduction of the concept of competence development sought to move away from while, in reality, acquiring and using competences in the knowledge society calls for complexity, flexibility and ability to adapt to widely different environments.

On assessment, the move away from traditional modes of examination towards demonstrating skills and competences in more realistic – for instance, work-related – settings are a welcome development. Nevertheless, as Young observes the ‘bureaucratic procedures for the registration of qualifications can easily become a substitute for a more direct focus on quality and the assessment of specific skills and knowledge and generate a lack of confidence in the new qualifications. In the worst cases it leads to little more than ritual compliance and what has become known in the UK as “box ticking” by providers of qualifications [...]. In relation to curriculum, in most systems teachers rely on syllabuses; however in NQF-type frameworks, they have the difficult task of converting outcomes into teaching programmes. Again research has demonstrated that the reliable generation of a syllabus from occupational standards is almost impossible’.

Conceptualising competences certainly calls for further investigation on the part of VET research; it is a concept that should not be taken for granted or seen as unproblematic.

5.7. Some questions on national and European qualifications frameworks (EQF)

The labour market is clearly an imperfect or asymmetric information market. As neo-Keynesian economists propose for this kind of market, State intervention is needed to improve available information. This is the case for national labour markets but the need is arguably greater in the European labour market. Starting from this assumption, the question is: what kinds of

intervention are needed to improve information on European labour markets?

EQF was adopted as an instrument at European level. It is now entering an implementation stage, so it can be expected to have an impact on national and sectoral systems and reforms. Development of EQF is intended to be capable of comparing and benchmarking (using a single framework) the qualifications and skills people have acquired in different national VET systems, in their occupational settings and through lifelong learning, including those acquired through experience. The purpose is to help to maximise the performance of common European labour markets, and to meet the associated needs for worker/learner mobility, geographical mobility and transparency of European education and training systems. While contributing to developing a European education space, EQF and associated actions are also intended to improve access for excluded individuals and groups. Yet, development of qualifications frameworks in some European countries has shown limited results so far. There is also evidence that new VET qualifications, developed in some countries, face difficulties in achieving intended levels of take-up and becoming effective reference points in their labour markets.

New forms and systems of VET qualifications and certification and, more broadly, changes in the ways of assessing people's competences and capabilities should remain key questions for research and impact evaluation, up to and after 2010. Again, this is a matter of theorisation and conceptual frameworks, as well as of implementation. This emphasis on further research could lead to reinvigorating themes such as the VET role in promoting equal opportunities and social inclusion (Bureau and Marchal, 2005).

We already identified problems with the concepts of competences found in some NQFs, attached to diplomas and qualifications, and indicated how these potentially can be found in the EQF. Several related issues are unresolved and are themes for further investigation as we approach 2010, and after.

Below we explore some of these issues:

- (a) transparency: the starting point is that all stakeholders (government agencies, employers, social partners, individuals) are interested in the maximum possible degree of transparency of workers' competences on the labour market; in practice, this is unlikely;
- (b) the relationship between qualifications, labour-market requirements and frameworks: there is frequently strong tension – even a crisis – in the reciprocal relationship between employment specialisations and specialisation in IVET qualifications. Yet, the link is crucial to qualification frameworks;
- (c) EU migration and worker mobility: European citizens are showing a weaker interest than anticipated in geographical working mobility inside the EU (Eurostat, 2006b), although with some notable exceptions;
- (d) extra-EU mobility: non-European migrants are a growing factor in the mobility of intra-European manpower (Eurostat, 2006a). This implies that an aspect of the need for recognition relates to people educated and trained outside the EU;
- (e) global or 'glocal': the level at which it is desirable to define mechanisms for competences recognition remains an open question. In a global economy many drivers exist at global level. Yet, competences are acquired, developed and used within local codes. 'Zones of mutual trust' have recognised this, the 'glocal' factor. The consequences – both intended and unintended – of European links have yet to be proved.

The questions above relate to the cornerstones rather than to the detail of the current approach to EQF. It seems to us that a holistic research approach to the feasibility, implementation and effects of EQF is called for. Some commentators, including Young (2005), conclude that current evidence suggests the outcomes of NQFs have been disappointing and, if so, searching research questions remain to be asked of the EQF.

6. The attractiveness of VET supply

As indicated earlier, the Lisbon goals reflect – and more generally globalisation has contributed to – changes in the labour market and work organisation. These changes have created stronger demand for higher and much broader levels of competences across a wide spectrum of Europe's populations. The Lisbon process translated these demands into agreed objectives and targets for raising education in Europe to meet the needs of a knowledge economy. Until now VET reforms have certainly had an impact on Europe's younger generations. Yet, as we showed previously, policies for neither the younger nor older generations across the EU are meeting the Lisbon targets. In this section we explore why.

Pertinent issues to this question are multifaceted. For instance, we can observe changes in the model of competence production caused by changes in labour-market needs, in VET supply, in the demographic profile and in people's behaviour. It is important to determine which place VET provision will have in the future, and what will it look like.

Finally, we must also explore VET supply in relation to wider concepts of equal opportunity and social cohesion.

6.1. Changes in the model of competences production: the place of VET and their modalities

Expanding VET provision has shaped a model of competence production, replacing the previous model which focused heavily on acquisition of job-related skills. This expansion gives a central place to the formal VET course as a means for producing competent individuals.

New and more complex pathways of skills acquisition are shaping a new model of competence production based on a cooperative relationship between the range of learning sites available, and more flexible approach to the work/learning balance, for example part-time, distance, online training courses. This new model is based on a

set of training opportunities designed to engage learners using initial VET courses, continuous VET courses, work-based learning and wider social experiences, etc., whose boundaries are becoming more blurred. The ability to exploit and manage these opportunities is one of the most crucial skills people need.

The idea of a lifelong learning strategy based on free market choices connects the lifelong learning agenda to the concept of capabilities. Young people's patterns of individual choices are changing. This is connected to the idea that their behaviour is directly related to management of uncertainty and to the goals they set themselves. It is important that these goals do not conflict with institutional or policy goals.

To connect learner choice to learner capability, there should be sufficient flexibility in VET supply. The supply side should become more attractive in relation to the characteristics and circumstances of the learner, while remaining consistent with individual learner objectives. Attractiveness of VET provision can be affected by learners' previous experience, learner motivation, feasibility, uncertainty, opportunity and the associated option costs.

We can identify two research fields requiring further exploration to meet future VET demand and supply; the evolution of VET courses in producing competent individuals for economic and labour-market needs (see also Section 6) and the conditions needed to make VET attractive for different types of learners.

6.2. Conditions needed to make VET attractive for young people

An important dimension for European education policy is promoting post-compulsory education, for instance persuading young people to remain in education after the compulsory phase. Increasing the attractiveness of initial VET supply should,

therefore, be a central tenet for European education policy (Leney et al., 2004).

Recently, the attractiveness of post-compulsory education to young people and their families has formed the basis for expanding post-compulsory education. Lately, however, the attitude of young people towards post-compulsory study in several European countries has been less favourable (Cedefop, Béduwé and Planas, 2003; Béduwé and Germe, 2004). To reverse this trend it is important to investigate this phenomenon further.

The EDEX study (Cedefop, Béduwé and Planas, 2003) showed that after earlier expansion, training and participation stabilised in several countries, particularly in France, where the changing behaviour of younger generations was observed because learners now pay more attention to outcomes of various study programmes. There is greater attention paid towards broader and shorter duration courses. This behaviour is usually explained by prevailing labour-market conditions, with longer duration programmes becoming less popular when the economic situation is improving. However, the fact that stabilisation has occurred during growing unemployment has led us to the hypothesis of a intergenerational training factor based on the following observation: those who previously had most increased their demand for training in the hope of protecting themselves from rising unemployment had, nevertheless, experienced job losses during the recession at the beginning of the 1990s. The perceived benefit of continuing studies thus seemed less obvious. Adapting individuals' VET programmes to labour-market conditions, rather than the duration or intensity of studies, seemed better protection against unemployment.

These observations suggest several hypotheses to explain the persistence, even acceleration of this new behaviour, closely linked to socioeconomic developments. This could lead to an increased variety of education demand, with young people in a position to choose 'at any time' certain types of training, prolongation of studies, identifying areas of the labour market with shortages of specialists or sectors experiencing high unemployment. We could also observe a growth of alternating cycles of employment and training, valorisation of professional experience linked to greater returns offered by training. Finally, we might be witnessing a rebalancing between initial and

continuous vocational training within the general lifelong learning framework, encouraged, in some countries, by extended opportunities of recognition of informal and non-formal learning (Coles and Werquin, 2004). This is also linked to extending social security payments and pressures to remain in work longer to mitigate the demographic shift. The traditional model of full-time students devoting all their time to studies, as long as possible and without being economically active, loses its relevance. The relationship between duration of studies, and the long-term social and labour-market outcome is weakening.

If we are now witnessing a slowdown in individuals' demand for initial training, this will have a considerable impact on both IVET and access to higher education. If this becomes a marked trend, the impact will be felt on achieving the Lisbon objectives for education and training, especially if this is a long-term trend. Beyond 2010, demand for vocational training on the part of young people and their families will remain an important subject for further study.

Factors requiring more research include:

- (a) the social and economic returns offered compared to expectation;
- (b) the social inequalities between diverse groups of young people across Europe, related to opportunity costs of education and the economic capacity needed to support a period of economic inactivity during full-time education (Masjuan, 2005).

6.3. Older workers and migrant workers – new VET client groups

Current European demographic trends (Eurostat, 2004) show that:

- (a) after 2010 only migratory flows will contribute to an increase of the overall EU-25 population;
- (b) even if the general population increases, after 2010 the size of the working population will continue to decrease;
- (c) the EU-25 population will be ageing.

These demographics trends will create two distinct VET client populations in Europe: the older

generation and first, second and third generation of migrants.

Detailed analysis of VET attractiveness factors continue to be essential research topics for future discourse and policy-making if VET is to reach these groups effectively.

6.4. Lifelong learning: from concept to reality

The unpredictable nature of long-term labour market skills needs for a knowledge economy, and a diachronic evolution between supply and demand, makes it increasingly clear that we need to consider lifelong learning as an appropriate model for skill production. Lifelong learning suggests that people have the ability to learn anything at any moment of their lives, and that similar education can be obtained through pathways based either on initial or continuous education and training. This is the approach taken by Blaug and Mace (1977), who outline a 'new Jerusalem'. This approach also includes the compensatory role of continuous training, giving less well-educated individuals a further opportunity to recover their educational deficit.

Evidence gathered during the last decades indicates that there is a relationship between the initial education level and the capacity and

the likelihood to access continuous training (Eurostat data sheet of 22.6.2004 referred to by Leney et al., 2004, p. 67). We have verified that the relationship between initial VET and lifelong learning experiences is more complementary than compensatory, for instance IVET plays a crucial role as a precondition for successful lifelong learning.

In consequence, a central problem facing Member States is the persistence of significant youth populations without basic (compulsory) education, or low educational achievement. As indicated earlier, a central research question is, therefore, how to improve the education of young people with no basic skills, needed to thrive in a knowledge society. For adults, access to CVET pathways depends on developing appropriate pedagogic, funding and physical aspects of supply to overcome barriers. These diverse populations have different needs that can be met in various ways, and much work needs to be done on research and development.

Therefore, we are likely to have, in the future, an increasing problem of attractiveness of VET supply, caused by a mismatch between supply of training and life situations, goals, and education and training strategies of potential users. Increasing the effectiveness of VET supply will call for more research on life situations, goals, interests and education and training strategies of potential user groups.

7. Innovation in VET teaching and learning

7.1. Introduction

So far, we have anticipated and analysed emerging research issues that cluster around questions on future approaches to VET governance in Europe, and to changes in approaches to labour-market demand and supply. Not least, these arrive as a consequence of new pressures players will face in an environment that has uncertainty as a continuing feature. Clearly, these factors will have an impact on learning and training supply.

Here we examine the implications for learners, teaching and training. We stress the importance of a strong research emphasis on empowering learners (expert learners) and renewed focus on scholarship of teaching and learning.

7.2. The impact of technological innovation on European VET research and development

In the education and training sector, we observed a series of technological innovations. Many of these projects remain in a pilot stage, although some have the potential to emerge as significant full-scale developments in the near future, to the benefit of all learners. At institutional level, we might see the emergence of new observatories, merging global databases or development of new accreditation agencies. These are certainly interesting developments, but in this paper we will focus more on innovation at individual level, for instance learners and tutors. For these two groups, the next decade might bring some significant changes that recognise the crucial importance of the quality of learning and teaching in developing our knowledge society. Although they can be considered as a continuation of past events, the following trends

have the potential of improving access to learning as well as improving learning itself:

- (a) spread of learning platforms and distance learning initiatives;
- (b) increased practice of peer, collaborative and network learning;
- (c) personalisation of learning according to individual needs/paths;
- (d) award of recognised certificates for online courses;
- (e) wide availability of different tools favouring validation of prior knowledge and experience, for example competence management tools or numeric portfolios;
- (f) scholarship of teaching and learning stream, aiming at professionalising teachers, professors, trainers and all kinds of tutors.

As key factors to tackle these issues, touching not only the training sector but also associated economic and social aspects, we will discuss empowering learners and professionalising trainers. Some questions can guide us in this process.

Box 2. Questions for research on VET teaching and learning

- (a)** VET professionals: how to develop and optimise initial and continuing training – linking VET teaching expertise to professional/technical expertise;
- (b)** expert learners: how can training and work organisations make learning optimal. How to avoid deficit and unequal access;
- (c)** certification and legitimisation of qualifications: what are the various relations and combinations that exist. What novel mechanisms recognise competence and confer legitimacy;
- (d)** new technologies: how to harness IT to develop pedagogies, learning and accreditation.

7.3. How to develop and optimise initial and continuing training—linking VET teaching expertise to professional/technical expertise

Optimising VET needs improved learning and better synergy between teaching and practice, notably to maintain learners' motivation. Optimisation also asks for better valorisation of both VET trainers and learners.

VET is today facing similar challenges to higher education. Surry and Robinson (2001, p. 231) underline the need for change in higher education: 'critics claim that higher education is not meeting the needs of a diverse student population, not keeping up with growing student demand, has become too costly and is not responsive to the changing skills demanded by employers (Daniel, 1996). [...] a number of converging technologies such as high-speed networks, multimedia and innovative instructional techniques are beginning to change the way that colleges and universities operate (Katz, 1999). [...] higher education is entering a period of relatively rapid change.'

As one of the answers, Knapper (2003) notices a need for teachers' professional training and an increasing awareness for that need: 'it is now about 30 years since academics began to recognise that their work, especially their role as teachers, might benefit from some formal orientation, preparation, and continuing professional education. [...] educational development, though still a somewhat marginal activity in many institutions, has now gained grudging acceptance from academic colleagues, and educational development centres exist in universities across the world.'

A clear link should be made between quality of learning, quality of teaching and teachers' professional development. This is by no means typical and restricted to higher education but widely relevant to vocational fields where learning is involved. Gosling (2001), describing the situation in the UK where the number of support centres for professional development of teachers has dramatically increased in universities, applauds the changes noticed in the past 10 years: 'there is national recognition for

learning and teaching as a policy issue with allocated funding at institutional, subject and individual levels. There is a growing critical literature about learning and teaching in higher education. Educational development is recognised as having a significant impact in achieving organizational change to meet the challenges of a rapidly changing higher education environment, especially in evaluating and developing the use of IT in learning and teaching. [...] all of this amounts to a substantial set of achievements in such a short space of time.' This is promising for the future, but much is still to be done to measure the outcomes of these investments and valorising teachers who invest time and energy in their teaching and its improvements, whatever level they teach.

7.4. A scholarship of teaching and learning

Trigwell and Shale (2004) introduce the work of Ernest Boyer and the notion of scholarship of teaching and learning, better known as SoTL: 'the idea of scholarship of teaching has both descriptive and purposive aspects. In its descriptive aspect, the notion of scholarship of teaching is related to the substantial and continuing project of understanding, categorising, defining and describing what it is that teachers and teaching are. [...] a good conception of scholarship of teaching should, therefore, carry at his heart an appropriate and empowering description of teaching. In its purposive aspect the notion of scholarship of teaching has been identified as a means of serving various ends [...] it should be a means through which the status of teaching may be raised; [...] it should also be a means through which teachers may come to teach more knowledgeably; and [...] it should provide a means through which the quality of teaching may be assessed.'

Kreber (2002) defines different levels of expertise in teaching: 'scholars of teaching are excellent teachers, but they differ from both excellent and expert teachers in that they share their knowledge and advance the knowledge of teaching and learning in the discipline in a way that can be peer-reviewed. They differ from excellent teachers in the nature and sources of their knowledge construction, with personal teaching experience being only one of various valid sources. Scholars of teaching are also expert teachers in that they engage in focused

reflection or self-regulated learning, relying and building upon their declarative knowledge, procedural knowledge, and implicit knowledge of teaching and learning and the discipline. However, they go further so as to make their knowledge public'.

Approaches to teaching scholarship now share the general aim of improving the quality of student learning. As stated by Trigwell et al. (2000), 'we see the scholarship of teaching as about making transparent, for public scrutiny, how learning has been made possible'. This new care for the quality of learning and the way to foster it through teachers' professional development allows us to be confident in improving learning itself, as well as knowledge about learning. The SoTL movement, which is rapidly gaining acceptance in the US, will certainly contribute greatly to future improvement in standards of learning. It gathers huge research funding, organises conferences, publishes scientific journals and develops specific training for teaching/training/tutoring professionals.

The bases for the SoTL movement is simple; improving quality in teaching, to improve learning (to produce better professionals) and recognise teaching experience (valorisation). It is a 'win-win' process, where both learners and trainers find advantages. Its principles, inspired by Schön (1983), are also simple; training will improve if trainers better understand what they do and why they do it, and if they question themselves on how to improve it. Reading about teaching will help improve; publishing answers to local tests of each trainer in their groups will contribute to a shared understanding of learning and best practice.

7.5. Is training optional or required for teachers?

The SoTL movement already has antennae in Europe. The UK is organising focused conferences. SoTL is used by Nordic countries and Belgium for building teachers curricula and credits are given to professionals involved in their own continuing training as teachers.

Even in higher education, which is the least advanced educational sector for organising teacher training for its own teachers, the trend is now to propose optional courses to teachers. In a minority of countries, these courses are mandatory. For example,

in Sri Lanka (Knapper, 2003), 'new academics are now required to take a year-long SEDA-accredited course on teaching and learning in higher education before they can gain a permanent appointment.' Less demanding but already a big change, Cambridge University in the UK now has a promotion route based on excellence in teaching. These signs are predictors of a real change in higher education: it is more and more considered as normal not only to teach, but to teach to allow students to learn.

Lessard (2002) explains that, in the US, the Holmes Group recommends a performance related system in which teachers' work, responsibilities and salary is differentiated according to their excellence in teaching. Several categories of teachers would be integrated into a formal career structure, ranging from instructors to professional teachers and then to career professional teachers, the latter category representing some 20 % of school professionals. For several reasons, this proposal has not been well received by American teachers. Nevertheless, the concept of recognising teachers' performance is an increasing trend worldwide, and promises to be an important issue in the future. The National Board for Professional Teaching Standards, which is working towards promoting excellence in teaching, is becoming increasingly positive about this work.

7.6. A likely scenario

In continuing education and VET, it is likely that trainers will have to prove the quality of their teaching more frequently. The teaching portfolio will certainly be one of the tools employers will use to select their trainers, especially if there is, in the future, an agreement on standards to be used to document teaching and learning. With its literature defining excellence in teaching and professionalising teaching and learning, SoTL could influence these standards. A wider offer of teacher training will emerge, allowing teachers and trainers to make a choice between several pathways, partly at a distance, to acquire new qualifications. With continued globalisation of services, training centres will also be judged on the quality of continuing training they provide to their employees across the world.

International evaluation bodies such as accreditation agencies will set standards, including

criteria on the training level of trainers. That level will be attested by both initial and continuing training, and by validation of professional experience. Other scenarios may emerge, giving less room to professionalisation of trainers, but it seems plausible that in the long term VET will follow this general educational trend.

Having trainers studying the art of learning, conducting small-scale research in their own groups of learners and communicating their reflections and actions (SoTL) has a good chance of improving learning, increasing trainers' and learners' motivation and leading to valorisation of both types of actors. The causal links between these influences are not proven by consistent large-scale studies in varied settings but many local initiatives identify the conditions in which these links are reliable.

This scenario has several implications for the future. Among them, the need for:

- (a) an increase in teacher training capacity, both face-to-face and online;
- (b) accreditation of these programmes (particular attention should be placed on the practice-what-we-preach method, which should be mandatory to ease transfer);
- (c) research on the consequences of these programmes on the quality of vocational learning;
- (d) resources enable vocational training to improve from technological advances that trainers come across while teaching and learning.

7.7. Expert learners: how can training and work organisation make learning optimal? How to avoid deficit and unequal access?

Empowering learners seems one way to improve learning. The main danger of this empowerment is to increase the gap between two types of learners:

- (a) expert learners, self-directed and goal oriented, able to use their metacognitive skills to take the best decisions on their learning and maximise its effects;
- (b) novice learners with low self-image, poor learning strategies and little metacognitive reflection.

7.8. What do we mean by empowering learners?

We will use metacognition as an example to illustrate what empowerment means and help in understanding what kind of empowerment we should be looking for.

For Phelps et al. (2004) 'metacognition refers to knowledge concerning one's own cognitive processes, and the active monitoring and consequent regulation of these processes in the pursuit of goals or objectives' (Flavell et al., 1993; Flavell, 1976). Paris and Winograd (1990), as well as Jones and Idol (1990) discuss two dimensions of meta-cognition: self-appraisal and self-management. Self-appraisal refers to reflections about one's knowledge state and abilities, including what you know, how you think, and when and why to apply knowledge and strategies. Cognitive self-management refers to metacognitions in action, or the ability of the individual to plan and implement appropriate strategies and to monitor, adjust and troubleshoot their performance.

If the benefits of metacognitive approaches lie in their ability to transfer responsibility for monitoring learning from teachers to learners, this benefit can also be considered a drawback for those learners not trained in metacognition. Promoting positive self-perceptions, affect and motivation it can bring to learners is only valid if learners realise the benefit they can take out of it and are able to take advantage of it. Promoting metacognition among learners, in its two components of self-appraisal and self-management, is an example of empowering learners, shifting part of teachers' responsibilities to them.

7.9. Why empower learners?

'In contexts of rapid change, expert learners' metacognitive strategies provide distinct advantages: "when asked to deal with novel situations, the specific cognitive skills and learning strategies we have available become more critical than the limited content knowledge we may possess" (Ertmer and Newby, 1996, p. 7)' (Phelps et al., 2004).

Expert learners know what they do or do not know, and undertake appropriate actions to acquire missing knowledge, skills and competences. With equal

unfamiliarity of the content of a domain, they will reach a fixed goal significantly better and quicker than novices. A metacognitive approach to learning and a desire to empower learners to continue to support their own professional lifelong learning in any domains beyond compulsory education, is a good long-term education strategy. All learners should become expert learners, empowered learners.

7.10. How can we empower learners?

How can we help learners improve their self-appraisal and self-management skills? By giving them an opportunity to experience various learning situations and reflect on their own learning. VET and initial training should focus on developing this reflective capacity in learners. The effort would benefit not only learners, but also employers, as this capacity is a key factor in lifelong learning. Activities likely to develop this capacity are pre (before), per (during) and post (after) performance judgements, analysis and regulations, done by learners themselves to understand better the learning process and the product of that learning. Trainers and tutors can participate in reflective learning, helping analyse and make responsive decisions from observations.

As this kind of process is typical of an expert learner, the only way to empower all learners is to work on it at school, with each individual who needs it. Therefore, it is also necessary to work on empowerment with trainers and tutors. Empowering activities should be included in training of trainers curricula, using various methods and tools to ease transfer to their own target learners.

7.11. Validating prior knowledge and experience

The trend towards valorisation is already an important issue for most European countries. Schools and other VET suppliers certify what the learner achieved, using certificates and diplomas. However, it is working life that recognises and legitimises vocational

qualifications. Sections 4 and 5 showed that some of the traditional links between VET qualifications and the labour market became problematic.

One consequence is that national or regional bodies delivering diplomas are facing the challenge of accreditation or recognition of the combination of knowledge and skills that people have acquired through their working lives, without lowering the perceived value of their former diplomas. In France, as Leplâtre underlines, 'experience has the same value as formal courses. All diplomas and certificates (estimated to be more than 15 000) will be included in the national listing of vocational certificates (*Répertoire national des certifications professionnelles*, RCNP). Candidates should consider their own skills and the interrelationship between them. [...] the French secondary and higher education structures use the candidate's application as proof of his or her skills. The Ministry of Labour prefers the use of in situ assessments, which validating agencies are able to set the relevant conditions for. For candidates, this approach generates "narcissistic restoration" i.e. it restores self-esteem. Companies, too, are interested in this scheme, seeing it as a means of optimising their image as a "vocational qualification company" (Leplâtre, 2003).

Lenoir describes the remaining issues in the French situation, although it is one of the most advanced in Europe in this field: 'if such change is to become reality, a number of questions must be answered. Firstly, there is the question of information for users, which impacts upon the degree to which, in a public service system, all citizens have equal access to validation. Then come the problematic questions of funding, followed by that of low capacity of VKE [validation of knowledge acquired through experience] specialists. It appears to be necessary to provide training for players in the field of VKE' (3).

Nevertheless, the debate around valorisation and the possibilities offered to professional and lifelong learning sectors in general will be a major subject for the next 10 years. The interest and support showed by employers will undoubtedly be a driver for adopting VKE schemes in European countries. We see this issue as a challenge for 2010 and beyond, recognising the value of experience

(3) Interview conducted by Centre-inffo (<http://www.centre-inffo.fr>), the official reference for VKE in France.

in sound political decisions, considering not only isolated skills but also transversal competences and meta-cognition, which is not yet the case, in processes giving equal opportunities to candidates with valuable expertise.

Empowering learners is also a key issue: metacognition will be one of the key competences candidates acquire, to be aware of the experience they could get recognised, validated and accredited.

7.12. IT as a developing, useful tool: harnessing new IT to develop pedagogies; learning and accreditation

We can identify three emerging tools that could play an important role in helping self-appraisal and self-management skills develop in the next 10 years. Below we outline the importance of online management of competences, electronic portfolios (usually called e-portfolios) and shared online contents.

7.12.1. Online management of competences

If a teacher, tutor or trainer generates a set of competences to be mastered by a group of learners to get a specific qualification, this list can be displayed online, with restricted access to those learners, each progressing in mastering the set of competences at their own pace. When learners have acquired a new competence, they can ask for its online validation by the tutor(s) responsible for the specific item. The list of items (competences) can link to individual or collective learning activities as well as discussion forums dedicated to clarification or real 'on task' interaction.

These online competence management tools can be either commercial or free products, some of the latter being open source. Having them online takes advantage of wide distribution, allowing, for example, validation from anywhere and from several tutors instead of one single individual. Usually, to validate mastery of a competence, the same capacity has to be proven in different contexts. This justifies validation of each item by more than one

tutor, each competent in a specific domain.

The following screenshot gives an example of the information that can be displayed and read by a tutor who is partly responsible (with two colleagues) for validating 20 competences in a group of five students. The screenshot shows that only one student (Nijole) has asked for validation of the item (competence) No 16. Each student has their own path, progressing at their own pace. When students reach their goal, their 20 competences are fully green coloured, showing they have acquired all facets from all tutors.

This kind of tool empowers learners (in this case, adults) by giving them the flexibility they need in terms of place, time, pace and method. Although it asks for good self-management skills, it is a smooth way of raising awareness and improving learners' self-appraisal skills. Studies are being undertaken to assess whether this kind of tool could be one of the ways to train autonomy and metacognition. The key questions seem to be: how can we measure autonomy through objective data? What kind of link exists between autonomy and achievement, in an environment where the learner is supposed to ask for help and communicate without external incentives? Does autonomy largely affect achievement? How to install autonomy progressively? Do the tools (such as competence management tools) help with this progression? In an electronic environment asking for autonomy and metacognition, does information on individuals' own preferences contribute to good monitoring of time and achievements? At first sight, it seems that several different paths can lead to similar achievements, and that close follow-up by a tutor is necessary to raise awareness of individual strategies and difficulties, therefore favouring both autonomy and metacognition. The tutor and online tools would be crucial help for learners to build their competence 'capital', usable in all different learning areas. These first insights should (and will) be further explored to generate stronger findings (4).

7.12.2. Electronic portfolios (e-portfolios)

To illustrate the goal, interests and scope of a portfolio, we will choose education and training as an example. We will talk about teachers' portfolios,

(4) In Liège (LabSET-ULg, Belgium), François Georges is working on such a hypothesis (forthcoming).

Figure 3. Multitutor validation for a set of 20 competences in a group of five learners – Screenshot of an online competence management tool

The screenshot shows a user interface for managing student competence validation. At the top left, it says '29/01/2006 LabSET' and 'Mme Marianne Poumay'. On the right is the logo 'G.I.C. agora'. Below this, there's a toolbar with icons for 'BLOC', 'V', 'A', 'X', and 'V'. A sidebar on the left lists 'Choisissez une classe' and several class names: 'formasup_arin', 'formasup_cat', 'formasup_cha', and 'formasup_lyd'. The main area is titled 'Etat des items en cours de validation dans la classe.' It includes a legend: 'Rouge : item non validé', 'Orange : item en attente', and 'Vert : item validé'. A table titled '5 Elèves' shows the validation status for each student across 20 competences (labeled 1 to 20). The legend indicates that red triangles represent unvalidated items, orange triangles represent items pending validation, and green triangles represent validated items.

Nom	Prénom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cubajevaite	Laura	■	■	■	■	■	■														
Deksniene	Nijole			■		■	■	■	■	■	■	■	■	■	■	■	■				
Dzemyda	Ignas	■	■	■	■	■	■														
Rimkunaite	Kristina		■	■	■	■	■	■	■												
Vaisnoriene	Daina	■	■	■	■	■															

knowing that every profession and every learner, in school as well as professional education or professional life, could benefit from this kind of documentation of their practice.

We shall employ Doolittle's definition (1994), who describes a teacher's portfolio as '[...] a collection of work produced by a teacher, which he chooses to maintain and structure to highlight his knowledge and skills in teaching'. The term teachers' portfolio covers a collection of a tutor's or trainer's work as well as that of a teacher.

Such a collection may be electronic or non-electronic, and may have various objectives, which will determine its structure and contents. Van Tartwijk et al. (2005) offer a useful classification of e-portfolio types, which we repeat below:

- assessment portfolios,
- presentation portfolios,
- development portfolios,
- reflective practice portfolios,
- combined portfolios.

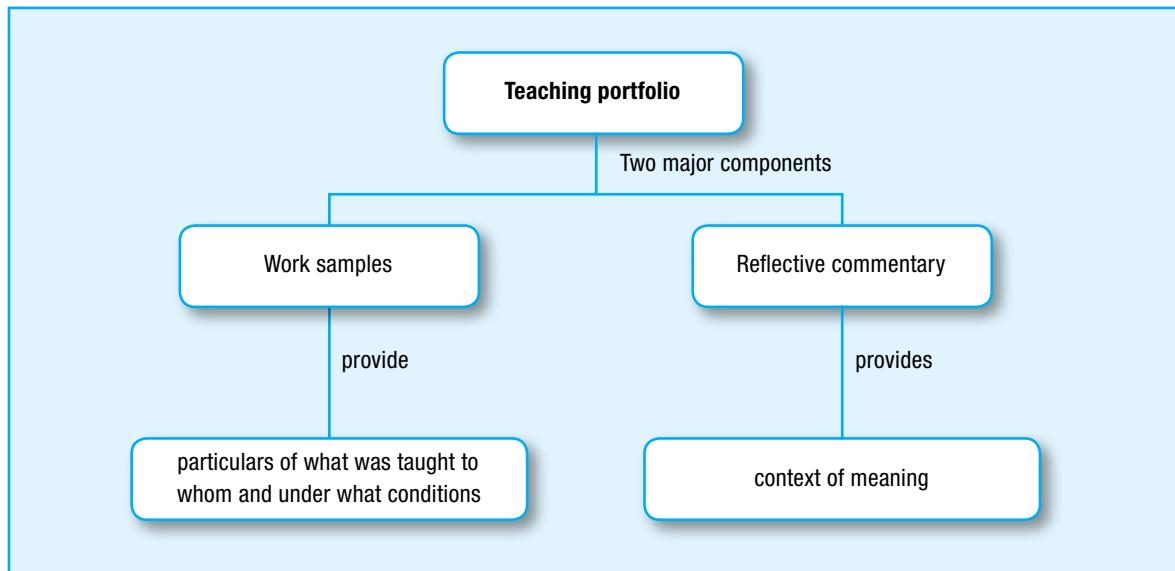
At Cornell University, the *Teaching evaluation handbook* (CLT, 2007) presents the main components of a teacher's portfolio as shown in Figure 4.

In the work samples section, trainers, teachers or tutors should also offer evidence of what they put forward (classroom assessment trend) (Poumay, 2005). The teacher's portfolio involves collecting subjective and objective evidence of the impact of their reflection and action. For example, with regard to the impact of an action, teachers should not confine themselves to collecting students' views on their degree of satisfaction with changes made, but should actually measure the learning achieved by those students, and act to improve that learning.

This type of tool is consistent with validating prior knowledge and experience, offering teachers the chance to insert details of previous training attended and offering credit for such past experience, provided they are subjected to reflection and critical analysis. This also enables everyone to capitalise on the various courses, workshops and conferences they have attended internally, in their own institution, or externally, thus providing extra value for these initiatives.

E-portfolios are a significant development in Europe, partly caused by the valorisation possibilities they offer. As examples, an e-portfolio conference was held in Cambridge (Elfel, 2005), following two international conferences – Poitiers

Figure 4. Teaching portfolio



(2003) and La Rochelle (2004) – and national events in Australia, Canada, Ireland and the UK. These conferences brought experts and practitioners together from all over the world to present and discuss progress in this fast-growing field. A similar conference was held in Melbourne in 2004 on *Mapping the territory: who is doing what with portfolios across Australia and Asia Pacific*. Canada is also actively involved in research into e-portfolio techniques, as are most European countries. In France, a conference of this kind will be held annually. In January 2006, a cooperation agreement was signed between some actors in the e-learning field⁽⁵⁾, allowing standardisation of e-portfolios around the world, to have common developments emerging from both educational and professional sectors eased by using common protocols.

E-portfolios will certainly be more common in 10 years time. Some of the challenges include protection of private data, equal access opportunities to use these tools and effective support services to help anybody acquire the necessary metacognitive skills to present

themselves in a way that promotes both employability and self-esteem.

7.12.3. Shared online tools and contents

Designed for widely informing and training, shared contents are being developed via technological tools such as the Internet.

Roszman⁽⁶⁾, well known for his global university project, explains his aspirations for the long term. For example, he wishes ‘that the G8 and other political leaders would establish a global network [...] devoted exclusively to education that would contain all essential programs, resources, texts, media, and so forth to meet the needs of “education for all”. In time it would become a semantic network, which among other things would cross-index everything for instant retrieval [...] and that would provide simpler explanations or multimedia illustrations for concepts that a youngster or a person with limited education would not otherwise understand’. Such a universal tool would benefit VET as well as education, but would require good guidance from VET professionals if the VET public is to take full advantage of it.

⁽⁵⁾ These two actors are EIFEL (European Institute for eLearning) and HR-XML Consortium Europe, active in standardisation of pedagogical objects.

⁽⁶⁾ Parker Roszman was interviewed by James Morisson. Note that on his website (<http://ecolecon.missouri.edu/globalresearch/index.html>), Parker Rossmann proposes three book-length volumes on the future of higher education.

Rossmann also asks for a ‘bottom-up strategy’ for lifetime education for all. His vision comprises a neighbourhood-empowering school that ‘could be the local centre for lifetime education, connected to all needed resources, and operated by a community education cooperative [...]. A global ‘cooperative’ distribution network [...] would provide second-hand learning materials free of charge once for-sale, upgraded versions had been produced.’ Here also, VET professionals would have an important role to play: as they could serve as learning brokers, as described by Ewell (2002), helping individual learners choose their virtual groups, tools and contents, to be able to benefit from existing resources. VET learning brokers would also work on transversal skills with their learners to allow them to benefit from the wider experience of learning. Finally, Rossmann wishes that we would ‘learn more about each learner’s talents and gifts, opportunities and needs [...]. Future materials should be able to “study the learner” in an automated process, while the learner studies the electronic materials. [...] Technology can create a computerised profile that could be the basis for a tailored, individualised education plan that grows and changes across a lifetime. Such profiles and individualised education could be the real revolution in future education.’ If the process is flexible and decided upon by learners themselves, personalisation can be of great help for progressing through learning paths and optimising learning.

Never the less, it also asks for abilities in self-

monitoring, which has to be learned as any other competence. Empowering learners and training trainers makes sense if we want VET to take the best advantage from future tools and available content.

For Everhart (?), the future of learning will be more ‘connected’, in the sense of using electronic media, caused by the number of future learners: ‘considerable evidence indicates that the growing number of adult learners will double the number of learning hours needed by the total learning population. [...] if this is true (and I believe it is), that ours is becoming a knowledge-worker economy, [where] approximately half of all instruction just has to be delivered as virtual, or ‘connected’, learning [...].

Virtual delivery is a great way to achieve that leverage. What is true for initial education is also true and even more so for IVET and CVT.

7.13. Conclusion

This section has concentrated mainly on micro level teaching and learning, complementing the meso and macro levels in the earlier sections. In analysing the need for new paradigms and future research in teaching and learning for VET, we have highlighted two key issues: professionalising VET teachers and trainers; and developing expert learners. A third issue is the extent to which new technologies can be harnessed to ease and support these developments.

8. Emerging issues in VET research – conclusion

This report has concentrated on several particular themes across VET, to identify some new and emerging key points for European VET research post-2010. The timeframe is the Lisbon decade once it has reached its conclusion. The report intends to stimulate debate about emerging issues and help plan future European VET research priorities.

We have covered three substantive areas. First, we move the focus from 2000-10 to 2010-20 and beyond and suggest that questions of European governance should be high on the VET and lifelong learning research agenda. The scenarios we developed can help indicate possible political directions post-2010, raising questions on how Member States will cooperate in the future and whether the open method of communication may be modified. Second, we identify uncertainties about trends in skills supply and demand, not least the ways in which individual choices on training and careers may alter in an uncertain labour market. Third, we explore the role of innovation in VET teaching and learning, in particular the concept of an expert learner, a professional scholarship of teaching and learning, and optimal use of information technology.

Importantly for VET research, the underlying motif of this paper is how to address uncertainty and change in the global economy as we move towards a knowledge-based society. Labour costs in emerging economies are far lower than in European countries, particularly some of Europe's advanced economies. The average hourly labour costs in Germany and Denmark are, for example, 25 times higher than India's. Yet India is developing its scientific and technological capacity rapidly. The economic growth of countries such as China and India create new opportunities in the global economy, but this also brings new risks and challenges for European countries. If the argument holds that uncertainty will outweigh certainty in many respects for planning and institution building at European and national levels and for individuals in the choices they make, this will mark a significant shift of emphasis and paradigm for European VET research. Fundamentally, this is in itself the

emerging challenge for future VET research.

Several priorities are most likely to remain high on research and policy agendas post 2010 and the strongest evidence suggests European ambitions in their respect are important for Europe's economic, social and environmental future. This is because many key objectives remain unfulfilled at European and national levels. Thus, achieving the priority indicators for lifelong learning as well as several activities organised around the Education and training 2010 programme and the Copenhagen/Maastricht agenda for VET will call for continuing research and policy attention. It is important that any analysis uncovering new needs places due emphasis on this continuing aspect. In the future global environment, as we described it, these currently unfulfilled priorities will remain important, and there is a strong case to give them continuing priority. Future objectives should be built on the success of current objectives, which should not be diluted, even though they are unlikely to be achieved by 2010. Enlargement in the short term, and the possible accession of Turkey and other countries in the long term, stresses the need to follow through on existing programmes. An expanded Europe will create strong challenges for VET policy and development, and future strategic objectives must reflect this.

Achieving high levels of adult participation in learning in the workplace remains an elusive goal. VET research should have a key role in identifying how to engage adults in the workforce in training, and also those seeking to enter or reenter employment. In particular, we conclude that over the next decade, new VET research will be needed to:

- (a) ask seriously what skills older people will need to develop and how work organisation can accommodate their needs;
- (b) identify how to meet the changing needs of migrants – not least distinguishing between first, second and third generation migrants and between different ethnic/social groups. Factors such as age, gender and nationality need far greater attention;

- (c) analyse social inequalities between diverse groups of young people across Europe, related to opportunity costs of education and the economic capacity needed to support changes in economic activity during full-time education;
- (d) find ways to promote education and training for women entering and reentering the labour market, and establishing gender equality.

In conclusion, we identify five emerging issues for further consideration.

First, a new key challenge for research arises from what we now know about global environmental trends. This is to analyse the role of VET in achieving the key European goals of environmental sustainability. Research is also needed into skills needed to develop and exploit new sources of energy for Europe.

Second, VET governance at European level should now be an important area for future VET research. Linked policy at European level is key to successful innovation, but the field remains underresearched and developments in VET should be better linked with European innovation strategies. Further, as projects such as EQF proceed towards implementation at EU level, they will need robust impact evaluation.

Third, much of the future for labour markets, firms and individuals – and, therefore, for VET providers – is characterised by uncertainty. A key task for future VET research is to develop an understanding of new relationships between VET and employment that are emerging, how individuals may make choices about their careers and labour-market positions, and the new forms of collective activity that may emerge. Individuals are developing new strategies of adaptation to uncertainty, which are not always easy to understand. The following are some research questions arising:

- (a) work organisation: what will be the impact of changing patterns of individual choice on patterns of learning and working, and combining both? What strategies will actors develop to control new labour-market situations? How will work organisation adapt

- to meet these changes?
- (b) career trajectories: how will individuals make choices during their learning careers and throughout professional life? What resources help individuals to manage their career trajectory, and under which conditions?
- (c) social organisation and individual choices: how can individuals be supported in making career choices and informed decisions and in their working activity? Which public and collective resources, including modes of VET provision, can work best under these conditions?

Fourth, we introduce a strong concept that empowerment will become the effective way to tackle the need to improve the capabilities of and pathways open to learners. Expert learners are self-directed and goal-oriented, and are able to use their skills to take the best decisions on their learning. A concomitant risk is a divide between expert and novice learners, the latter having low self-image, poor learning strategies and little reflective ability. Thus, for research and development issues into innovative aspects of VET teaching and learning, we highlight three issues:

- (a) research into a scholarship of teaching and learning, to contribute to professionalising VET teachers and trainers;
- (b) research into empowering VET learners, developing 'expert learners' and mitigating the divide between expert and novice learners;
- (c) harnessing new technologies to VET teaching and learning.

Finally, conceptualising competences certainly calls for further investigation by VET research. It is a concept that should not be taken for granted or assumed to be unproblematic. A key question is whether it is possible to use a single, holistic and homogeneous methodology to recognise all kinds of competences.

Our conclusions are drawn from analysis contained in the report. These are the headlines, intended to stimulate debate on issues of European significance, and of particular national interest. The sections of the report contain more contextualised proposals.

List of abbreviations

CVT	Continuing vocational training
ECVET	European credit for vocational education and training
EQF	European qualifications framework
GDP	Gross domestic product
IVET	Initial vocational education and training
NQF	National qualifications framework
OMC	Open method of coordination
SoTL	Scholarship of teaching and learning
VKE	Validation of knowledge acquired through experience

Bibliography

- Auer, P.; Cazes, S. (eds). *Employment stability in an age of flexibility: evidence from industrialised countries*. Geneva: ILO, 2002.
- Béduwé, C.; Germe, J-F. Raising the levels of education in France: from growth to stabilisation. *European Journal of Education*, 2004, Vol. 39, No 1, p. 119-132.
- Béduwé, C. et al. *Spécialité de formation, spécialité d'emploi et performance d'insertion*. Presented at the XII Journées d'étude sur les données longitudinales organised by LIRHE, CERÉQ and LASMAS in Toulouse, 26 and 27 May 2005.
- Blaug, M.; Mace, J. Recurrent education: the new Jerusalem. *Higher Education*, 1977, Vol. 6, No 3, p. 277-299.
- Bruyère, M.; Lemistre, P. Trouver un emploi en rapport avec sa spécialité de formation: une situation rentable? In Giret, J-F. et al. (eds). *Des formations pour quels emplois*. Paris: La Découverte, 2005.
- Bureau, M.; Marchal, E. *Au risque de l'évaluation: salariés et candidats à l'emploi soumis aux aléas du jugement*. Villeneuve d'Ascq: Presses Universitaires du Septentrion, 2005.
- Castells, M. *The information age: economy, society and culture*. Oxford: Blackwell, 2000.
- Cedefop; Béduwé, C.; Planas, J. *Educational expansion and labour market: a comparative study of five European countries: France, Germany, Italy, Spain and the United Kingdom – with special reference to the United States*. Luxembourg: Publications Office, 2003 (Cedefop Reference series, 39).
- Cedefop; Bjørnåvold, J. Identification, assessment and recognition of non-formal learning: European tendencies. In Cedefop; Fries Guggenheim, É. (ed.). *Agora V: Identification, evaluation and recognition of non-formal learning: Thessaloniki, 15-16 March 1999*. Luxembourg: Publications Office, 2002, p. 9-32 (Cedefop, Panorama series, 45).
- Cedefop; Bouder, A. et al. Readability of qualifications: a question as old as Europe? In Cedefop; *Modernising vocational education and training. Fourth report on vocational training research in Europe: background report, Volume 3*. Luxembourg: Publications Office, (Cedefop Reference series) [forthcoming].
- Cedefop; Colardyn, D.; Bjørnåvold, J. *The learning continuity: European inventory on validating non-formal and informal learning*. Luxembourg: Publications Office, 2005 (Cedefop Panorama series, 117).
- Cedefop; Coles, M. Evaluating the impact of reforms of vocational education and training: examples of practice. In Cedefop; Descy, P.; Tessaring, M (eds). *Evaluation of systems and programmes: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 9-51 (Cedefop Reference series, 57).
- Cedefop; Descy, P.; Tessaring, M. *Training in Europe: second report on vocational training research in Europe: background report* (three volumes). Luxembourg: Publications Office, 2001 (Cedefop Reference series).
- Cedefop; Fries Guggenheim, É. (ed.). *Agora V: Identification, evaluation and recognition of non-formal learning: Thessaloniki, 15-16 March 1999*. Luxembourg: Publications Office, 2002, p. 9-32 (Cedefop Panorama series, 45).
- Cedefop; Miller, R. Why measure human capital? In Cedefop; Fries Guggenheim, É. (ed.). *Agora V: identification, evaluation and recognition of non-formal learning: Thessaloniki, 15-16 March 1999*. Luxembourg: Publications Office, 2002, p. 33-48 (Cedefop Panorama series, 45).
- Cedefop; Planas, J. et al. Skills market, dynamics and regulation. In Cedefop; Descy P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training research in Europe 2000: background report; Volume 2*. Luxembourg: Publications Office, 2001, p. 313-382 (Cedefop Reference series).
- Cedefop; Sellin, B. *Scenarios and strategies for vocational education and lifelong learning in Europe: summary of findings and conclusions of the joint Cedefop/ETF project (1998-2002)*. Luxembourg: Publications Office, 2002. (Cedefop Panorama series 40).
- Cedefop; Winterton, J.; et al. *Typology of knowledge, skills and competences: clarification of the concept and prototype*. Luxembourg: Publications Office, 2006. (Cedefop Reference series, 64).
- CLT – Center for Learning and Teaching. Chapter II: the teaching portfolio: a model for documenting teaching and its improvement. In CLT. *Cornell*

- University teaching evaluation handbook. Third edition.* New York: Cornell University, 1997.
- Coles, M.; Werquin, P. *The role of national qualifications systems in promoting lifelong learning.* Prepared for the conference on Construction of the European qualifications organised by HCEEE and BETA Céreq in Strasbourg, 30 September and 1 October 2004. Paris: OECD, 2004.
- Council of the EU. Modernising education and training, a vital contribution to prosperity and social cohesion in Europe. 2006 Joint Interim Report of the Council and the Commission on progress under the 'education and training 2010' work programme. *Official Journal of the European Union*, 2006, C79, p. 01-18.
- Dale, R. *The construction of an European education space and education policy.* Paper presented to European Social Fund exploratory workshop on globalisation, educational restructuring and social cohesion in Europe, held in Barcelona, 3 and 5 October 2002.
- Dale, R. Forms of governance, governmentality and the EU's open method of coordination. In Larner, W.; Walter, W. (eds). *Global governmentality: governing international spaces.* London: Routledge, 2004, p. 174-194.
- Dale, R. The potentialities of 'la mesure en éducation': the European Union's open method of coordination and the construction of a European education space. In Vinokur, A. *Pouvoirs et mesure en éducation.* Bondy: ARES IRD, 2005 p. 49-65 (Cahiers de la recherche sur l'éducation et les savoirs, hors-série 1).
- Daniel, J. *Mega-universities and mega-knowledge.* London: Kogan Page, 1996.
- CERC – Conseil emploi revenus cohésion sociale. *La sécurité de l'emploi face au défi des transformations économiques.* Paris: CERC, 2005 (Rapport du CERC, No 5).
- De Mooij, R.; Tang, P. *Four futures of Europe.* The Hague: Centraal Planbureau, 2003.
- Doolittle, P. Teacher portfolio assessment. *Practical Assessment, Research and Evaluation*, 1994, Vol. 4, No 1.
- EIU – Economist Intelligence Unit. *Twenty questions on the future of Europe: the EU after Non and Nee.* London: EIU, 2005.
- Ertmer, P.A.; Newby, T.J. The expert learner: strategic, self-regulated and reflective. *Instructional Science*, 1996, Vol. 24, No 1, p. 1-24.
- European Commission. *Declaration of the European Ministers of vocational education and training, and the European Commission convened in Copenhagen on 29 and 30 November 2002, on enhanced European cooperation in vocational education and training.* Brussels: European Commission, 2002a.
- European Commission. *Communication from the Commission to the spring European Council in Barcelona: the Lisbon strategy – making change happen.* Luxembourg: Publications Office, 2002b (COM(2002)14 final).
- European Commission. *Commission staff working paper in support of the report from the Commission to the spring European Council in Barcelona (COM(2002)14 final): the Lisbon strategy – making change happen.* Brussels: European Commission, 2002c (SEC(2002)29/2).
- European Commission. *Maastricht communiqué on the future priorities of enhanced European cooperation in vocational education and training: review of the Copenhagen declaration of 30 November 2002.* Brussels: European Commission, 2004a.
- European Commission. *Report from the Commission to the Spring European Council: Delivering Lisbon reforms for the enlarged Union.* Luxembourg: Publications Office, 2004b (COM(2004)29 final/2).
- European Commission. *Communication from the Commission to the Council on European policies concerning youth: addressing the concerns of young people in Europe: implementing the European Youth pact and promoting active citizenship.* Communication from Mr Figel in association with Mr. Špidla. Luxembourg: Publications Office, 2005a (COM(2005)206 final).
- European Commission. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: European values in a globalised world: contribution of the Commission to the October meeting of Heads of State and Government.* Luxembourg: Publications Office, 2005b (COM(2005)525 final/2).
- European Commission. *Communication from the Commission to the Council and the European Parliament: priority actions for responding to the challenges of migration: first follow up to Hampton Court.* Luxembourg: Publications Office, 2005c (COM(2005)621 final).
- European Commission. *Growth and jobs: a new start for the Lisbon strategy. working together for Europe's future, a new start for the Lisbon*

- strategy. Communication from the Commission to the Spring European Council: working together for growth and jobs: a new start for the Lisbon strategy.* Luxembourg: Publications Office, 2006a.
- European Commission. *Time to move up a gear: the new partnership for growth and jobs. Communication from the Commission to the spring European council 2006:* Luxembourg: Publications Office, 2006b.
- European Commission. *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: report on the functioning of the transitional arrangements set out in the 2003 Accession Treaty (period 1 May 2004-30 April 2006).* Luxembourg: Publications Office, 2006c (COM(2006)0048 final).
- EESC – European Economic and Social Committee. *Towards a more dynamic approach to implementing the Lisbon strategy.* Luxembourg: Publications Office, 2004.
- Elfel. *ePortfolio 2005: transforming individual and organisational learning.* The third international ePortfolio Conference held in Cambridge on 26-28 October 2005. Conference papers. Champlost: Elfel, 2005.
- Eurostat. *Acquisition of citizenship.* Luxembourg: Publications Office, 2004, (Statistics in Focus, No 03 – Population and social conditions, theme 3).
- Eurostat. *Communiqué de presse.* 8 April 2005.
- Eurostat. *Non-national populations in the EU Member States.* Luxembourg: Publications Office, 2006a (Statistics in Focus, No 8 – Population and social conditions).
- Eurostat. *First demographic estimates for 2005.* Luxembourg: Publications Office, 2006b (Statistics in Focus, No 01 – Population and social conditions).
- Eurostat. *Long-term population projections at national level.* Luxembourg: Publications Office, 2006c (Statistics in focus, No 03 – Population and social conditions).
- Ewell, P.T. *Three dialectics in higher education's future.* Seattle, WA: Antioch University, 2002 (Project on the future of higher education working papers, No 2).
- Falzon, P. *Ergonomie.* Paris: PUF – Presses Universitaires de France, 2004.
- Flavell, J. et al. *Cognitive development* (third edition). Englewood Cliffs, NJ: Prentice-Hall, 1993.
- Flavell, J.H. Metacognitive aspects of problem solving. In Resnick, L.B. (ed.). *The nature of intelligence.* Hillsdale, NJ: Lawrence Erlbaum, 1976, p. 231-235.
- Gauron, A. *La formation professionnelle tout au long de la vie.* Paris: CAE – Conseil d'analyse économique, 2000 (Rapport du CAE, No 22).
- Georgopoulos, T. *La Méthode ouverte de coordination européenne: en attendant Godot?* Montreal: Institute d'Études Européennes, 2005 (Note de recherche, 01/05).
- Germe, J.F. Vocational guidance, training and employment: training for a specific occupation or to adapt to market changes? *European Journal of Vocational Training*, 2002/II, No 26, p. 20-64.
- Germe, J.F. et al. *Les mobilités professionnelles: de l'instabilité dans l'emploi à la gestion des trajectoires.* Rapport de l'atelier 'mobilités professionnelles'. Commissariat général du plan. Paris: La Documentation française, 2003 (Qualifications et Prospectives).
- Giret, J.F et al. (eds). *Des formations pour quels emplois.* Paris: La Découverte, 2005a.
- Giret, J.F.; Moullet, S. L'adéquation formation-emploi après les filières professionnelles de l'enseignement supérieur. In Giret, J.F et al. (eds). *Des formations pour quels emplois?* Paris: La Découverte, 2005b.
- Gosling, D. Educational development units in the UK: what are they doing five years on? *International Journal for Academic Development*, 2001, Vol. 6, No 1, p. 74-90.
- Hadjı, C. et al. *Étudier dans une université qui change. Le regard des étudiants de trois régions d'Europe.* Grenoble: Presses Universitaires de Grenoble, 2005.
- HCEEE – Haut Comité éducation-économie-emploi. *Construction des qualifications européennes.* Proceedings of the conference on Construction of the European qualifications organised by HCEEE and BETA Céreq in Strasbourg, 30 September and 1 October 2004. Paris: HCEEE, 2005.
- Jones, B.; Idol, L. *Dimensions of thinking and cognitive instruction.* Hillsdale, NJ: Erlbaum, 1990.
- Katz, R. *Dancing with the devil: information technology and the new competition in higher education.* San Francisco, CA: Jossey-Bass, 1999.
- Keating, J. et al. *Comparative study of vocational education and training systems: national vocational education and training systems across three regions under pressure of change.* Kensington: Australian National Training Authority, 2002.

- Kirsch J-L. *L'Europe des certifications: de Rome à Copenhague en passant par Lisbonne.* Marseille: Céreq [forthcoming] (Relief).
- Kok, W. *Jobs, jobs, jobs, creating more employment in Europe.* Report of the Employment Taskforce chaired by Wim Kok. Luxembourg: Publications Office, 2003.
- Kok, W. *Facing the challenge: the Lisbon strategy for growth and employment. Report of the High Level Group chaired by Wim Kok.* Luxembourg: Publications Office, 2004.
- Knapper, C. Three decades of educational development. *International Journal for Academic Development*, 2003, Vol. 8, Issue 1 and 2, p. 5-9.
- Kreber, C. Teaching excellence, teaching expertise and the scholarship of teaching. *Innovative Higher Education*, 2002, Vol. 27, No 1, p. 5-24.
- Lainé, F. De la spécialité de formation au métier. In Giret, J.F. et al. (eds). *Des formations pour quels emplois?* Paris: La Découverte, 2005.
- Lassnigg, L. Projections of qualifications and occupations in Austria: short-termism, macro perspective and emphasis in the supply side. In Elgar, E. *Forecasting labour markets in OECD countries.* Paris: OECD, 2002.
- Lemistre, P. Dévalorisation des diplômes et accès au premier emploi. *Revue d'économie politique*, 2002, No 1, p. 37-58.
- Leney, T. et al. *Achieving the Lisbon goal: the contribution of VET.* Report to the European Commission. The Lisbon-to-Copenhagen-to-Maastricht Consortium Partners. London: QCA, 2004, p. 14-24 (chapter 2).
- Leplâtre, F. VKE, the validation of knowledge acquired through experience, is one year old. *Actualité de la Formation Permanente*, 2003, No 182, p. 18-23.
- Lessard, C. Le groupe Holmes: sa vision de l'enseignement et de la formation à l'enseignement aux Etats-Unis. *Politiques d'éducation et de formation: les nouveaux profils des métiers de l'enseignement*, 2002, Vol. 5, No 2, p. 13-26.
- Lieberman, D.; Guskin, A. The essential role of faculty development in new higher education models. In Wehlburg, C. (ed.). *To improve the academy: resources for faculty, instructional and organizational development* (Vol. 21). Bolton, MA: Anker, 2002, p. 257-272.
- Lopez-Claros, A. et al. *Global competitiveness report 2005-2006: policies underpinning rising prosperity.* World Economic Forum. Basingstoke: Palgrave Macmillan, 2006.
- Masjuan, J. La construction de l'Espace Européen de l'enseignement supérieur: mythe ou réalité? In Hadji, C. et al. (eds). *Étudier dans une université qui change. Le regard des étudiants de trois régions d'Europe.* Grenoble: Presses Universitaires de Grenoble, 2005, p. 254-280.
- Mercado, A.; Planas, J. Evolución del nivel de estudios de la oferta de trabajo en México: una comparación con la Unión Europea. *Revista Mexicana de Investigación Educativa*, 2005, Vol. X, No 25, p. 315-343.
- Merle, V.; Bertrand, O. Comparabilité et reconnaissance des qualifications en Europe: instruments et enjeux. *Formation Emploi*, 2003, No 43, p. 41-56.
- Moncel, N. *Intégration des jeunes dans l'entreprise multinationale: l'effet societal persiste-t-il?* Conference: travail, emploi, salaire et qualification en Europe: forces d'inertie, tendances communes et degrés de convergence? Organised by the Groupe de recherche sur l'éducation et l'emploi (GRÉE) in Nancy, 8 and 9 June 2006.
- Neave, G. The European dimension in higher education: an excursion into the modern of historical analogues. In Huisman, J. et al. (eds). *Higher education and the nation State: the international dimension of higher education.* London: Pergamon for the International Association of Universities, 2001.
- OECD. *Definition and selection of competencies: theoretical and conceptual foundations.* Paris: OECD, 2002 (DeSeCo Strategy document).
- OECD. *The role of qualification systems in promoting lifelong learning.* Paris: OECD, 2006 (in print).
- OECD. *OECD project on recognition of non formal and informal learning.* Paris: OECD, 2007 (project underway).
- Paris, S.G.; Winograd, P. Promoting meta-cognition and motivation of exceptional children. *Remedial and Special Education*, 1990, Vol. 11, Issue 6, p. 7-15.
- Phelps, R. et al. Teachers and ICT: exploring a meta-cognitive approach to professional development. *Australasian Journal of Educational Technology*, 2004, Vol. 20, No 1, p. 49-68.
- Poumay, M. *Le classroom assessment dans l'enseignement supérieur: diagnostiquer des faiblesses dans son enseignement.* LabSET. Liège: Université de Liège, 2005.
- Rodrigues, M.J. (ed.). *The new knowledge economy in Europe: a strategy for international competitiveness and social cohesion.* Aldershot: Elgar, 2002.

- Rychen, D.S.; Salganik, L.H. (eds). *Key competencies for a successful life and a well-functioning society*. DeSeCo. Göttingen: Hogrefe and Huber, 2003.
- Salais R. Incorporating the capability approach in the employment and social policies. In Salais, R.; Villeneuve, R. (eds). *Europe and the politics of capabilities*. Cambridge: Cambridge University Press, 2005, p. 283-300.
- Salais, R.; Villeneuve, R. (eds). *Europe and the politics of capabilities*. Cambridge: Cambridge University Press, 2005.
- Scharpf, F. *Governing in Europe: effective and democratic?* Oxford: Oxford University Press, 1999.
- Schleicher, A. *The economics of knowledge, why education is key for Europe's success*. Brussels: Lisbon Council, 2006 (Policy brief).
- Schön, D.A. *The reflexive practitioner: how professionals think in action*. New York: Basic Books Inc, 1983.
- Sen, A. *Commodities and capabilities*. Oxford: Oxford University Press, 1985.
- Sen, A. *Inequality re-examined*. Oxford: Oxford University Press, 1992.
- Stern, N. *Stern review: economics of climate change*. London: HM Treasury, 2006.
- Sultana, R. The EU and its educational agenda: a wolf in sheep's clothing? In Watson, K. et al. (eds). *Education dilemmas: debate and diversity. Volume 3: power and responsibility in education*. London: Cassel, 1997, p. 65-73.
- Surry, D.; Robinson, M. A taxonomy of instructional technology service positions in higher education. *Innovations in Education and Teaching International*, 2001, Vol. 38, No 3, p. 231-238.
- Théry, M. et al. *L'Europe de la formation tout au long de la vie reste à construire*. Paris, 2002 (Céreq Bref, No 187).
- Trigwell, K. et al. Scholarship of teaching: a model. *Higher Education Research and Development*, 2000, Vol. 19, No 2, p. 155-168.
- Trigwell, K.; Shale, S. Student learning and the scholarship of university teaching. *Studies in Higher Education*, 2004, Vol. 29, No 4, p. 523-536.
- UNDP. *Human development report 2005: international cooperation at a crossroads: aid, trade and security in an unequal world*. New York: UNDP – United Nations Development programme, 2005.
- Van Tartwijk, J. et al. *Typologie de portfolios électroniques*. European Schoolnet (EUN), 2005.
- Vincens, J. Changes in education and in education systems. *European Journal Vocational training*, January-April 2002, No 25, p. 9-26.
- Vincens, J. L'adéquation formation-emploi. In Giret, J.F. et al. (eds). *Des formations pour quels emplois*. Paris: La Découverte, 2005, p. 149-162.
- Vinokur, A. *Global and local tendencies in the restructuring of educational systems. TACIS: EDRUS (Education Management in Russia)*. Research Seminar in Moscow on 15 and 19 December 1998. Published as mimeograph, 1999.
- Vinokur, A. De la scolarisation de masse à la formation tout au long de la vie: essai sur les enjeux économiques des doctrines éducatives des organisations internationales. *Education et sociétés*, 2003, No 12, p. 91-104.
- Young, M. Vers un cadre européen des qualifications: quelques mises en garde. In HCEE. *Construction des qualifications européennes*. Proceedings of the conference on Construction of the European qualifications organised by HCEE and BETA Céreq in Strasbourg, 30 September and 1 October 2004. Paris: HCEE – Haut Comité éducation-économie-emploi, 2005.

The training and development of VET teachers and trainers in Europe

David J. Parsons, Jacqui Hughes,
Chris Allinson and Kenneth Walsh

Abstract

This paper aims to provide a structured and comparative overview for Cedefop's fourth research report on the systems and structures for the training and development of VET teachers and trainers across the European Union. It looks at how national structures in the post-secondary system engage these practitioners in VET modernising. The focus, as with other contributions to this research report, has been on analysis of existing publications and other secondary evidence. This has taken account of existing work for Cedefop profiling national VET systems ('), together with a wider review of cross-national literature and published assessments from European-level institutions and other cross-national bodies. The analysis is broadly based but cannot yet be considered exhaustive in its coverage of all national-level material which has often not been published. Many of these sources are also fragmented, patchy in their coverage, and have often lacked transparency. The analysis has none the less developed comparative national profiles for all Member States, and supplemented this in liaison with national experts and agencies in six of these to provide more in-depth national-level analysis. The evidence base varies with the richness of national-level evidence, and also with contracts in the relative profile of VET teacher and tutor qualifications and capability in national policy. The report also sets out many of the definitional and methodological issues affecting a comparative analysis of what amount to often very different national structures, contrasting legacies of professionalisation systems in VET, and different current national policies and emphases for professionalisation in the VET modernising agenda. The report also sets out an independent but conditional critical analysis to define common ground in practice and innovation, national-level enablers (and constraints), labour-market factors and also parity of esteem of VET set against other teaching pathways. Tentative conclusions are also put forward for further research, policy reform and innovation.

('') Cedefop description of national VET systems, theme 6: training VET teachers and trainers. Available from Internet: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis.asp [cited 6.7.2007]

Host policy research

HOST is an independent and specialist research and consulting group established in the UK since 1986 and with wider EU activity and capacity since 1995. HOST has a portfolio of past and current work in employment, human capital development and related vocational education and training studies. Operating from its Resource Centre in the UK and also in Italy, and with partners' organisations in academia, it has provided leading edge analysis of a range of employment and VET policy issues to public agencies, the voluntary sector, and to cross-national organisations.

HOST personnel have conducted several cross-national studies for national and cross-national agencies seeking comparative analysis of education-training infrastructure or responses, labour-market entry or employment issues, including:

- (a) European Commission and EU agencies (Cedefop, European Foundation, etc.);
- (b) International Labour Office (ILO);
- (c) Organisation for Economic Cooperation and Development (OECD);
- (d) World Bank.

HOST personnel have also conducted bilateral studies for European study groups and for cross-national professional interest groups, and acted variously as technical experts or advisers to the European Commission, ILO, OECD, World Bank and others.

Initial education, qualification and continuing development for practitioners working in vocational education is a specialist topic with growing interest since the 1990s, along with lifelong learning, and supporting disadvantaged people in sustainable employment. HOST welcomes opportunities to cooperate and exchange information and expertise with other independent organisations in this area, and other aspects of policy research and evaluation in education and employment.

Table of contents

1. Introduction	71
1.1. Background to the study	71
1.2. The study	71
1.3. Approach and focus	72
1.4. Report structure	73
2. Methods and definitions	74
2.1. Introduction	74
2.2. Approach and methods	74
2.3. Definitional issues	75
3. Qualification requirements of VET teachers/trainers	78
3.1. Introduction	78
3.2. Current practitioner structure in IVET and CVET	78
3.3. Current entry and qualification requirements for VET teachers	81
3.4. Changing requirements in VET teaching qualifications	87
3.5. Current and changing requirements for VET trainers	89
4. In-service and continuing professional development (CPD)	92
4.1. Introduction	92
4.2. CPD for IVET teachers and tutors	92
4.3. CPD for CVET teachers and tutors	100
4.4. CPD for trainers	102
5. Changing situation and practitioner roles	104
5.1. Introduction	104
5.2. Professional status and changing skills mix	104
5.3. Changing professional roles and knowledge base	111
5.4. Reprofessionalising VET teaching	115
5.5. Labour-market effects on practitioners	117
6. Teachers/trainers and VET modernising	119
6.1. Introduction	119
6.2. Professional engagement in articulating the VET modernising agenda	119
6.3. Practitioners implementing the VET modernising agenda	124
6.4. Barriers to engagement	127
7. Conclusions and implications	129
7.1. Introduction	129
7.2. Emerging national themes	129
7.3. Information gaps	131
7.4. Next steps	132
Annex: Member States validation	133
List of abbreviations	139
Bibliography	140

List of tables

Tables

1. Initial qualification requirements for IVET teachers	84
2. Initial qualification requirements for CVET teachers	85
3. Initial qualification requirements for trainers	90
4. CPD or in-service training requirements for IVET teachers	94
5. CPD or in-service training requirements for CVET teachers	101
6. CPD or in-service training requirements for trainers	102
7. Current national themes for changing IVET/CVET practitioner roles: selected Member States	105
8. Practitioner effectiveness as VET change agents: IVET	121

1. Introduction

1.1. Background to the study

This paper is a contribution to the *Fourth report on vocational training research in Europe*. The subject of the report is a review of the training and development of VET teachers and trainers. This was to be a cross-Europe review drawing together an assessment of the situation and developments in established Member States and candidate countries.

The information we have drawn on is often fragmented and lacking in consistency, but it adds up to a substantial evidence base. This paper presents an independent assessment of the work completed at national level, and cross-cutting themes and implications. Separate profiles have been prepared for each of the Member States, and these have been the cornerstone for this report. The review has been an independent assessment for Cedefop of published evidence available up to Spring 2006. It takes account of parallel work but the comparative analysis, interpretation and commentary are wholly HOST's responsibility.

1.2. The study

The continuing success of the post-Lisbon policy efforts (and the Copenhagen process) to modernise and adapt vocational education and training (VET) will be influenced by reform of the roles and capabilities of those at the front end of delivery: VET practitioners. They may be working within initial VET (IVET) or continuing VET (CVET) activities (or both) (Keating et al., 2002), in provider-based settings or at the workplace. They are also likely to be working in a rapidly changing VET infrastructure (Cedefop, Tessaring and Wannan, 2004), which in many Member States now involves a fragmented mix of public, voluntary sector, not for profit, and commercial provision.

This great diversity in who delivers VET, and where it is delivered, remains an enduring feature of the capabilities of VET infrastructures in Europe (Cedefop, Greinert and Hanf, 2004) (Kearns, 2004),

but it also makes comparative analysis challenging (Kristen et al., 2005). Until recently, the comparative situation across these diverse practitioner groupings within the European Union (EU) was unclear. This situation had started to change in the year preceding the start of this review as the nature and effects of some of the national reforms were becoming documented, and in particular from the stimulus of information gathering efforts by Cedefop, European Training Foundation and others (Eurydice, 2003; 2004) profiling national structures and systems. This review is consequently timely, and it has sought to provide:

- (a) a review of the initial and in-service qualification requirements, and situation of VET teachers/trainers in the EU, based on available evidence;
- (b) an assessment of the changing roles of practitioners in response to changing methods and approaches in VET teaching and learning;
- (c) a review of the effectiveness of teachers/trainers as change and innovation agents with the VET modernising agenda.

At Cedefop's request, the focus of this assessment has been on IVET in the upper-secondary sector in the EU and CVET, and has included practitioners working predominantly in educational institutions in the public and private sectors, as well as company-based practitioners. More specifically, it looks at:

- (a) current and pre- and post-entry qualifications requirements across the sector;
- (b) recruitment and entry patterns, and employment security;
- (c) continuing professional development (CPD) requirements and practice;
- (d) changing skills mix and associated capability/utilisation priorities;
- (e) effectiveness as change/innovation agents in VET modernising;
- (f) new or changing qualifications requirements and application;
- (g) assurance/compliance against current/changing requirements;

- (h) evidence of qualification gaps within the practitioner workforce;
- (i) practitioner skill shortfalls (in labour-market supply) and skill gaps in the existing practitioner workforce;
- (j) new pathways for recruitment and retention of practitioners;
- (k) other national innovations aimed at addressing skill gaps/modernising issues, or reforms aimed at boosting the attractiveness of the profession.

The review aims to look at all experience across the EU, to include established and the new Member States. As with other contributions to the fourth research report, the focus has been on evidence collection from available cross-national and national-level sources, but also reflecting on any critical information gaps that might hold back policy assessment at EU level.

1.3. Approach and focus

Our initial thoughts on the parameters of the research were set out in the abstract of planned research presented at the first meeting of the fourth research report programme⁽²⁾. Subsequent discussions at the meeting, follow-up with other contributors, and comments by Cedefop on these parameters were refined and set out in a revised workplan. After the first phase of the assessment, HOST prepared an interim report⁽³⁾ along with discussion of the planned approach for the second half of the assessment. The feedback from Cedefop at these various stages has helped to fine-tune the HOST approach and focus, and in particular:

- (a) confirmed that the assessment centres on a comparative review of systems and structures of initial and continuing education for practitioners, and not of specific standards or competence frameworks at national level;
- (b) opened the scope of our paper to VET practitioners in IVET and CVET, irrespective of their place of work or contracting relationships;

- (c) concentrated on post-1999 material in the interests of using the limited resources for the work as efficiently as possible;
- (d) added a wider dimension of the review by considering available international comparisons from cross-national agencies. It has also included a small-scale review of comparative experience through a review of recent developments in Australia.

Cedefop was also keen to encourage liaison with other relevant papers in the fourth research report. This has centred on specific links with three projects identified at the November meeting and has taken account of review and discussions at the first and second meetings of the fourth research report contributors. Building on these foundations, the approach used for the assessment has involved:

- (a) contextualising the study to emphasise national-level responses and innovations in boosting teacher and trainer capacity;
- (b) emphasising a rhetorical and (where relevant) a pedagogic focus for the study, and making best use of existing evidence by combining secondary research, evidence-led practice review and other published evidence with peer validation;
- (c) providing a robust comparative basis, combining cross-national mapping with selective in-depth review to inform the wider EU relevance and transferability of the findings;
- (d) establishing an evaluative (rather than purely descriptive) focus for the reporting, to help Cedefop and others to move forward the practical implications of the study.

The analysis has needed to go beyond looking at different qualification structures (and changes), by Member State and subsector, to assess situational evidence. Critically, this has included recruitment, retention, stature and issues of workforce utilisation, entry patterns and workforce structure (and changes), changing skills mix (and gaps) in the roles and activities of VET teachers and trainers, initial and in-service education requirements, and the impact

⁽²⁾ Held with Cedefop, Brussels on 3 November 2005.

⁽³⁾ Presented to Cedefop in March 2006.

of associated national policy measures aimed at adjusting IVET/CVET capability to change and modernisation pressures.

To meet these diverse needs, the assessment has adopted a four-tier approach to evidence collection and review, which is summarised in the following section. This has looked at experience and practice in all Member States, and more selectively outside, with a national-level validation process through TTnet⁽⁴⁾ and some other correspondents which has been integrated in the analysis⁽⁵⁾

1.4. Report structure

This introductory section of the report is followed by Section 2, which discusses the definitional and methodological issues in this comparative assessment.

Sections 3 to 6 examine the findings, drawing in particular on cross-cutting themes emerging

from the assessment, alongside key national developments and innovations. Each section looks at one of the core objectives set by Cedefop for this assessment, with the first divided for convenience (and breadth of material) into initial (Section 3) and in-service (Section 4) qualification requirements.

The final section of the report draws together the findings from the previous analysis and provides a series of tentative conclusions on implications, and further research for all those involved with seeking to build the capability base of IVET and CVET in Europe. No attempt is made to establish a model for future practitioner requirements, but we do attempt to isolate some of the messages for a plural approach across the EU to setting appropriate and transferable standards for building VET teacher and trainer capabilities to support VET modernisation.

(4) The training of trainers network is a network of national networks set up by Cedefop in 1998 as a pan-European forum for key players and decision-makers in the training and professional development of vocational teachers and trainers. TTnet's national networks are representative national forums of key actors involved in the training of teachers and trainers from both the public and private sectors. They provide expertise to support practitioners and inspire decision-making. Available from Internet: http://www.trainingvillage.gr/etv/Projects_Networks/TTnet/ [cited 6.7.2007].

(5) Verification of national profiles have been sought from all appointed TTnet correspondents, and from some others suggested at national level by Cedefop and from HOST's wider working relationships with expert agencies. Three quarters have been able to provide additional commentary and updating to take into account more recent national-level developments. Where there were verification gaps from no or slow feedback, or no TTnet correspondent being in post, HOST has sought and secured alternative verification arrangements in all but two of the other Member States. No verification was received for Portugal and Sweden.

2. Methods and definitions

2.1. Introduction

To understand the analysis and interpretation which follows, it is important to consider some of the basic methodological issues that underpin comparative and largely secondary analysis of this kind. This provides an important context for the overall HOST assessment, and it includes a look at some of the definitional issues raised from the analysis.

2.2. Approach and methods

To meet the diverse needs of the comparative review as set out in Section 1.3, we have adopted a four-tier approach to evidence collection and review:

Tier 1: reviewing national collated evidence on VET modernisation

Largely from available national profiles or evaluations/reviews of specific areas of practice at national (or regional) level. The post-Lisbon agenda has seen updated national-level evidence emerging from Cedefop, the European Training Foundation, Eurydice and others, which has also provided a critical backdrop. Much of this first-tier analysis concentrated on reviewing the existing collated multilateral evidence using a review framework specially developed for this review, and agreed with Cedefop as an appropriate comparative reference tool. This work was conducted mainly in the first three months of 2006.

Tier 2: collation and review of existing cross-national information

This has involved a parallel review to the Tier 1 assessment of other secondary evidence and

literature available at cross-national level, and associated international sources. It has included web search resources and standard international bibliographic databases, covering the EU, but also taking account of wider international coverage, such as through OECD. The International Labour Office (ILO) and its training centre, together with the European Commission and European Training Institute also contributed to this part of the review along with 12 other internationally focused national and cross-national agencies⁽⁶⁾. This has been a broadly-based review and in most cases the information specifically on VET teachers and trainers was very limited at this level. Tiers 1 and 2 evidence was drawn together in the Spring 2006 interim report.

Tier 3: selected national reviews

This has involved more in-depth review for selected Member States: the Czech Republic, Estonia, Italy, the Netherlands and the UK, and one non-EU country, Australia. This rhetorical approach sought to identify supplementary evidence⁽⁷⁾ from national-level analysis using e-communications and remote access, where this could be placed in a comparative framework, and in particular on issues emerging from the Tiers 1 and 2 assessment, including:

- (a) national policy developments and proposals on initial (pre-service) qualifications and qualifications routes into VET;
- (b) national policy developments and proposals for post-entry (in-service) professional development in VET, and any pay, career, professional levers to participation;
- (c) national-level policy development aimed at addressing known skill/capability gaps in the VET practitioner workforce, and their effectiveness;

⁽⁶⁾ In particular: Unesco, ILO International Training Centre, UNIDO, UNICE, ETUC, European Foundation, US Bureau of Labor, EU Employment Observatory, College of Europe, European University Institute, European Agency for Development of Special Needs Education, Eurybase, International Vocational Education and Training Association, international database for TVET research, Céreq.

⁽⁷⁾ For example, evidence that needs to be contextualised for analysis, such as VET subsector contrasts in practitioner initial and in-service training curricula and proposed changes.

- (d) national policy development aimed at raising productivity and esteem of VET teachers/trainers, and associated workforce remodelling and training issues;
- (e) novel recruitment pathways aimed at widening access to the VET workforce and/or professionalising the capacity (and their effectiveness);
- (f) evidence of direct and indirect engagement of VET practitioners in shaping policy and setting the VET modernising agenda through social dialogue or inter-professional routes;
- (g) evidence of inter-EU VET practitioner collaborations and engagement influencing national reform agendas or their implementation.

Selection of Member States was agreed with Cedefop, based on the evidence from Tiers 1 and 2 on the quality of innovations, and minimising overlap with other commissioned studies in Cedefop's fourth research report. The emphasis of the Tier 3 research was on direct situational and policy evidence going beyond bibliographic reviews (i.e. published evidence), with further information and review through selected national agencies. This included: government, VET expert centres and research bodies; professional and regulatory agencies (including VET inspection bodies); the focus informed by HOST's existing links and working relationships; and the Tier 2 secondary research. The evidence from this stage of the review has been drawn on heavily on the following commentary.

Tier 4: validation and peer review

This was an important feature of the HOST approach, and aimed to engage a small cross-section of researchers and practitioners in staged review of the Tiers 1, 2 and 3 findings. It had been planned to collate the evidence from Tiers 1-3 (and Cedefop feedback on the interim report) as composite and individual national profiles to

identified contacts in ReferNet⁽⁸⁾ and TTnet, and more selectively in a small number of stakeholders involved directly in Tier 3 for comment. This has been a rolling process, but not without some difficulty and adjustment, and in particular:

- (a) in April, Cedefop requested that ReferNet contacts should not be approached to help with the assessment, which left validation highly dependent on TTnet correspondents;
- (b) TTnet experts were not in place for all Member States. Where vacancies existed, we have sought with Cedefop alternative clearance arrangements, but supplementary contacts have been difficult to identify, and some have proven reluctant to contribute;
- (c) among the TTnet experts, a quarter have not been able to contribute. However, some have provided alternative suggestions, which have been included, but others have not responded to repeated requests from HOST.

All but two, of the national profiles, Sweden and Portugal, on which this assessment is largely based, have (at the time of writing) completed at least some validation.

2.3. Definitional issues

The early stages of the review identified several definitional issues which were discussed with Cedefop to ensure the methods adopted were consistent with the goals of the analysis, and as far as possible provided for consistent analysis and coverage. Particular factors included:

- (a) **VET**

This term has been defined by Cedefop, and has been the basis for this review. This has helped coherence with other research report contributions, and previous analyses but has presented some difficulties. In particular, we have sought to focus on those practitioners

⁽⁸⁾ ReferNet – the European network of reference and expertise – is a structured, decentralised, networked system of information collection and dissemination. It provides high quality information on a wide range of developments in VET, and learning in the EU by bringing together the expertise of key organisations. It was established by Cedefop to meet the growing demand for information that makes comparisons between Member States, developments and policies, possible. Available from Internet: <http://www.cedefop.europa.eu/index.asp?section=8&sub=3> [cited 16.7.2007].

providing distinctive knowledge-based and skill development contributions to vocational, work-preparation and work-adjustment programmes. These distinctions are well established in national funding streams and programmes but often do not account for the diversity of work in VET undertaken by teachers and tutors. Consequently, VET teachers may also be operating in non-VET contexts within the same posts (and providers);

(b) Upper-secondary education

The term is clearly defined as a cross-EU tool for contrasting educational participation and learning contexts. However, it has some difficulty when used to review the professional workforce delivering VET. In particular, some Member States retain funding systems and provider distinctions which characterise upper secondary as post-compulsory education, which may have a vocational and/or largely non-vocational context. This review looks at all teacher and trainer engagement in VET in education at and over 14 years of age, although for some systems it is uncommon, and even rare, for there to be any distinctive VET content below 15 or 16 years of age (e.g. Ireland, Italy, the Netherlands, the UK);

(c) IVET and CVET

This assessment follows Cedefop's definition of IVET: focusing on entry-level and formative vocational education and work-based training, and CVET: embracing VET input addressing the continuing education and training needs of those in or seeking to re-enter work in the same occupations and for career changes. IVET mainly affects teaching and training inputs to younger people, although not wholly for those approaching or leaving upper-secondary education, and CVET relates mainly to adults. However, the distinction between IVET and CVET which is robust for learner and systems-centred analysis has some complications for practitioner-centred assessment. The analysis showed that many VET teachers operating mainly in IVET also teach in VET programmes concerned with CVET, although predominantly CVET teachers less commonly work in IVET. This analysis has attempted to retain the integrity of this distinction, but the following analysis

will be seen to duplicate commentary where the practical contrasts between IVET and CVET practitioners are blurred;

(d) VET teachers

Different national structures place contrasting labels on what may be VET practitioners operating in otherwise similar functional situations and learning contexts. We have used the term 'teacher' to include individuals working at professional level who may be classified as teachers operating in wholly or partly vocational learning contexts in upper-secondary education, as well as others classified variously at national level as tutors, instructors, demonstrators, assessors, and training advisers within education provider contexts (i.e. not as employees or subcontractors in industry and commerce working wholly in workplace learning and assessment contexts). Individuals operating at subprofessional level, such as learning or classroom assistants or learning technicians supporting teachers, are not included;

(e) Trainers

This review has sought to review VET teachers and trainers together. However, the Tiers 1 and 2 analysis has showed that for most Member States there is a substantial difference between the context, regulation and professionalisation of teachers and trainers. For the purposes of this assessment, trainers operate in almost wholly workplace learning, including where the delivery takes place as off-the-job training, and most commonly for CVET. They may be employees of individual organisations in industry or commerce (or delivery arms of the public sector), or retained on a short or medium-term subcontract basis as trainers or training consultants engaged in delivery of VET opportunities for new entrants, or existing employees of that organisation. This does not include individuals classified as training advisers who in some national structures (e.g. Ireland, Finland, the UK) operate not as consultants on VET needs, systems and practice, but as direct delivery practitioners: effectively as VET teachers;

Initial qualification requirements

This is taken here to be concerned with the entry-level academic and pedagogic

qualifications requirements set by national, regional, regulatory (standard setting) or professional bodies for qualified status as VET teachers (and more occasionally as trainers). However, Tiers 1 and 2 showed it is commonplace in some IVET (and many VET) systems for teachers to secure such qualification while in post, either through employment-based qualification routes,

or accreditation of prior professional learning. Such newly qualified teachers may consequently be experienced practitioners;

(g) **In-service qualification requirements**

This is taken to include official regulatory requirements or practice which designed minimum or obligatory needs for retaining qualification as teachers and trainers, and/or for CPD. Such systems are highly varied.

3. Qualification requirements of VET teachers/trainers

3.1. Introduction

The research has been asked to review, from available evidence, the initial and in-service qualification requirement, and situation of VET teachers/trainers in the EU. This section looks at the first aspect of this: the initial qualifications and entry requirements for VET practitioners across the EU, and the national context within which these are applied. More specifically, it looks at:

- (a) current entry and qualification requirements for VET teachers across different Member States;
- (b) changing requirements and recent innovations and developments in VET teaching qualifications;
- (c) current and changing requirements for VET trainers.

A recurrent feature is the diversity of these systems which have evolved from different national traditions, and in response to contrasting geo-political and economic contexts, different national challenges for VET, and also widely different professional legacies. To provide some comparability in this assessment, our starting point is to look at the current practitioner structure in IVET and CVET teaching and training. This is a reference frame not only for the evidence set out in this section, but also those that follow looking at practitioner in-service qualifications and CPD, and situational evidence on professional changes and practitioner engagement with VET modernising.

This section, and the next, draw on available national commentary, selected literature and some cross-national analysis of qualification requirements, and where possible the context in which these are placed nationally. Specific evidence is often richer and more current for the newer Member States because of analysis

by Cedefop, European Training Foundation and others, and development programmes in VET capacity, when these countries were moving towards full membership of the EU. Increasing devolution and an often fragmented VET funding system means that some of the evidence for established Member States lacks accessibility for a secondary research exercise of this nature.

Overall, however, there is substantial evidence on which to draw, although its comparative content is stronger in some areas, and in some countries rather than others. Cedefop and others have added much to the evidence base from reviews conducted through TTnet⁽⁹⁾ and other activities such as the national material now available from Cedefop descriptions of national VET systems (Theme 6: training VET teachers and trainers)⁽¹⁰⁾, which we have drawn on extensively. However, much of the contextualised evidence is available only at national level, and in this our focus on six in-depth country appraisals provides richer evidence. Some of the issues raised by fragmentation of the evidence base are returned to in the final section of this review.

3.2. Current practitioner structure in IVET and CVET

Looking comparatively across the different VET professional traditions needs a solid foundation of definitions and common terminology to make sense of the different situations in which VET teachers and trainers practise. The previous section has set out some of the working definitions used in this review, but national reporting often differs greatly from these with considerable contrasts between different national systems and in their occupational terminology. Other researchers⁽¹¹⁾

(⁹) See in Internet: http://www.trainingvillage.gr/etv/Projects_Networks/TTnet/ [cited 16.7.2007].

(¹⁰) See in Internet: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis.asp [cited 16.7.2007].

(¹¹) See, for example, the summary prepared across national profiles for Cedefop for: training of VET teachers and trainers: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis-comp.asp [cited 6.7.2007].

have concluded that definitions of teachers in VET are much clearer across Member States than definitions of trainers, although both remain problematic. This is notably in those Member States where it can be difficult to differentiate teachers in general education, IVET teachers and practitioners (Belgium). Other difficulties are more distinctive to parts of the system such as in France where there seems to be no parallel for understanding CVET practitioners as teachers, and these are regarded wholly as trainers.

In general, however, Member States continue to distinguish between vocational subject (knowledge and theory) teachers and tutors, and practical (usually skills-based) trainers. Researchers looking at the EU-15 contrasts have suggested ways of characterising these in broad occupational groupings. However, this review suggests a modified approach is needed to encompass newer Member States which distinguishes between:

- (a) teachers of basic or general education subjects within vocational institutions offering general education programmes in IVET and CVET for stand-alone qualifications, and also as embedded content in specific vocational streams (ICT, numeracy, language). These have been referred to elsewhere as 'general subject teachers' and they work typically in directly or in-directly publicly-funded (and regulated) institutions of tertiary or technical education, but have substantial transferability with other general education practitioner teachers working in lower and upper-secondary education. They will be most likely to have qualified in general education and may regard their professional allegiance to general and not vocational education;
- (b) teachers of theoretical or knowledge-based elements of vocational programmes, and of cross-functional vocational content to different programmes. These practitioners may come closest to be regarded as professional VET teachers. They work predominately in IVET and upper-secondary context, within established vocational routes for young people. However, different Member States have widely different arrangements for provision between vocational streams in schools, technical colleges and vocational institutions;
- (c) teachers, trainers and instructors of practicum in vocational or work preparation and awareness programmes. These are mostly likely to work as IVET instructors or demonstrators in an upper-secondary context although this may be wholly or predominantly at the workplace for apprenticeship or similar programmes. Such practitioners may also be working on non-vocational programmes to enhance work readiness of those in general education. In some Member States characterised by the dual system and notably Germany, Hungary and Austria, the term specifically relates to those practitioners working with apprenticeship and internship trainees in work placements, but in other traditions this refers to vocational teaching content, and not place of learning;
- (d) trainers, training coordinators or training advisers working in IVET or CVET to integrate skills training and knowledge-based learning for work-based learners. These will be working characteristically in, and for, employers. In many Member States, these activities may be part of workplace training supervisors' roles, in some cases regulated by statute or sectoral agreements.

This is a highly simplified typology. It also takes no account of different functional combinations that might occur for VET practitioners working in programmes that form part of active labour-market measures to reduce unemployment (or long-term unemployment) or working with very specific needs groups such as learners or employees with mental or physical disabilities.

Even among mainstream VET practitioner structures, national distinctions are not always this clear cut, as the example of Germany illustrates, with overlap between the categories across different Members States. In addition, these functional groupings may also differ in the same Member State between different areas of vocational provision and in different funding streams. This seems to be notably the case where VET structures have evolved through contrasting professional or political legacies, or ad hoc sectoral interventions, and these remain reflected in different planning and/or funding responsibilities. In Greece, for example, proposed reforms of VET and practitioners' training have commented on the need for convergence in funding streams, with no less than seven national level lead government

agencies setting standards and policy, and many more at subnational and sectoral level.

While these groupings are usually functionally distinct, they are less commonly defined legally. None the less, a minority of Member States (Germany, France and Austria) have put in place complex systems of legally defined differentiation between some or all teaching/tutor roles in different levels and vocational content of IVET and CVET. Some of these statutes may have long established origins although statutory demarcation remains unusual, and reform in some countries (Sweden, the UK) has seen some rationalisation to streamline qualification or regulatory structures linked to these. The motive for these reforms seems to be to promote greater flexibility in VET delivery, and to increase movement between subsectors.

The distinction between teachers of knowledge-based as opposed to skills- or practically-based content is not universal. Indeed, some emerging approaches to VET pedagogy rely on harmonised theoretical and practical teaching roles, where the delivery of one draws substantially on illustrations and context setting within another. However, for most Member States, the effective division of roles remains crucial to understanding practitioner interactions with a professional knowledge base, pedagogical concepts, and learners. Consequently, the available evidence suggests that while both types of VET practitioners are affected by VET modernisation and reforms in professional practice, the impact (particularly for developments in pedagogical methods) seems most acute for those teaching knowledge and theory.

While VET practitioner reforms (see the next section) generally embody these distinctions, for some Member States modernisation has seen a hybrid role emerge with any differentiation more likely to relate to programme areas or to IVET and CVET roles. For example, this was the case with Finland, resulting first from the harmonisation of teacher qualifications in general and vocational institutions in 1995, and the subsequent change to job content and wider reforms in 1999-2000 from the Finnish National Board of Education. In Estonia, following several years of policy debate,

a root-and-branch reform of the professional basis of its VET system was implemented in the mid-1990s. This established a new occupational grade as vocational teacher following the implementation of the Vocational Teachers' Statute (1995). This effectively merged the roles of professional subject teachers and practical training teachers, and was accompanied by new requirements for subject and pedagogical training.

Similar reforms in some other Member States seem to have more progressive and evolutionary. Here, the UK, for example, saw reforms at the start of the 1990s introduced alongside greater provider autonomy in self-governance and planning (¹²), which integrated distinctions between VET teachers and instructors and demonstrators in (predominantly) colleges of (technical) education. These distinctions were arguably already dysfunctional, and although embodied in selection to posts and salary grades, had been seen (Marshall and Parsons, 1997) as a legacy of 40-year-old reforms to technical education.

One of the difficulties of comparative occupational analysis in IVET is that terminology across these different occupational and situational groupings is often not consistent. The same occupational and other labels may be used to refer to often rather different functions or roles. For example, in Portugal, all VET practitioners are regarded as trainers irrespective of the context in which their professional activities take place, or the learning environment. In the Czech Republic, teachers of practicum teach practical and skills-centred subjects in workshops at secondary technical schools, while teachers of vocational training are responsible for the practical component of training at secondary vocational schools. In Poland, there is a legally defined role as instructor which does not operate within a publicly-funded education provider, but as an employee of a company, usually combining status as a master craftsman with predetermined pedagogical accreditation. In some other countries with a tradition of VET pathways starting later in general education, vocational theoretical teachers in IVET in some Member States are referred to as

⁽¹²⁾ This saw the integration of then colleges of technical education into national funding streams with responsibilities for funding, strategy and planning removed from local education authorities (subregional) and placed with self-governance structures mediated by local arms of national funding bodies.

lecturers in some VET traditions (Ireland, Malta, the UK) (13).

The validity of this functional model for CVET teachers and trainers is not clear. The available comparative occupational evidence is stronger for IVET in Europe than for CVET. Distinctive information for CVET is often hampered by a lack of distinctiveness within a community of VET professional practice. Consequently, in many VET structures, VET teachers and tutors operate across IVET and CVET programmes and funding routes. In some other Member States, CVET is less well established, and VET reforms, both occupational and in professional education, may not yet have evolved to cover any distinctive CVET practice (in Estonia). On the available evidence, the distinction between VET teachers of theoretical knowledge and practicum, where it is a part of VET delivery, is less well established in CVET than IVET. The next section also suggests that entry and qualification requirements may also be less firmly rooted in CVET than IVET.

The review also suggests considerable difficulties in comparative analysis of VET practice. In particular, many Member States make little or no distinction between teachers and tutors working in general education and vocational education. These distinctions are further compounded by contrasts in how and when vocational education routes for those in compulsory (upper-secondary) education start. The distinctions between practitioner roles in IVET and CVET can also be blurred by provision that often crosses these activities (Ireland, the UK).

3.3. Current entry and qualification requirements for VET teachers

Grootings and Nielsen (2005a) have cautioned that remarkably little is known about patterns and contrasts of VET teacher training across the EU. Indeed, considerable information has

stemmed from reviews supported by Cedefop and/or European Training Foundation of the then accession countries in the run up to enlargement of the EU in 2004. For many established Member States, the situation lacks transparency.

The review shows that it is important to make a distinction between entry requirements or conventions for VET teachers and trainers, and pre-service qualifications. Although in some Member States, entry to VET practice and the achievement of minimum requirements of qualifications are interrelated, in others the relationship remains ill defined or evolutionary. For VET trainers, considered separately below, the relationship between entry and qualification is even more obscure.

As for entry to professional practice in VET teaching, not only do VET practitioners' structures and constituent roles differ greatly across Member States, so do national systems for joining these occupations. In practice, across the EU this sees a complex mixture of national regulation, and some statutory requirements, with relatively open entry mediated only by requirements of individual recruiters (VET providers) in others. Where regulation exists, this may relate only to some VET occupations or to practice in specific parts of the VET structure or to types of employment. For example, in those countries such as Belgium, Spain and France, where IVET teachers are employed by the State, with civil servant status, entry is mostly defined by needing to pass a specified examination to qualify for enrolment. This will need to be taken pre-employment. However, in some of these Member States this requirement does not relate to CVET teachers or to IVET or CVET trainers who are typically not employed by the State. Italy also has State employment of IVET teachers (but not trainers) and until 2000 also had a similar tradition of State examination (14) for entry to State vocational schools (*Istituti professionali*). New entry methods have since been introduced making it necessary to obtain a post-graduate qualifying diploma awarded by the SSIS (post-

(13) These traditions are themselves evolving with, for example, the development of 'alternative' vocational pathways crossing traditional provider (and funding) distinctions (e.g. the UK 14-19 agenda) but even where this is the case the occupational terminology rooted in employment contracts remains unchanged.

(14) Teachers with fixed term contracts entered via lists of successful candidates which providers first of all had to use. Entry to the State examination had a requirement for a degree in the subject to be taught.

graduate teachers training schools) paving the way for subsequent inclusion in the civil list. At present the initial training of teachers is the task of the SSiS managed by the universities.

In some of the newer Member States, similar statutory requirements are centred on entry to civil occupations (Greece and Cyprus). Here, the regulations are not geared specifically to vocational teaching but to all or parts of publicly-funded education. In Cyprus, for example, reforms introduced by the Ministry of Education and Culture, along with the education services committee, required all prospective teachers to complete a pre-service training programme before their first teaching appointment. However, all applicants to a pre-service training programme must first be accepted by the education services committee, an independent body appointed by the Council of Ministers of the Republic of Cyprus, and their names accepted in the rank lists for civil appointments. The requirement applies to all teaching appointments, both general and vocational, to the publicly-funded secondary education system.

Where VET practitioners are employed directly by providers, on secure contracts or as casual (usually freelance) employees, more diverse arrangements seem to apply. Consequently while over three quarters of Member States have interrelated systems for qualification attainment and entry to IVET practice, there is great variety in what level or form of qualifications are required to start working as an IVET teacher or trainer. The link is less robust in some Member States for those working as casual employees in IVET (and notably in Belgium, Spain, France and Italy) and more widely for practice in CVET. In some cases this may affect a substantial part of the IVET teaching workforce, and in Italy estimates have suggested that although established teaching posts (usually full-time) are State contracted, over one in three working within IVET delivery are employed on provider level casual contracts and subject to less stringent entry requirements.

The cross-EU evidence is summarised for IVET in Table 1, and for CVET in Table 2. This looks at qualification requirements in terms of any specified

general level of attainment required, which may include an embedded pedagogical element, any set period of minimum work experience, and any supplementary requirement for pedagogical education. Only one Member State (Malta) currently has no general educational requirement for VET teachers and tutors. This is in contrast to teachers in general education who need to hold an examination-based teachers' warrant, although the lower expectations in VET are currently under review. Others have only fairly recently implemented such requirements across the VET system (Estonia). Among most Member States:

- (a) a minority of Member States (Estonia, Latvia, Hungary, the UK) have a general education requirement for any IVET teaching practice set at subdegree level, although there may be higher-level requirements imposed by individual providers. Characteristically, this does not include a specification for any pedagogical training, and seems to be a legacy of VET practice which placed an emphasis on entrants holding vocational expertise, often usually found at craft training level. Hungary, for example, requires that this qualification level is set at least at one level of qualification attainment above that at which the teachers would normally practice. The situation in the UK has been changing for the last decade, and as from September 2007, a more demanding set of qualification requirements centred on a new VET teaching standard (¹⁵) will be implemented (see the next section);
- (b) many Member States have a general education requirement set at first degree level for all IVET teaching (but not usually training) posts, although this commonly combines a requirement for this to include a pedagogical course (typically of two to four semesters) conducted within this programme or in parallel. Consequently, Ireland, the Netherlands and Finland could be argued to have an IVET system which is wholly graduatised for new and recent entrants;
- (c) the majority of Member States have a dual track system, usually specifying first degree or similar general educational attainment (¹⁶)

⁽¹⁵⁾ The qualified teacher learning and skills status was piloted and implemented nationally from September 2007.

⁽¹⁶⁾ In Cyprus, the general education requirement is set at post-graduate level, although with an option for designated periods of appropriate work experience to provide for parallel accreditation.

for vocational theoretical teaching posts, and a lower standard for those teaching practicum or tutors for specific skills. Practicum teaching posts may also require a minimum period for work experience. This is a feature of three Member States (Estonia, Cyprus, Finland), although others may have approaches to selection and even nationally defined standards, which encourage providers to take this into account in recruitment of teachers, but without a defined minimum requirement (the Czech Republic, Denmark).

These are not always 'gateway' requirements, and some Member States have a de facto arrangement whereby individuals may be operating as VET practitioners, typically in a teaching support or temporary post, while working towards meeting the general (or pedagogical) education requirements.

The situation in France (and for parts of IVET practice in the Czech Republic and Greece) is rather different, and an interesting variation on general education requirements. Here, entry to vocational teaching posts is through attainment of a designated professional status moderated by an entrance examination. This is based on their professional knowledge and on previous vocational experience in the relevant trade or occupation. Teachers in France in general education in upper-secondary schools also qualify by entrance examination, but one based on essentially academic knowledge.

In IVET, hybrid systems consequently seem the most commonplace in the EU, but with great variation in supplementary requirements and coverage within the sector. These differences are increased by the fact that many Member States may follow different conventions for different VET practitioner occupations, or even for the same occupation but in different learning (or learner) settings. Member States with strong regional or subregional traditions for funding and organising VET (Germany, France, Italy) generally follow national conventions but may supplement additional requirements for entry, or qualification at regional level.

At national level, the most common supplementary requirement for entry to IVET practice is attainment of a pedagogical qualification. For most, this is a consecutive model of qualification

with post-qualification attainment (Denmark, Italy, Lithuania, Finland) of any pedagogical requirement after general education and/or vocational experience. It is less common for an integrative model to predominate where pedagogical courses are more likely to be an embedded, or parallel, part of (usually) degree-level programmes, although some Member States have provided this as a route to fast-track qualification. However, here, vocational teachers are much more likely to qualify through the consecutive model. In the Czech Republic, for example, an integrative model sees all components of initial teacher training (i.e. pedagogical-psychological disciplines and practical training) integrated into one study programme, usually at first degree or Masters level. Although characteristic of teaching entrants to general education, those qualifying meet the requirements for vocational and pedagogical competences (as set by the Ministry of Education). Here, the consecutive model is more usually harnessed for the initial training of teachers of vocational subjects, with the student first qualified in discipline or chosen field at first or master degree level, and subsequently (if they opt for the teaching profession), fulfilling the requirements for so-called pedagogical competence. This competence is achieved through complementary pedagogical studies which may run either in parallel with pre-graduate training in the specialised disciplines, or after completion of pre-graduate studies.

In several Member States, the integration of pedagogical training as an entry-level requirement is relatively recent (Estonia, Latvia, Slovakia) or is part of current VET professional reforms, as reviewed in the next section. Here, VET systems retain a legacy of large numbers of practitioners qualifying or entering through earlier requirements, not holding a pedagogical qualification or accreditation. In several Member States this remains the norm for those entering practice as teachers of practicum.

Reforms in these countries seem to have polarised pedagogic knowledge between newer qualified teachers (and some of those retrained) with substantial theoretical knowledge, and established teachers with little. For example, Estonia does not have a long-term tradition of training vocational teachers. The first attempt to train teachers for vocational educational institutions was made at Tallinn University in 1988.

Table 1. Initial qualification requirements for IVET teachers

	Specified entry qualification level at:		Specified length for post-qualification work experience	Specified attainment of post-qualified pedagogy course	Other
	Sub-degree	Degree			
Belgium	–	✓	–	–	–
Czech Republic	✓ (3)	✓	(optional)	✓	–
Denmark	–	✓	(optional)	✓	–
Germany	✓	✓	✓	✓	–
Estonia	✓	–	✓	✓	–
Ireland	–	✓	–	✓	✓ (6)
Greece	–	✓ (5)	–	–	✓ (5)
Spain	✓	✓	–	–	–
France	–	–	–	–	✓ (4)
Italy	✓	✓	–	✓	✓
Cyprus	✓	–	✓	✓ (2)	–
Latvia	✓	–	–	✓	–
Lithuania	✓	✓ (7)	–	–	–
Luxembourg	–	✓	–	–	✓
Hungary	✓	–	–	–	–
Malta	–	–	–	(optional)	–
Netherlands	–	✓	–	–	✓
Austria	✓	✓	✓	✓	✓
Poland	✓ (3)	✓	–	–	–
Portugal	✓	✓	–	–	–
Slovenia	✓ (3)	✓	–	–	✓
Slovakia	✓ (3)	✓	–	–	✓
Finland	–	✓ (1)	(variable)	✓	–
Sweden	✓	✓	–	–	✓
United Kingdom	✓	–	–	✓	✓

(1) Includes integrated subject/pedagogic courses.

(2) No prior qualification required, but applicant must be approved by education service committee, and be listed on the Cyprus rank lists for appointment to schools/colleges.

(3) Limited to teachers of practical vocational subjects or to subjects without first degree/masters provision.

(4) Entry by statutory 'professional' status examination, or individual accreditation, where entry to pre-service training preparation may or may not specify educational attainment.

(5) Includes first degree equivalent level qualifications for civil list and related examinations for teachers/tutors.

(6) Supplementary registration with regulatory professional council.

(7) Only for general education (non-vocational) teaching in IVET programmes.

Source: HOST-Cedefop national profiling, 2006.

Table2. Initial qualification requirements for CVET teachers

	Specified entry qualification level at:		Specified length for post-qualification work experience	Specified attainment of post-qualified pedagogy course	Other
	Sub-degree	Degree			
Belgium	–	–	–	–	–
Czech Republic	✓ (3)	✓	–	✓	–
Denmark	–	–	–	–	–
Estonia	–	–	–	–	–
Germany	✓	✓	–	–	–
Ireland	–	–	–	–	–
Greece	–	✓ (5)	–	–	✓ (6)
Spain	–	–	–	–	✓
France	–	–	–	–	✓ (4)
Italy	–	–	–	–	–
Cyprus	✓ (2)	–	✓	✓	–
Latvia	✓	–	–	✓	–
Lithuania	–	–	–	–	–
Luxembourg	–	–	–	–	✓
Hungary	✓	–	–	–	–
Malta	–	–	–	(optional)	–
Netherlands	✓	–	–	–	–
Austria	–	–	–	–	✓
Poland	✓ (3)	✓	–	–	–
Portugal	–	–	–	–	✓
Slovenia	✓ (3)	✓	–	–	✓
Slovakia	✓ (3)	✓	–	–	✓
Finland	–	✓ (1)	(variable)	✓	–
Sweden	✓	–	–	–	–
United Kingdom	✓	–	–	✓	–

(1) Includes integrated subject/pedagogic courses.

(2) No prior qualification required, but applicant must be approved by Education Service Committee, and be listed on the Cyprus rank lists for appointment to schools/colleges.

(3) Limited to teachers of practical vocational subjects or to subjects without first degree/masters provision.

(4) Entry by statutory ‘professional’ status examination, or individual accreditation, where entry to pre-service training preparation may or may not specify educational attainment.

(5) Includes first degree equivalent level qualifications for civil list and related examinations for teachers/tutors.

(6) Supplementary registration with regulatory professional council.

Source: HOST-Cedefop national profiling, 2006.

Due to VET reforms, more attention is now paid to vocational teachers and their training. The national-level teacher training system as a whole is being reorganised, and the 2003-10 national development plan for teacher training has been introduced, and its consequences for VET teacher qualifications are reviewed in the next section.

Many Member States show some diversity in practice and requirements, especially where VET teaching (as opposed to in-company training) involves delivery through approved non-public suppliers such as community and voluntary sector organisations, or commercial organisations. Deregulation of the VET market has made such provision more commonplace in some of the established Member States (Ireland, the Netherlands, Finland, the UK). In some, the providers operating outside public status, even where resourced through publicly-funded programmes, may have lower (or no) practitioner qualification requirements. The UK has around 30 % of all publicly-funded IVET in some sectors delivered through providers which do not have public institutional status (although less in CVET). Here, qualification requirements for those teaching vocational programmes are limited to those who assess learner competence (or verify assessors' quality), with no parallel requirement for VET teachers or trainers. Since 2001, government has established targets for raising the low proportion holding approved teaching awards in this sector, but these targets are voluntary for non-public providers (compulsory for others). Here, training policy has relied on quality assurance and contracting processes to ensure teaching quality. However, this policy is in the process of changing, with a level playing field to be created on expected attainments of teachers in the public and non-public VET sectors due to be in place by 2010 (IFL, 2006).

Others have commented that there is remarkably little comparative evidence of the content of pedagogical programmes, either integrative or consecutive (de Rooij, 2005). However, Grootings and Nielsen (2005a) have described these as characteristically run by institutions of higher education, and of two to four semesters' duration. The evidence available from this review does not challenge either assessment, although programmes have been identified (Latvia) where

pedagogical competence programmes are of up to 18 months duration. However, one issue arising is some uncertainty about the VET focus and orientation of some of the pedagogical (or initial) teacher training that is accessed by current or aspiring teachers. In many Member States, this seems to follow programmes developed for general education pathways.

Even where specific vocational pedagogical programmes are run (Germany, Lithuania, the Netherlands, Austria, the UK), these may have had limited vocational pedagogical training. It is not clear if this is an issue of distinctiveness of such pedagogical provision, or reflects the knowledge and experience base of providers establishing such provision – especially where, as with such programmes organised by universities, their roots are in initial teacher training for general education. In Lithuania, for example, the vocational pedagogic programme offered at university level is likely to be taught and assessed by university lecturers with little or no vocational education expertise. The only specific vocational interface here is through student observations at VET schools and colleges for the purposes of assessment.

One important innovation in IVET pedagogical training evident from some Member States has been these structures starting to build in later career qualification routes for those looking to move into VET teaching through mid-career change (Sweden, the UK). This has also been reported to be an important feature of some provider-led responses to VET modernisation, and increasing the capabilities of IVET teachers in Australia. However, in some Member States, these pathways could be argued to already be very well established, such as in Germany and Austria. Elsewhere this seems to be less a structural feature of expanding the knowledge base of later entry practitioners, and more a response to professionalising what for many VET providers had been a mainstay of recruitment to vocational teaching posts: those with substantial teaching experience looking for a career change. These routes sometimes combine practical work experience in schools with part-time pedagogic courses to enable access, and for those entering to continue to earn while they attain the necessary qualifications. There are no identified examples of segmented or targeted mid-career training routes in the newer Member States.

More evidence is urgently needed of the content of vocational pedagogical programmes. In a small number of Member States, there is evidence of genuinely differentiated vocational provision, and specifically in Denmark and Finland. Here, there seems to be a more robust recognition that pedagogical education for those working, or about to work, in IVET needs to draw less on general education models and harness a knowledge base more specific to vocational learning contexts. In these countries, such programmes tend to be operated not by universities but by vocational colleges, although with the qualifications accredited by universities.

There is much less information available for any distinctive requirements for teachers and tutors operating specifically in CVET. The evidence that is available is summarised in Table 2, and shows that for around a half the Member States, there is no general distinction between the general education levels required of teachers in CVET and IVET. However, the situation is complex and shows contrasts in some Member States based more on programme or funding contexts, and not more generally in terms of initial or continuing focus for VET. In addition:

- (a) even where general education requirements may not differ between IVET and CVET, some Member States may not require any supplementary pedagogical qualification for those in CVET;
- (b) for at least five Member States (Denmark, Estonia, Ireland, Lithuania, the Netherlands), CVET teaching practitioners in at least some parts of CVET practice (¹⁷) are able to hold lower levels of general education attainment than their IVET counterparts.

For some (Cyprus, the UK) the qualification needs for those in CVET teaching are relatively new. These have been introduced by government to raise teaching quality or to address observed inconsistencies in different CVET recruitment traditions for teachers. In Cyprus, for example, in-service training of teachers has been led by the Cyprus Pedagogical Institute as a government initiative to regularise pedagogical knowledge across the profession. This is now under further

development (also by the Pedagogical Institute) to modernise traditional methodologies and approaches applied.

The reasons behind differences in IVET and CVET entry requirements seem unclear. In some newer Member States, it is difficult to escape the conclusion that VET reform has centred on IVET priorities, and with the prospect that these may extend under subsequent reform arrangements to CVET. This seems to be the case in Estonia. In some of these VET systems, CVET is not widely practised outside of individual employers, and as such it may seem a lower priority. In others, CVET may be very largely undertaken by part-time staff who in the past have often been qualified through mainstream teaching and training, and as such again they may seem a lower priority for reform.

3.4. **Changing requirements in VET teaching qualifications**

Reform of qualification structures and requirements has been a feature of virtually all Member States. It is most extensive in the newer Member States where much of the transformation coincided with the period of accession to the European Union (EU), as reported above. However, it remains a key feature also of VET reform in some longer-established Member States, where raising practitioner quality has emerged as a lever in improving VET quality (the UK).

Changing qualification structures and needs are also driven by the rising complexity of vocational pathways, and in many cases by knock-on effects of policy moves to improve the quality and responsiveness of general education. This is largely set through national agendas, and this evidence shows few tangible effects at this level from European harmonisation, although there is evidence of how adverse contrasts with other Member States have encouraged reform.

The clear message is that changes are extensive in IVET, and affect most Member States. However, these would seem to be much less common for teachers in CVET and rare in most Member States

⁽¹⁷⁾ Some countries may make sectoral distinctions here with CVET practitioners in, for example, medicine, required to hold the same (or higher) general educational attainment than in IVET.

for trainers. The paucity of evidence of qualifications change for trainers simply reflects the fact that across Europe, and with the notable exception for some apprenticeship based in-company functions with the dual system, there are few regulatory or associated requirements for CVET trainers. VET teacher and trainer qualification reform is consequently very largely a matter for IVET practitioners.

Reforms that have been introduced in IVET teaching qualification requirements in Member States have often been accompanied by some disturbance. This seems to contrast with the experience in Australia where similar reform, which was radical for those operating outside the technical institutions, was speedily widely recognised within the IVET profession as an important development. In Europe, some of the introduced reforms seem to have been linked to recruitment difficulties for practitioners for providers, although where this is the case (the Netherlands, the UK) this has not been universal and seems to have intensified supply problems for teacher training. Current evidence on policy adjustments to constrained capacity for teacher training is limited, but seems to involve a mixture of targeted supply responses and/or some initiatives to increase productivity (Lithuania, the UK). Lithuania has decided to create regional training centres or consortia as part of the rationalisation of the vocational school network, and to enhance capacity for new responsibilities. Through these it intended to deliver continuing teacher training by expert practitioners rather than by universities or pedagogical institutes.

The picture which emerges is that across the EU no single model for VET teacher training and qualification needs emerges. There are a few common trends, such as an evolving expectation that VET teachers will be qualified before entry to practice, and the increasing (but not yet universal) requirement for pedagogical qualification as well as subject expertise as a part of this expectation. There is some evidence that the Bologna and Lisbon accords have influenced the general thrust of some of these reforms at national level, although this is most notable in the newer Member States, and this may be a product of the accession process.

One other feature of change is noteworthy although apparently limited to one Member State so far, the UK, although with some parallels in Australian practice but at State (and territory)

and not federal level. While many Member States have a tradition of VET practitioners entering from industrial and usually craft level backgrounds and building experience and/or qualifications in teaching while in post, the UK has developed a similar focus for pre-service training. While this work-based route to securing pedagogical education and entry qualifications is more strongly represented in schools, it has also become a feature of some training colleges, and in particular those also offering pedagogical courses for pre-entry students. Here trainees are recruited to particular providers on training contracts, linked to both provider based mentors and training advisors, and attend block or part-day release modules, they are working as trainee teachers for 80-85 % of their time.

In general, new or modified qualification requirements for IVET and CVET teachers seem to stem largely from nationally-centred modifications and evolving policy experience at this level. Few give the impression that this process is yet complete and in some (Germany) with more mature and stable process there is evidence of pressures for some deregulation on professional requirements which may lead to more intensive changes being introduced. This review also questions the robustness of some of the reform processes and changes introduced in many of the newer Member States. This has been paralleled by other commentators (e.g. Grootings and Nielsen, 2005a) who have suggested that changes to qualification systems and utilisation of VET practitioners here lack cohesion, or resourcing, and show slow progression from their origins as pilot scale initiatives from the past decade.

Many of the national level responses have added to the complexity of the national systems on qualification or regulatory requirements affecting entry and continued practice of VET teachers and trainers. Finland is one of the few Member States to have attempted a rationalisation of these arrangements and here the qualification requirements for VET practice have been streamlined as part of wider reforms which have also seen harmonised requirements and VET teacher education integrated into the higher education system. Finland is the only Member State which seems to have a common standard for teachers, although the UK is thought to be heading in this direction with the impending introduction of the qualified teacher learning and skills award.

What emerges from this review is a very complex patchwork of different stages of development in what might be seen as a thrust towards more robust professional underpinning of VET practitioners. National reforms have added to this complexity, and there remains no common tradition for VET teacher training in Europe. Arrangements have seen some common trends such as graduatising the IVET teaching workforce, but few common developments or threads across the whole of VET practice. Traditions remain very different, with great diversity between Member States reforms and adjustment (and often within them). On this evidence, there is (as yet) limited evidence of convergence in requirements for IVET teaching practice, and very little to guide any such EU-level initiatives for CVET teachers (or trainers).

3.5. Current and changing requirements for VET trainers

A distinctive area for CVET provision are VET contributions provided by employees or subcontractors of companies. This occupational focus is quite distinctive from those practitioners operating in mainstream or specialist providers, but does not seem to be well represented in the available evidence on practitioner qualifications in the EU. Table 3 summarises the information that is available from this review.

Other comparative analysis (e.g. Chakroun, 2005) has suggested that VET trainers are securing wider credibility and distinctiveness as a subgroup in the community of VET professional practice. This has emerged in the case of Australia, where reforms in the later 1990s and since emphasised the distinctive role of trainers in enhancing mainstream provision and in their responsiveness to rapidly changing employer skill needs for young people and existing employees. In some parts of IVET and CVET provision (¹⁸) in

Australia this has been led by earlier federal level requirements to require new entry practitioners to hold designated and approved degree level, or post-graduate conversion qualifications.

Following the evidence gathered in this review, the situation in Europe remains less clear. Outside structures in the dual system and specifically in Germany and Austria, the evidence for this is obscure across most Member States and seems to draw largely on anecdotal observation. The previous analysis has shown that qualifications, and development of IVET teachers of theoretical content and practicum are increasingly, but not universally, defined through statute, professional or other regulation. However, trainers' qualifications or requirements to practise professionally much less commonly have any legal definition among Member States. Correspondingly, they seem to have little or no systematic regulation of professional practice.

Where there is a statutory-based definition for trainers to practise, this seems to centre on provisions for workplace training supervisors working predominantly with apprenticeship schemes, and where these occupations are themselves defined by statute. There is some confusion over the coherence of such roles, for example, who may be defined as workplace training supervisors in some structures and/or as apprentice masters in others. At least seven Member States (Belgium, the Czech Republic, Denmark, Germany, France, Austria, Poland) have general or specific regulations relating to this role. Italy has more recently also sought to regulate company based tutors for apprenticeships introducing a new requirement for a designated (and qualified) company tutor who plays a key role in ensuring the quality of on-the-job training. Here, as with Member States with longer established traditions, their characteristics, tasks and competences are regulated by law, and this also includes compulsory training schemes organised by regions (¹⁹).

Regulation in the dual system, and notably in Germany and Austria, typically goes much further although this is not always the case. This highly

(¹⁸) This has been a distinctive feature of qualification reforms for trainers working in labour-market programmes helping to integrate people with physical or mental disabilities into the labour market.

(¹⁹) Here are no requirements for course admission except company nomination and a certificate is issued for company apprenticeship tutors after at least eight hours of compulsory training.

Table 3. Initial qualification requirements for trainers

	Specified entry qualification level at:		Specified length for post-qualification work experience	Specified attainment of post-qualified pedagogy course	Other
	Sub-degree	Degree			
Belgium	–	–	–	–	✓ ⁽¹⁾
Czech Republic	–	–	–	–	✓ ⁽¹⁾
Denmark	–	–	–	–	✓ ⁽¹⁾
Estonia	–	–	–	–	–
Germany	✓	✓	–	–	✓ ⁽¹⁾
Ireland	–	–	–	–	✓
Greece	–	–	–	–	✓ ⁽²⁾
Spain	–	–	–	–	–
France	–	–	–	–	✓ ⁽¹⁾
Italy	–	✓	–	–	✓
Cyprus	✓	–	✓	–	–
Latvia	–	–	–	–	–
Lithuania	–	–	–	–	–
Luxembourg	–	–	–	–	✓
Hungary	✓	–	✓	–	–
Malta	–	–	–	–	–
Netherlands	–	–	–	–	–
Austria	–	–	–	–	✓
Poland	–	–	–	–	✓ ⁽¹⁾
Portugal	–	–	–	–	–
Slovenia	✓	–	–	–	✓
Slovakia	✓	–	–	–	–
Finland	–	–	–	–	✓
Sweden	–	–	–	–	✓
United Kingdom	–	–	–	–	✓

(¹) Regulatory (statute or sector agreement) for designated workplace supervisors of specified on-the-job training programmes to hold master craftsmen or parallel status.

(²) Includes first degree equivalent level qualifications for civil list and related examinations for teachers/tutors.

Source: HOST-Cedefop national profiling, 2006.

regulated basis for occupational definitions of VET practitioners is not reflected in other countries with similar or adapted approaches to a dual system – and notably Denmark, the Netherlands and Norway. Even in Germany this regulation seems to be under pressure from political and professional concerns with rigid and inflexible boundaries to specific practitioner functions.

The situation in Germany (at the time of writing)

seems to be in a state of flux and notably for the company-based contributions to apprentice training. This centres on the role and requirements for *Ausbilder* (IVET trainers in companies). Beyond this, the 1972 trainer aptitude regulations (AEVOs) stipulated relevant trainers' teaching/training skills and how the chambers as competent bodies shall examine them. AEVOs have been issued for almost all branches of industry in the Federal Republic of

Germany since 1972 and corresponding training of trainers courses (*Ausbildung der Ausbilder*) are offered in general by the chambers. In 1992, recommendations concerning the reform of the trainer aptitude examination were issued, and in 1998 a new redrafted version of the AEVO was presented, using seven categories of typical training activities carried out by trainers. In 2003, as a means to stimulate provision of training by industry, AEVOs were suspended for a period of five years, and this has been taken one step further in 2006 with the Federal Institute for VET (BIBB) charged with the evaluation of the AEVO and its suspension.

Outside the dual system, where regulation of trainers occurs, it is more likely to be on a non-legal basis, such as capacity standards imposed through contracting or inspection regimes of providers. At least five Member States have requirements which specify that trainers in companies need to hold general education attainment at least at subdegree level. In others, there is no specified level of attainment to practice, although separate and optional professional membership requirements may cite specific levels.

A small number of Member States also differentiate between requirements for trainers operating within publicly-funded or subsidised company-based training schemes, and those elsewhere. This is well established in Germany and Austria, but is also a feature of some of the newer Member States. It is notably the situation in Greece, for some specific VET activities and more generally in Cyprus. For example, the Human Resource Development Authority of Cyprus (HRDA) implements and funds specialised training programmes for trainers focused on: managing training centres, training the trainers of in-company programmes (basic skills) and upgrading trainers' competences to support

the implementation of the company-based training programmes which the HRDA approves and funds. The HRDA has specific criteria for the trainers of the programmes it approves for subsidies. Beyond this, the qualifications of in-company trainers are also being examined by the HRDA to fund the training programmes submitted.

Elsewhere, the requirements for trainers, as opposed to teachers and tutors in VET, often lack transparency. The review suggests that outside Germany, the Netherlands, Austria and others where the dual system underpins IVET, most Member States (new and established) generally have yet to regulate wider trainer qualification requirements. Most seem to rely on provider-specified recruitment practice to relate qualifications requirements to different VET contexts, or professional standards, which are loosely regulated by non-executive agencies. Indeed, with a review of the AEVO structures and regulations now underway in Germany, following a suspension of the arrangements, it is possible that Germany will itself reverse the 30 year trend towards tighter regulation for those covered by these requirements.

Practice is most diverse where systems rely on the private sector or self-employed trainers to support training-related skills development, assessment and support (Ireland, France, the UK). Professional structures may provide for defined standards and/or competence-based qualifications for trainers (mainly through university-based professional accreditation).

Elsewhere, it seems that provision for accreditation of trainers places less demand on pedagogic training than for most teachers and tutors across Europe. It seems that few national systems anticipate much transferability or movement of individual practitioners between these two rather distinctive functions as VET practitioners.

4. In-service and continuing professional development (CPD)

4.1. Introduction

The previous section reviewed the diversity of available evidence for entry-level qualifications, and the associated initial teacher training systems, across the EU. It shows many Member States looking to adjust these arrangements to build a more professionalised VET workforce. None the less, any impact on enhanced VET teacher and training capabilities will also need to see a focus on those teachers and trainers already in post who have come into practice under previous entry and qualification requirements. As these are the practitioners currently delivering all VET activity, it is their enhanced practice and professionalism which may have the most direct effect on early improvements to the quality and responsiveness of VET across Europe. While IVET and CVET professionals may well have a personal commitment to keeping abreast of changes in educational technology, new curriculum and forms of assessment, as well as technological changes in the organisation of work, it is not clear how (against a background of rising other demands on many practitioners) policy initiatives have directed or enabled such adaptation. Here, the available evidence is set out for:

- (a) CPD requirements and opportunities for IVET teachers and tutors;
- (b) CPD for CVET teachers and tutors;
- (c) CPD for trainers operating wholly, or mainly, in an in-company context.

In general, the CPD and in-service dimension of how VET practitioners stay qualified, has received little attention in comparative analysis. Commentators who have looked at this have suggested that VET teachers and trainers in Europe have a weak CPD culture (de Rooij; 2005). This section attempts to take this one step further and to review, on the evidence available, if this is true.

4.2. CPD for IVET teachers and tutors

There is less robust evidence on in-service practitioner development and associated post-qualification CPD requirements than for entry-level qualifications. However, this information is better represented where CPD for VET practitioners is regulated or subject to new or emerging requirements at national (or regional) level. Since such regulation seems to be very largely limited to practitioners working in IVET contexts, the available CPD evidence is richer in this subsector, and very limited outside.

As with initial qualifications for practitioners, the evidence that does exist for CPD in IVET suggests great diversity in how different Member States organise (and resource) the in-service professional development of teachers and trainers. The generalised contrasts are drawn together in Table 4 for those Member States where appropriate information is available. This shows all Member States have at least some provision for CPD among IVET teachers, but for the majority this centres on voluntary participation in self-development. More specifically:

- (a) there are national regulations (Estonia, Hungary, the Netherlands, Slovenia, Finland) which make CPD or similar in-service development obligatory for all IVET teachers in at least five Member States. Legal requirements seem to be more unusual in the established Member States, other than where CPD is built into terms and conditions of employment for (mainly) IVET teachers where they are employed as civil servants (Belgium, Germany, Greece) but also in the Netherlands. Both Germany and Austria have other provisions for VET teachers which require participation in CPD although these are said to be only loosely quality assured;
- (b) in other Member States CPD arrangements may stem from collective bargaining within the

sector which place the onus on providers to make some minimum level of time and funding available as part of their contractual obligation to teachers. In Finland, for example, collective agreements between government and trade unions require all providers to release qualified teachers in publicly-funded institutions for in-service training, which varies from one to five days a year outside normal teaching hours, per academic year, depending on the sector. Teachers are obliged to participate, as part of their contracts of employment and this type of CPD is free of charge to participants. The responsibility for funding such training rests with teachers' employers, mainly local authorities in Finland, but seems to be contractually limited to those who are civil servants;

- (c) at least 10 Member States, drawn across newer Member States (the Czech Republic, Latvia), and those more established (Denmark, France, Italy), have CPD structures which rely wholly, or substantially, on self-motivated in-service development. Here, central government may act to enhance CPD supply in specific areas important to policy, but participation will remain essentially or practically voluntary. In Germany, for example, regulation specified that CPD is a third tier of qualification for VET teachers (but not for those in CVET) and as such CPD is embedded in teacher development. However, practise against this requirement seems to be essentially self-regulated by practitioners. The same is largely true in Austria, although here there have been recent measures to tighten up quality assurance of CPD participation at regional level (⁽²⁰⁾). In Italy, CPD for IVET teachers is seen as both a teacher's right and duty although participation is usually voluntary. Here, CPD is encouraged through several national and local programmes with in-service training – managed by the Ministry of Education, universities, INDIRE (⁽²¹⁾) and individual providers and usually centres on updating in the relevant subject area, including training in enhanced pedagogy but also with provision for teacher skills in ICT.
- (d) elsewhere for example, Cyprus has seen the

HRDA support a range of optional in-service training courses and seminars offered both centrally, at the premises of the Pedagogical Institute, or at regional Pedagogical Institute centres, of between 15 hours and 60 hours covering general and subject-specific pedagogy (⁽²²⁾). These programmes are not limited to IVET teachers and also have strong take-up in the school sector. For vocationally-orientated teaching, the Ministry of Education and Culture also subsidises short-term secondments to industry, although take-up is thought to be limited. Similarly, in England (but not elsewhere in the UK) the lead ministry has funded a cross-IVET programme for teachers to qualify at diploma and masters level as subject learning coaches with enhanced subject specific pedagogy (⁽²²⁾). This programme is open to CVET teachers but has had very limited take-up in this sector;

(e) a smaller cluster of Member States have hybrid systems which seem to combine obligatory CPD for some specific occupations or policy priority areas, with optional routes through CPD elsewhere. Lithuania, for example, has a programme of mentor-based support to newly qualified teachers, which is obligatory for new entrants as part of their probationary period. Here, successful assessment by mentors seems critical to their continued employment and progression. Mentoring systems for newly qualified teachers, although not usually obligatory, is common for some of these Member States in general education, but seems to have limited transferability to vocational contexts. Others, such as Cyprus and Slovakia, may have obligatory CPD programmes for those aspiring to, or on recruitment to, senior appointments such as deputy head teachers or deputy/vice principals of colleges. In general, however, such leadership programmes seem to be optional in IVET, although attainment or certification with such skills may have a significant influence on appointment (Faudel, 2002).

These are highly generalised categories, but they do describe the main focus for CPD arrangements in IVET and the fact that across most of the EU self-

⁽²⁰⁾ Selective modifications by Länder to school/in-school VET quality assurance since 2003 via Land-eslehrer-dienstrechtsgezetz.

⁽²¹⁾ Istituto nazionale di documentazione per l'innovazione e la ricerca educativa.

⁽²²⁾ For example, pedagogy for special subject teaching including student-oriented teaching, project teaching, experimental learning, promoting teamwork and the teaching of special subjects.

Table 4. CPD or in-service training requirements for IVET teachers

	Self-development (voluntary participation) only	Obligatory commitment to unspecified CPD	Regulatory or similar requirement for:		Other
			Minimum number of in-service days	Other post-qualification CPD	
Belgium	✓	✓	–	–	–
Czech Republic	✓	–	–	–	–
Denmark	✓	–	–	✓ ⁽⁴⁾	–
Estonia	–	✓ ⁽¹⁾	✓	✓ ⁽⁴⁾	✓ ⁽⁷⁾
Germany	–	–	–	–	–
Ireland	–	–	–	–	✓
Greece	✓	–	–	✓ ⁽⁴⁾	–
Spain	–	✓	–	–	✓
France	✓	–	–	–	✓
Italy	✓	–	–	–	✓
Cyprus	✓	✓ ⁽²⁾	–	–	✓ ⁽³⁾
Latvia	✓	–	–	–	–
Lithuania	✓	✓ ⁽⁶⁾	✓	–	–
Luxembourg	✓	✓	–	–	✓
Hungary	–	✓ ⁽⁸⁾	✓ ⁽⁵⁾	–	–
Malta	✓	–	–	–	✓ ⁽⁴⁾
Netherlands	✓	–	–	–	✓
Austria	✓	✓	✓	✓	✓
Poland	✓	–	–	–	✓ ⁽⁴⁾⁽⁷⁾
Portugal	–	✓	–	–	✓
Slovenia	–	✓	✓	–	–
Slovakia	✓	✓ ⁽⁸⁾	–	–	–
Finland	–	✓ ⁽⁵⁾	✓ ⁽⁵⁾	–	–
Sweden	✓	–	–	–	✓
United Kingdom	✓	–	In development	Selected subjects only	✓ ⁽³⁾

⁽¹⁾ Includes optional industry attachment programme with public subsidy.⁽²⁾ For head teachers/principals and their deputies only.⁽³⁾ Actions through publicly-funded change agent teams or other publicly-subsidised VET teaching masters or learning coaches.⁽⁴⁾ Requirement linked to career advancement/progression programmes.⁽⁵⁾ Minimum period of CPD set by collective bargaining nationally, and optional or self-determined in-service training may be added to this.⁽⁶⁾ Limited to mentor-based support to newly qualified teachers/tutors.⁽⁷⁾ Linked to a workplace-based secondment/placement programme.⁽⁸⁾ Limited to teachers in some professional disciplines and regulated by sector agreement.

Source: HOST-Cedefop national profiling, 2006.

motivated development seems to predominate. Actual CPD arrangements and focus may vary greatly (²³). Where common themes are apparent, these seem to stress, enhanced pedagogical training, team working, leadership, enhanced/updated subject knowledge, and preparation for advancement and on wider non-specific professional skills.

One component of CPD emerging in several Member States is for post-qualification training in workplace-based technology and organisation, although some seem to refer to this as entrepreneurship (²⁴). For example, Estonia in 1999 made it compulsory for vocational teachers to undergo enterprise-based training for at least two months during each three years of service. Some of the key objectives of the vocational education development plan 2001-04 were to: give vocational teachers practical training in companies and to accredit them and to ensure that there were more younger teachers with specialised and/or more in-company professional experience. In 2002, the compulsory industry-based training for vocational teachers introduced in 1999 still had not been implemented. However, the teacher training framework requirements 2000 state that VET teachers should have professional training (a total of two months) every three years. This seems more common among some of the newer Member States but is not limited to these. In Germany, for example, there have been federal-level discussions about how to better prepare IVET practitioners to integrate theoretical vocational knowledge with skills use and new processes in industry and commerce. Similar concerns have been raised in the UK, and in England, recent research (Barry et al., 2006) has shown a range of company-initiated initiatives aimed at building this capacity in teachers in colleges of further education.

The available evidence also commonly shows continuing teacher training often criticised for not adequately preparing teachers to update their skills, and in particular for new teaching methodologies. A common focus for concern seems to be information technology literacy for IVET (and CVET) teachers. In

some Member States, this may be an embedded part of in-service training arrangements, and as such may lack transparency in reported initiatives. However, in others there have been some dedicated efforts to establish programmes for CPD in ICT skills and/or ICT-based VET methodologies (Ireland, Italy, Hungary). In Hungary, for example, being able to use the new technologies (ICT) is now a requirement of all IVET teachers. To build this capacity among existing VET teachers, the currently most important national development programme in VET, the development programme of vocational schools, involves a thematic project called ‘information technology in vocational schools’. Ireland has gone one step further with a dedicated institute established with a brief to support vocational research as well as in-service IVET (not CVET) teacher training in this area. Most of the dedicated initiatives building ICT knowledge and skills also seem to be associated with developing teacher competence in e-learning methods and techniques. In Hungary, for example, there is a three-year international project started in 2003 through the Engineer Pedagogical Institute (Budapest Polytechnic) that aims at the further training of vocational teachers and instructors and developing training materials for teacher competence development in the application of virtual learning environments.

As noted in Section 3, several Member States have established specialist pedagogical institutes, some very long established. These seem mostly focused on the initial qualification of teachers, or upgrading knowledge among those entering from lower-level qualifications and technical backgrounds, but in at least two Member States (Cyprus and Austria) they play a specific role in CPD for qualified IVET (and other) teachers and tutors. In Austria, it has been mainly the *Pädagogische Institute* (in-service teacher training colleges) that are responsible for CVET for teachers in the IVET system. These colleges are public post-secondary training institutions, subject to the authority of the *Landesschulräte* (regional boards of education) but under federal guidelines set by the

(²³) Examples of all of these can be highlighted from the available documentation and literature but this lacks any systematic coverage (or a common typology) to support wider mapping.

(²⁴) Conventionally, entrepreneurship is concerned with the preparation, skills and knowledge development of learners entering self-employment or business start-up. In IVET, the term is more commonly used in this literature to refer to practitioners' understanding of how private sector businesses operate, and the context in which skills and training take place in industry and commerce.

Bundesministerium für Bildung, Wissenschaft und Kultur (Federal Ministry for Education, Science and Culture) (25). Typically, each has had four departments, with two centred on CPD offers to CVET of teachers at *Berufsschulen* (vocational schools for apprentices) and one for teachers at *berufsbildenden mittleren und höheren Schulen* (secondary VET schools and colleges). These arrangements are subsequently under some reform with consolidation of the in-service dimension with pre-service provision. There are separate arrangements for CVET for teachers at *Land- und forstwirtschaftlichen Schulen* (schools for agriculture and forestry) takes place at the *Land- und forstwirtschaftlichen berufspädagogischen Institut* (in-service teacher training college for agriculture and forestry).

CPD delivery specialisms within a teacher training infrastructure such as this seem to be uncommon, with delivery more likely to be a combination of some workplace-based provision by the provider and a mixture of short-course and post-graduate level continuing qualifications, usually offered at universities also delivering initial teacher training. In the Netherlands, the emphasis seems to be strongly on workplace-level provision to meet the regulatory requirements for IVET teachers to undertake CPD, largely through group training events on specific policy-centred and professional development themes such as individualised learning.

The available comparative evidence does not help very much in unpicking the reasons for the focus on self-regulated and self-motivated CPD. In some traditions (Belgium Flanders, Denmark, Germany), this may be a legacy of approaches to in-service development, which have relied heavily on the professional CPD model where individuals are seen to have the individual motivation and knowledge to drive their own updating or development. Elsewhere, it may be a practical consequence of limited supply, or funding, of CPD to a segment of education which may have only recently seen much public policy focus. This is widely (but not universally) reported among the newer Member States (e.g. Estonia, Poland).

To this may also be added uncertain commitment or aspiration among qualified or in-post IVET teachers to continued education and development. In Slovakia,

for example, the CPD tradition remains relatively embryonic in IVET (and CVET), and this is in part a consequence of limited demand, with a 2002 survey showing that 86 % of vocational teachers were not interested in continuing training. Significantly, the same assessment identified participation in international projects as an important focus for CPD. Funding for in-service development in Slovakia was, and remains, limited with teachers consequently expected often to self-fund their participation through unpaid work, absence and/or direct fees.

The CPD funding constraint is not limited to newer Member States. IVET teachers in both the Netherlands and the UK are thought to fund a substantial part of CPD activity from their own resources, and this acts as a significant barrier to participation for those unable or unwilling to do so. In both countries, there has been a significant (but rather different) shift in policy which has seen national measures emphasising devolved methods of delivery for CPD, through the subject learning coach programme in England (although with parallels in Wales) adopting what is expected to be a largely cascade model for subject-based ‘new learning methods’ for IVET teachers, and through provider-based, centrally-funded, group training methods in the Netherlands. Neither approach has (or is expected to) substituted for individualised CPD but both are expected to be more cost-effective methods of delivery to wider professional populations. In the Netherlands, where the process has been longer established, this approach has emphasised group and peer learning which, has also been welcomed by IVET teachers as a practical way of exploring and sharing good practice.

For Member States with largely devolved VET systems and where VET practitioners are employed directly by providers, there are commonly reported difficulties with provider resourcing of CPD for their employees. Empirical evidence of this is limited and in any event lacks a comparative basis for how CPD has increased (or decreased) over time. More robust evidence is available from the Australian example. Here CPD for VET practitioners has become an important policy lever in federal and state goals aimed at ratcheting up the quality of IVET in publicly-

(25) This includes CPD guidelines on programme and course content (and budget guidelines) as set by the *Bundesministerium für Bildung, Wissenschaft und Kultur*.

funded programmes in training and further education (TAFE) providers, the mainstay of IVET in Australia. This was a key feature of the Reframing the Future policy initiative and the subsequent *Shaping our future* (ANTA, 2003) policy for the sector, which had a separate workforce development plan for TAFE focusing largely on practitioners.

The Australian approach has harnessed what has been referred to as a collaborative model (Dickie et al., 2004), drawing together federal and State/territory resourcing, with regional training organisations and individual TAFE providers to provide for what has been described as a bottom-up approach to enhancing CPD. This has developed as a response to an assessment that CPD was being constrained by high levels of need set against limited resources available through public funds. The response was to develop what has been described as a competitive solution enabling providers to improve their own responsiveness through practitioner centred workforce development, initially through a pilot project. TAFE providers can now harness a more systematic approach to CPD through harnessing private sector models of strategic workforce planning combining needs analysis with building organisational capacity and enhancing workforce data and monitoring to help review and sustain the initiatives. The programme has also built in provision for providers to work together to share resources for CPD and to assess (and share) good practice. Some commentators (Karmel and Nguyen, 2003) expect to see benefits for boosting the status of VET professional practice with more TAFE providers joining the Australian standard for employer of choice awards.

There is no evidence from the Australian initiative of practitioner resistance to engagement in enhanced CPD (Harris et al., 2000). In Europe, however, difficulties with practitioner motivation to undertake self-directed CPD emerge as a common issue for many Member States, both for those following the non-obligatory route, and for some that do regulate CPD participation. Some of these seem to be issues specific to individual Member States, such as access to regionally dispersed centres for in-service training (Austria, Poland) but more usually this centres on incentives to undertake CPD.

Here, there are two quite distinct traditions emerging across Member States. In one, post-entry (or post-probationary) teachers must undertake specified CPD programmes, usually leading to

attainment of higher-level qualifications, to be eligible for promotion or higher-level salary grades. In some traditions this is firmly embedded in career systems (Poland). However, this can also have a drawback for individuals with policy moving towards a shared cost model for CPD, with government here partly funding CPD on the assumption that individuals who will benefit financially from in-service training should share some of the costs.

In others it seems to be linked to earnings supplements or incremental grading. In Slovenia, for example, attaining higher-level qualifications through CPD is one of several ways in which teachers can enhance their relatively low starting salaries. Here, Faudel (2002) commented that the salary structure for teachers was very complicated with over 20 different supplements, which often totalled more than the basic salary and created unjustifiable differences between different teachers. In practical terms, CPD points are awarded for participation in specific programmes of continuing professional training, with the points taken into account when promoting teachers and pre-school teachers, and with in-service training one of the pre-conditions for promotion (see, for example, Cek and Vranjes, 2003). Hungary adopts a similar link between CPD and increment advancement on pay scales. Here, participation in in-service training is thus mandatory, but as a benefit its successful completion reduces by one year the period before an automatic advancement in pay grade. Conversely, failure to complete this obligation successfully through the teacher's own fault may extend this period by one year.

The UK is also experimenting with a CPD-linked advanced practitioner status, although the effects seem to be limited to parts of the IVET system and not to all providers. Individuals nominated for this status by colleges of further education receive enhanced pedagogical and subject training, and on successful completion this has been linked to a negotiated advanced practitioner career grade, which is sustained while in employment with that provider. While there have been observed effects of these initiatives for teacher retention, there is (as yet) less robust evidence that such mechanisms directly affect wider professional participation in CPD. Outside of provider-based systems such as faculty or staff development themed events, practitioner CPD in the UK seems to have remained largely funding driven.

In the second tradition, more widespread among the established Member States, there is less likely to be a rigid association between CPD and earnings or advancement. It is commonly reported here that this holds back participation in in-service training, although the empirical evidence is limited.

Other features are:

- (a) there is some evidence (Hungary, Finland) that obligatory CPD for IVET teachers is a spin-off from wider collective bargaining arrangements by 'general education' trade unions specifying in-service training opportunities. Where trade union structures segment membership between general (school) and vocational (technical school, technical college, etc.), and where there are no unified bargaining arrangements across these divisions, this may work against the interests of those in vocation trade unions where bargaining power seems less well developed. In the UK, for example, 'general education' trade unions have secured agreements for an average of five days off-the-job in-service training funded by employers, whereas such arrangements for most involved in technical colleges (usually colleges of further education) are discretionary other than for specific central government-funded reforms;
- (b) CPD in IVET is sometimes driven by regulatory requirements for practitioners to 'stay qualified' (Lithuania, Malta, the Netherlands). However, such requirements seem to fall short of imposing an obligation on individuals, but instead regulations loosely define CPD requirements, usually through recommended minimum levels of annual in-service training (hours or days per year). These recommendations may have some force in individual negotiations, and individual staff development plans, but the empirical evidence of this is vague. In addition, many Member States do not have support for individualised approaches to bargaining or arranging in-service training development through, for example, annually negotiated individual staff development plans for teachers;
- (c) for some Member States, provider inspection, quality assurance and more rarely, supplier contracting in IVET may also be instruments for promoting CPD. However, the comparative evidence for this is very limited, perhaps reflecting for some Member States the evolving nature of such arrangements where staff qualifications and in-service development may only be a very recent feature of quality assurance systems. However, inspection may provide an important role where national regulations set recommended or even obligatory levels of CPD, with the quality assurance process acting as a potential policing mechanism at local level. Again, however, the available documentation says little about if and how such a mechanism is effective in sustaining CPD entitlements or engagement in IVET;
- (d) in these arrangements, there is commonly a distinction between CPD expected of, or available within, publicly-funded providers, and those outside. For some Member States (Cyprus, Malta, Finland) all, or most, IVET is provided within public institutions and this distinction is consequently of little or no importance. However, deregulation of VET provision in many Member States has seen non-public providers growing in importance even where the provision remains wholly or predominantly publicly-funded. Here, the limited evidence suggests that participation in CPD and in-service development of IVET teachers can be weak. In Slovakia, it is not obligatory to participate in continuing training and this seems to disproportionately affect participation in non-public institutions. In the UK, the most recent workforce survey shows levels of CPD participation in IVET outside the public institutions (colleges of further education, specialist designated institutions) as under half the levels of the sector overall. Where in-service development does take place, it is more likely in non-public institutions to be for entry-level qualifications or short duration qualifications, such as certification to undertake competence assessments;
- (e) there is some parallel evidence that in some Member States at least, CPD is much more strongly supported for teachers in general education than in IVET (or CVET). In Malta, for example, teachers in the compulsory school sector are expected to take part in three days of compulsory in-service training every year. However, there is no mention of such a requirement in the collective agreement for

the employment, terms and conditions of IVET teachers (26).

Table 4 also shows that on the available evidence, at least five Member States set minimum levels of in-service training or CPD for all IVET teachers, either as a general obligation on individuals (Estonia, Finland) or as an entitlement to be locally negotiated. Some, such as Austria, seem to limit obligations to specific provider groups (notably *Berufsschulen*) although it remains largely up to individual teachers how to implement this.

Among those with wider obligation, in Belgium for example, CPD is organised and regulated differently between Flanders (compulsory since 1996) (27) and Wallonia where CPD is supply-driven through ad hoc in-service training. In Flanders, this requires teachers with an annual teaching load of at least 480 hours to undergo at least 24 hours of continuing training every three years (12 hours for under this level).

As an illustration from the newer Member States, Lithuania's VET reforms have seen in-service and continuing training for IVET teachers regulated by the 1997 Law of VET (28), decrees and legal acts of the Ministry of Education and Science and the regulations of the Teacher Professional Development Centre. Most recently, the Law of Education states that each IVET teacher has an entitlement for continuous/in-service training for five days per year, but with the discretion for the individual to negotiate and choose which provider they would like to attend, based on their training needs. As a result, teachers here tend to upgrade their own subject and pedagogical qualifications at their own initiative. Hungary also has a maturing emphasis on CPD and in-service teacher training has been mandatory for a decade. Here, each teacher, including IVET teachers and trainers employed in public education, has to participate in at least 120-hour long further training once in every seven years. The state covers at least 80 % of the training costs.

It is probable that more Member States may have recommended levels of CPD, perhaps negotiated

through collective bargaining arrangements, but where discretionary or perhaps limited to specific types of provider, subject or occupation, these are not well reported in the literature. Where recommended levels for in-service training exist, these seem rarely to be qualifications-linked, although participation may commonly be certified (as in Cyprus where all IVET and other teachers attending publicly-funded in-service training receive a Ministry of Education and Culture, or similar, certificate to that effect). The levels vary from three to five days to over 15 in some Member States in IVET.

Most, however, do not seem to specify CPD participation in this way. One variation, and an important innovation, seems to be where Member States have looked towards local collective processes or communities of practice to act as a supplementary focus for in-service professional development in IVET. Such examples are not well documented, but three important examples emerge from the literature. Cyprus has seen change agent teams established in all 12 IVET public institutions, following similar methods of CPD dissemination as the cascade model of the subject-based learning coaches in England (see above). However, such arrangements for CPD seem unusual, although where they exist in embryonic form, some early evidence (Cyprus, the Netherlands) suggest they are able to combine cost effectiveness (lower unit cost and higher-levels of practitioner engagement) with the ability to customise content and approaches to local providers (and even subjects within them), and that they are also often well received by practitioners.

A final dimension of support for CPD is through semi-structured programmes and opportunities from international projects. The previous section has shown that in the newer Member States, projects funded through European trans-national programmes such as PHARE have often been associated with some of the national-level developments on building more robust, or broadly-based, initial teacher training qualifications relating to VET. The evidence for similar

(26) The overall situation in relation to CVET trainers is difficult to gauge, the Employment and Training Corporation wishes to professionalise the whole of the 'train-the-trainers' field, but there has been little alignment between the CVET and IVET sectors in terms of in-service pedagogical training requirements, despite the transfer of the Employment and Training Corporation from the Ministry of Social Policy to the Ministry of Education, Youth and Employment in 2004.

(27) In Flanders, in-service teacher training is ruled by the Decree on teacher education and continuing education (16.4.1996). The Decree states that the organising authority (network) of the school in which the teacher works is also responsible for supporting all the teachers in their quest for further professionalism.

(28) Now extended by the 2003 new edition of the Lithuanian Law of Education.

engagement with CPD through programmes such as Socrates, Leonardo da Vinci, e-learning, Erasmus or Mundus, is less clear as another source of enriching the continuing development (and vocational teaching competences) of practitioners. Such evidence is set to be much more dispersed, and lacks transparency in the absence of specific national-level evaluation evidence reviewing trans-national processes and CPD links (and impact).

4.3. CPD for CVET teachers and tutors

CPD requirements and activity in CVET lack transparency and seem to be much less extensive. Table 5 suggests that at least 10 Member States have some form of obligatory CPD requirement in IVET, although often focusing on specific subsectors or occupational grades. In CVET (Table 5), it is around half this level. In one of these (Cyprus), the CPD obligation in CVET is limited to those becoming deputy principals of CVET providers, a requirement which might better be regarded as entry-level training and which applies to all educational institutions. In Lithuania, it is limited to the requirement for newly qualified CVET teachers (as elsewhere in VET) to undertake mentor-based training in-provider, again more a feature of entry-level requirements than in-service CPD. Only Estonia, Hungary, the Netherlands, and Slovakia, seem to have wider CVET CPD requirements, and in Estonia it is acknowledged that the capacity for in-service training cannot yet support this.

In each of these, the IVET and CVET commitment to CPD seems to stem from professional lobbying or collective bargaining keen to establish equitable access to CPD across all VET (and/or general education) subsectors. Elsewhere equity, by design or circumstance, does not seem to be a feature of policies influencing the in-service development of those practitioners in CVET. In Member States without an obligatory requirement in CVET, this may be influenced by the different delivery and teacher contracting arrangements for CVET. In Germany, for example, IVET teachers are civil servants, with high levels of full-time employment and substantial job security. In CVET, however, teachers are more likely to be low hours fractional or casual staff, often

employed on fixed or short-term contracts, and with less job security. Here participation in CPD is much lower, although most CVET teachers are thought to have access to at least some in-provider in-service training on enhanced pedagogy, but with limited access to off-the-job or qualifications-based CPD. A similar situation is echoed in the UK where it is estimated that 96 % of CVET teachers are employed on short-term casual contracts. Here, in-service CPD is organised on a more fragmented basis, but evidence also shows that participation in CPD is held back by the fact that employers (providers) normally will pay only for teaching hours, and CPD is regarded as a discretionary activity in earnings.

Elsewhere, funding for CPD can be a major constraint on participation. In the newer Member States, for example, executive agencies are often reported to prioritise the development of IVET teachers over those in CVET, which may also be an under-developed sector. Where CVET is established, public funds supporting practitioner development in CVET may be more likely to emphasise funding for initial teacher training and not CPD. Here there are some important exceptions. In the Czech Republic, for example, the more general provisions concerning the obligation on the part of employees to undertake continuing training for teachers and trainers are set out in the Labour Code. The new Act on pedagogical staff stipulates this continuing training obligation very clearly and this covers CVET teachers, with the Ministry of Education annually allocating funds to providers that are linked to continuing training. From these resources schools may finance continuing training programmes for pedagogical staff that are accredited by the Accreditation Commission of the Ministry of Education although this excludes CVET trainers. However, it is unclear what proportion of CVET (over IVET or other staff) benefit in this way.

In Slovakia continuing training is free of charge but limited funding is made available to the four regional methodological centres through the Ministry of Education Board and travel costs are no longer reimbursed. In both the Czech and Slovakian republics, the CVET entitlement stems from wider CPD policies across the education sector. In the established Member States, it seems to be only in the Netherlands that CVET teachers have a legally based commitment to support CPD,

Table 5. CPD or in-service training requirements for CVET teachers

	Self-development (voluntary participation) only	Obligatory commitment to unspecified CPD	Regulatory or similar requirement for:		Other
			Minimum number of in-service days	Other post-qualification CPD	
Belgium	–	✓	–	–	–
Czech Republic	✓	–	–	–	–
Denmark	✓	–	–	✓ ⁽⁴⁾	–
Estonia	–	✓	✓	✓ ⁽⁴⁾	✓
Germany	✓	✓	–	–	✓
Ireland	–	–	–	–	✓
Greece	✓	–	–	✓ ⁽⁴⁾	✓
Spain	✓	–	–	–	✓
France	✓	–	–	–	✓
Italy	✓	–	–	–	✓
Cyprus	✓ ⁽¹⁾	✓ ⁽²⁾	–	–	✓ ⁽³⁾
Latvia	–	–	–	–	✓
Lithuania	✓	✓ ⁽⁶⁾	✓	–	–
Luxembourg	–	–	–	–	✓
Hungary	–	✓ ⁽⁸⁾	✓ ⁽⁵⁾	–	–
Malta	✓	–	–	–	–
Netherlands	✓	–	–	–	–
Austria	–	✓	–	–	✓
Poland	✓	–	–	–	✓ ⁽⁴⁾⁽⁷⁾
Portugal	✓	–	–	–	–
Slovenia	✓	–	–	–	–
Slovakia	✓	✓ ⁽⁸⁾	–	–	–
Finland	✓	–	–	–	✓
Sweden	✓	–	–	✓	✓
United Kingdom	✓	–	–	–	✓

(¹) Includes optional industry attachment programme with public subsidy.

(²) For head teachers/principals and their deputies only.

(³) Actions through public-funded change agent teams (CAT) or other publicly-subsidised VET teaching ‘masters’ or learning coaches.

(⁴) Requirement linked to career advancement/progression programmes.

(⁵) Minimum period of CPD set by collective bargaining nationally, and optional or self-determined in-service training may be added to this.

(⁶) Limited to mentor-based support to newly qualified teachers/tutors.

(⁷) Linked to a workplace-based secondment/placement programme.

(⁸) Limited to teachers in some professional disciplines and regulated by sector agreement.

Source: HOST-Cedefop national profiling, 2006.

although since 2003 this has been subject to a CPD reform programme, which may change priorities.

As shown above, a more common model is for practitioner CPD to be self-directed and voluntary. This seems to particularly discourage participation

in CPD in CVET. In Slovakia, for example, there are no specific regulations concerning CVET trainers and no general minimum CPD requirements for teachers/trainers within CVET, and this is seen to reduce participation.

Table 6. CPD or in-service training requirements for trainers

	Self-development (voluntary participation) only	Obligatory commitment to unspecified CPD	Regulatory or similar requirement for:		Other
			Minimum number of in-service days	Other post-qualification CPD	
Belgium	–	–	–	–	✓
Czech Republic	✓	–	–	–	–
Denmark	✓	–	–	–	–
Estonia	✓	–	–	–	–
Germany	–	–	–	–	–
Ireland	–	✓	–	–	✓
Greece	✓	–	–	–	✓
Spain	✓	–	–	–	–
France	✓	–	–	–	✓
Italy	✓	–	–	–	–
Cyprus	✓	–	–	–	✓
Latvia	✓	–	–	–	–
Lithuania	✓	–	–	–	–
Luxembourg	✓	–	–	–	–
Hungary	✓	–	–	–	–
Malta	✓	–	–	–	✓
Netherlands	✓	–	–	–	✓
Austria	–	–	–	–	✓
Poland	✓	–	–	–	–
Portugal	✓	–	–	✓	✓
Slovenia	✓	–	–	–	–
Slovakia	✓	–	–	–	–
Finland	✓	–	–	–	✓
Sweden	✓	–	–	–	✓
United Kingdom	✓	–	–	–	✓

Source: HOST-Cedefop national profiling, 2006.

4.4. CPD for trainers

Evidence of integrated or dedicated CPD for CVET practitioners is much more limited than in IVET. However, for trainers it is even less extensive and very rarely guided by regulation (Table 6).

Where there is distinctive evidence of CPD for trainers working to support HRD in companies (CVET), or as workplace supervisors of, for example, apprentice training (IVET), this seems to be limited to those countries with regulatory

requirements for trainer competence and practice. As indicated in the previous section such regulation is very limited. There is also evidence of an apparent tension in some of these Member States between regulation of IVET (or CVET) in public institutions that aims to ensure best value and effectiveness of public expenditure delivered by VET practitioners, and any similar measures in the company training sector which would be counter to wider issues of competitiveness policy aimed at deregulation. Public policy seems to have been

more enthusiastic in using regulation or more stringent quality assurance to place pressure on CPD for teachers, in IVET at least, and much less so for trainers working within companies, even where they have been receiving public funds to support apprentices or other trainees.

Some national measures do refer to CPD for trainers, but on review these are almost wholly linked to teachers of practicum or practitioners with similar roles in training or assessment in IVET. Such individuals may be partly (or even substantially) workplace-based but remain employees or contractors of the provider, and as such are not company employees or subcontractors. CPD requirements or measures aimed specifically at company-based trainers are few, but include, for example:

- (a) recent regulation in Hungary which extends rights to CPD to all skills trainers, in the public and private sector. This stems from legislation in 2005 that comes into force in 2006;
 - (b) the establishment of trainer training agencies in seven French regions to support the pedagogical development of skills trainers, and updating in new training methods for practical skills. Early evidence suggests these opportunities are mostly taken up by non-company-based trainers;
 - (c) in Germany, beyond the long-established AEVO agreements and processes for training and qualification of company or chamber-based apprentice trainers and coordinators there are no regulatory requirement for trainers working with other learners and notably in CVET. However, the Federal Institute for VET (BIBB) supervises pilot schemes for pedagogic development among trainers, partly financed by State subsidies and with academic support. In addition, the major results of this work and other innovations are compiled and issued as course materials by the Institute as trainers' aids to support providers of continuing training for trainers;
 - (d) in the UK and Ireland, company-based training specialists and coordinators have, since 1992, been encouraged to seek professional accreditation through the Chartered Institute of Personnel and Development. This is not compulsory for practice, but retained membership does require a commitment to undertake and demonstrate professional integration of CPD. This remains a largely self-assessed process, and the majority of vocational trainers in the private sector do not seek membership.
- Elsewhere, evidence is limited. There is little evidence that any Member State has been able to successfully tackle the policy tension between more competent in-company trainers contributing to reducing workforce skill gaps and building private sector productivity through in-company learning skills, and measures as reducing constraints and regulation on industry and commerce. Indeed, in Germany, the AEVO sector agreements, which have since the 1969 Vocational Training Act (29), regulated and led practitioners' skills and competence for running apprentice training in the dual system, have effectively been suspended since the Vocational Training Act (*Berufsbildungsgesetz*) of 2005. Here, the government was concerned that these regulations were imposing a brake on company training activity, and have since moved to review the content and scope of AEVOs.

(29) These were modified in 1972, 1992 and 1998, mainly introducing new provisions for chamber (and other) training of these practitioners.

5. Changing situation and practitioner roles

5.1. Introduction

An important feature of this review has been to provide a more dynamic context for the evidence set out in the previous two sections. A key aspect of this has been in looking at the changing roles and situation of VET teachers and trainers across Europe, although this assessment goes a little wider to consider some important labour-market and associated issues for VET practitioners. This evidence is brought together here for the main threads emerging from this review:

- (a) the developments in professional status and changing skills mix in VET teaching and training;
- (b) the changes to VET practitioner roles and the professional knowledge base;
- (c) issues and national developments in reprofessionalising VET teaching;
- (d) the changing VET professional labour market and effects on practitioners.

This evidence is much more fragmented than that for qualification and development of teachers and tutors. It is not clear if this is because changing roles have attracted little interest from researchers or commentators at national level, or are not yet commonplace, or are embryonic. However, a recurrent issue in some of the newer Member States (Latvia and Hungary) and some of the more established ones (Greece and France) is highly fragmented arrangements for delivery, which makes it difficult to assess change over so many different practitioner contexts. Some of the more significant change issues are summarised in Table 7. As with the previous analysis, the national contexts (and available evidence) also often make it difficult to distinguish between IVET and CVET, where delivery systems (or qualification requirements) overlap at national level. To date, there is virtually no distinctive information on changing structures or reforms for trainers, as opposed to VET teachers and tutors.

5.2. Professional status and changing skills mix

One of the consistent features of the review has been that the VET teaching and training professions are changing at an often dramatic rate. However, the features of change seem to be markedly different from one Member State to another, and seem to reflect different legacies (and structures) of professionalisation, as well as different maturity in the modernisation of VET.

Changing skills mixes can take different forms. Endogenous change is likely to see new or enhanced roles undertaken at subprofessional level to reflect some remixing of the functions effecting delivery of IVET or CVET. This can be interpreted as deskilling the professional role of teachers or trainers but may also focus on, or include, role developments aimed at increasing the quality of teaching by bringing in support roles to enable practitioners to focus on the professional dimension of their work. Indigenous change may stem from endogenous change to skills mixes, but more usually stems from new or enhanced functions required of teachers and trainers resulting from new VET structures, new legislation, enhanced quality assurance and/or the impact of new technology on VET delivery and management. Typically, indigenous change may involve either job enlargement or job enrichment. Job enlargement characteristically involves professionals taking on additional functions and activities, while job enrichment is usually centred on refocusing of effort to emphasise enhanced activity in some specific professional activities with diminished (or no) effort on others which had previously been a part of their jobs.

Endogenous changes involving remixing the underpinning professional skills into different (or new) skills seem relatively uncommon. However, they have been a feature in a minority of Member

Table 7. Current national themes for changing IVET/CVET practitioner roles: selected Member States

Comparative teacher/trainer issues identified from national profile			
	Teachers/tutors in IVET	Teachers/tutors in CVET	Trainers
Belgium	<ul style="list-style-type: none"> Policy is placing a growing emphasis on e-learning technologies in mainstream education with knock-on demands for vocational contexts on-the-job training is set to play a more important role in the continuing training of practitioners – and with this mostly at provider level – placing uncertain capacity pressures on some providers. On-the-job training will be a rising feature of the early career development of teachers 	Rising profile for e-learning nationally is not well-placed in CVET where practitioners may have limited skills or with extensive needs for updating.	<ul style="list-style-type: none"> New CVET trainer role set or to be introduced in Belgium to regularise professional activity. rising demands for assessment skills for CVET trainers involved trajectory approach to integrated job-seekers training
Czech Republic	<ul style="list-style-type: none"> Limited CPD supply and narrow in-school opportunities, especially for practicum teacher limited (no?) incentives to undertake CPD lack of learner centred teaching orientation lack of VET teaching resources uncertain impact of new (2005) statutory requirements for pedagogic training (IVET only) 	As IVET	Unregulated and very limited CPD supply
Denmark	Uncertain effects of de-regulation and decentralisation of in-service training and shift to whole organisation focus (from self-directed CPD)	<ul style="list-style-type: none"> As IVET wider role mix in CVET (consultant and educational planner) ongoing demand effects on CVET teacher vacancies/skill mix for provider consolidation 	–
Estonia	<ul style="list-style-type: none"> Dominant legacy of low (no) qualified IVET practitioners resulting in weak IVET capacity weak (no) pedagogical base in existing tutors holding back teacher upgrading programmes 	Immature CVET tradition and lack of differentiated professional development	–

Comparative teacher/trainer issues identified from national profile

	Teachers/tutors in IVET	Teachers/tutors in CVET	Trainers
Germany	<ul style="list-style-type: none"> • Rising demands/professional instability from post 2005 IVET reforms and initiatives to build VET teacher practical knowledge/skills from long tradition in <i>Berufspädagogik</i> • combined capacity constraints from demographic change, low prestige and some skill shortages • possible loss of civil servant status 	<ul style="list-style-type: none"> • Lack of CVET regulation intensify capacity contrasts with IVET professionalisation • high practitioner casualisation leading to difficulties with CPD engagement 	<ul style="list-style-type: none"> • Uncertain policy focus (post 2005/AEVO review) for trainer competence or requirements • gap between HRD and VET trainer traditions
Ireland	<ul style="list-style-type: none"> • There are intensifying recruitment difficulties for some specialist teachers in IVET which are thought to stem from slow progress in raising (low) esteem of IVET practice over school-based teachers. • providers in urban areas can have rising problems with staff retention – and these are set to intensify existing recruitment problems for parts of the sector/specialisms 	As IVET	Rising tensions between the professionally regulated sector (mainly employer based) and often lower qualified IVET/CVET trainers in public programmes
Greece	Highly fragmented requirements and teacher training delivery, lack of transparency	Requirements beyond publicly-funded, CVET are non-regulated	–
Spain	No issues identified	As IVET	As IVET
France	<ul style="list-style-type: none"> • Effects of increasing regionalisation of IVET funding in diversifying CPD for teachers • national policy thrust to increase IVET teacher status 	<ul style="list-style-type: none"> • Diversification of adult training system • embedding learner guidance skills 	Recognised need for greater transparency of process
Italy	<ul style="list-style-type: none"> • National provision (with a largely regionally devolved) structure have been relatively stable but may be impacted by reforms and proposed changes to regulation by the changed of government (e.g. notably for Law 53/03) • uncertain effectiveness of national and regional strategies to boost ICT competence and e-learning skills in IVET teachers, with some regional (and sub-regional) contrasts in capacity 	<ul style="list-style-type: none"> • Asks, functions and skills of IVET teachers and trainers are much more clearly defined than for CVET teachers and trainers but this may change with national proposals (Decree No 166/2001) to raise standards in the informal sector with a model for the accreditation and quality control of the vocational training centres and for 	Uncertainty over impact and integration of the new profile of company tutor – statutory competences via Ministerial Decree 22/00

Comparative teacher/trainer issues identified from national profile

	Teachers/tutors in IVET	Teachers/tutors in CVET	Trainers
		<p>the description of trainers minimum standards</p> <ul style="list-style-type: none"> • rising profile for CVET teachers but these typically have much lower security (and status) than in IVET with more limited access to in-service training – which is not compulsory 	
Cyprus	<ul style="list-style-type: none"> • Prospective development of competence-based entry to regulate current official lists • non-regulated lower skill entry into IVET non-teaching instructor type roll (lower paid) • lack of CPD incentives for teachers (outside ICT) 	Uncertain teacher demand implications from possible consultation of fragmented CVET provision	–
Latvia	<ul style="list-style-type: none"> • Innovations in teacher training in VET (and CPD) have come mainly from international projects with limited indigenous impetus 	As IVET	Wholly unregulated system
Lithuania	<ul style="list-style-type: none"> • Large percentage of established teachers with no pedagogic training, holding back quality • low teacher earnings and low esteem 	As IVET	
Hungary	<ul style="list-style-type: none"> • Rising profile for IVET teacher/trainer CPD and capacity building • limited incentives for CPD engagement 	Increasing focus of developing CPD for adult VET teachers/trainers via regional training centres	Uncertain impact of new rights for trainers to train
Malta	<ul style="list-style-type: none"> • Uncertain impact on workforce of 2004 introduced embargo on post-entry advancement, unless holding pedagogic certification 	As IVET	Policy goal to professionalise the field but no policy focus to achieve this
Netherlands	<ul style="list-style-type: none"> • Rising professional concern with change and curriculum pressures in sector, seen as unsustainable • rising recruitment difficulties for some ROCs and pending retirement losses of experienced teachers 	<ul style="list-style-type: none"> • Concerns with workforce structure/utilisation not supporting CVET reforms (in particular assessment pressures and competence-based reforms) • as IVET 	–

Comparative teacher/trainer issues identified from national profile

	Teachers/tutors in IVET	Teachers/tutors in CVET	Trainers
Poland	<ul style="list-style-type: none"> • Rising policy profile for CPD to upgrade competence in the sector • uncertain role for provider led CPD 	As IVET	—
Slovenia	<ul style="list-style-type: none"> • Challenges for initial teacher/tutor training to build learner-centred skills/ e-learning capabilities • slow adjustment from teacher training providers 	<ul style="list-style-type: none"> • Weaker CPD participation due to high levels of part-time or casual teacher working 	—
Finland	<ul style="list-style-type: none"> • Increasing autonomy in teacher recruitment • integration in CPD of skill/competence assessment and on-the-job learning • policy concern with teacher stress 	<ul style="list-style-type: none"> • Introduction of competence-based qualifications • as IVET, concern with teacher stress 	—
United Kingdom	<ul style="list-style-type: none"> • Intensifying recruitment difficulties leading to capacity/change constraints in some subjects (low esteem, etc.) • low staff retention in parts of sector set to cause difficulties for new (2007) IVET teacher qualification • fragmented emphasis for CPD in diverse national quality improvement programmes (England only) 	As IVET	Rising contrasts between (largely) unregulated HRD type delivery and professional demands on government-funded work-based learning

Source: HOST-Cedefop national profiling, 2006.

States. In the UK, this seems to have been an emerging policy focus, with remodelled staffing and career structures across the primary, lower and upper-secondary education system encouraging the recruitment and training of para-professional roles. These have usually been working in classroom contexts for IVET, although some parallel development has been observed for aspects of CVET (Parsons et al., 2002). These changes have been controversial, but have seen subprofessional teaching assistants and more recently higher-level teaching assistants in schools, and learning assistants in (mainly) VET colleges come to play an increasingly important role in some VET disciplines. There is no evidence that this has led to a reduction in demand for professional-level practitioners.

A more limited skill mix initiative has also seen Cyprus put in place a plan for VET instructors to work on the practical skills demonstration aspects of delivery, although the development here has been opposed as deskilling the roles of some IVET teachers. Beyond this development, changing the skill mix in IVET (and CVET) to introduce para-professional roles as learning support practitioners has been uncommon in the newer Member States, and seems to remain a latent rather than evident feature of VET practice in others.

However, one development which seems to be a feature of changing skills mix among VET professionals in some of the newer Member States has been job enlargement. This has been driven by consolidating some previously distinctive professional roles for teachers of theory and practice in IVET⁽³⁰⁾. Some newer Member States have moved towards abolishing this distinction and establishing a unified practitioner role as IVET teacher and/or trainer in vocational programmes. Faudel (2002) commented on this transformation in Estonia. Here, this feature of VET reform seems to have been stimulated by concerns to move towards a more learner-centred approach to professional practice, previously seen as atypical of the VET (and general education) tradition in Estonia. However, others among the newer Member States where this theory and practice distinction has been a long-standing feature of IVET have retained the job roles within VET reform packages:

notably the Czech Republic, Hungary, Slovenia and Slovakia. This contrasting approach is echoed in established Member States, where Germany and Austria have retained similar functional contrasts for different types of VET teachers and tutors, while others, notably Finland and the UK, have long discarded the contrast, at least in salary and career structures.

Changing the skill mix as a process of VET reform consequently shows limited development across the EU and, where it has taken place, some contradictory directions. The same can be said of one feature thought to be more widespread across the EU, and a brake on the speed and quality of reform in VET: the relatively low professional esteem of IVET and CVET set against that for teachers in general education. Indeed, the evidence base is patchy and lacks transparency. Professional esteem, the achievement or relative absence of it, seems to be taken for granted in much of the national-level reporting, for newer Member States and those more established. There appears to be little empirical evidence on which these assumptions are founded, although the strength and consistency of reporting in some Members States might well suggest a widespread perspective of strong or weak relative esteem. The picture which emerges is of characteristically low relative esteem of IVET and CVET teachers in Estonia, Ireland, France, Lithuania, Slovakia and the UK. There are also reported concerns in parts of the IVET systems in Germany, Italy and the Netherlands with emerging concerns about pressures on practitioners, and their security of employment, affecting future esteem.

It may well be a feature of others, but this is not evident from the available research and commentary accessible at cross-national level. The difficulty seems to centre on the problems set in measuring an essentially subjective and relative indicator, and the absence of appropriate comparative measures of job satisfaction to set against conditioning factors such as relative earnings. In Europe, esteem remains an illusory concept, and without firmer measures which can contrast, and track, changes between different education professionals and between education professionals and others, this is set to remain an

⁽³⁰⁾ On the available evidence, this seems to be uncommon for CVET.

intangible and controversial issue, especially in those Member States where this is felt to hold back the quality of those taking up professional training, and their subsequent retention within the career. This contrasts with the reported situation in Australia, where evident difficulty in the 1980s and early 1990s with a diminishing stature for IVET is seen to have reversed in some parts of the upper-secondary system as federal and state/territory-level VET initiatives to boost quality have seen a stronger emphasis and funding support for upskilling. Even here, it is difficult to isolate these effects drawn from satisfaction levels of practitioners from enhanced pressure and weaker earnings differentials elsewhere in general education.

Whatever the true situation on esteem, it is clear that Europe sees considerable contrasts between Member States. If at least six Member States have significant and apparently intensifying issues with low esteem, it seems VET practitioners enjoy high status in some others, and notably in the Czech Republic, Denmark, Cyprus and Finland. Different features seem to underpin the apparent attractiveness and esteem of VET teaching in these countries. In Cyprus, it seems to hinge on the profile of teaching generally, and long-established structures for selection to what remain civil careers widely regarded as secure and sought after. In the Czech Republic, Denmark and Finland, the processes are less clear, but may reflect the wider status given to learning in those societies backed by rising autonomy and independence of professional practice for those engaged.

In Member States said to be characterised by lower esteem for VET practitioners, this is commonly linked to relatively low earnings levels. There is some evidence to support this, notably in Estonia and Lithuania, where average earnings for IVET teachers are said to be below the national earnings average. This is evident also in Slovenia, where the low esteem has attracted central policy interest and concern about effects on losing experienced and capable VET teachers, and with the consequence that over a third of all upper-secondary lessons are taught by unqualified staff. Here, the national programme for Upbringing and

Education has commented on these shortcomings specifically: ‘the insignificant valuing of the work of (vocational) teachers and tutors as well as unsatisfactory financing of education have resulted in a critical situation in the Slovak Republic’.

However, attempts in Slovakia to ratchet up VET teacher earnings have had limited success, with government only able to fund a part of boosted pay levels, with other support coming from providers’ staffing budgets. In many providers, the result has been for providers to accommodate these added costs by reducing discretionary expenditure on teacher benefits, making non-wage compensation less attractive within the teaching package.

Elsewhere, the effect seems to be linked to relative earnings within teaching more generally. The UK, in particular, has seen falling esteem for college-based IVET teachers and tutors as earnings increases for school-based teachers have outpaced those for practitioners in much of the post-compulsory sector. This has been an indirect consequence of government attempts to tackle falling applications for initial teacher training for schools, and problems of retaining newly-qualified teachers.

The significance of earnings in the relative esteem of VET practitioners is difficult to assess. Much of the commentary on which this assessment is drawn is anecdotal, and does not seem to draw on research which has attempted to tackle the difficult challenge of establishing a causal link between actual or perceived earnings and something as subjective as professional esteem. Even an attempt to benchmark reported esteem, or changes to it, with VET teacher earnings trends at national level is beset with difficulty in the available data⁽³¹⁾. The data does show, however, that three of the four OECD countries with the most robust increases in VET teacher earnings in 1995-2002 (Hungary, England and Scotland) have reported low professional esteem, and these sit alongside Finland, which seems to enjoy one of the highest reported esteems for VET professionals across the EU.

While relative earnings is widely seen (if not substantiated) as a common factor, this review suggests that such effects are compounded by

⁽³¹⁾ The main comparative source and commentary on earnings changes is from OECD (2005). This shows limited comparability between national data sets

other specific national effects. In Austria, for example, the unsuccessful campaign to have IVET practitioners accorded civil servant status is seen to have a damaging effect on the status of the profession. This does not seem to yet affect trainers since these operate almost wholly within the private sector or in personnel support roles in the public sector.

The review also shows some countries adopting specific strategies to boost professional status in IVET (less commonly in CVET). In France, a system where much VET funding and professional development is devolved to regional level (and below), the Ministry for Youth, National Education and Research has taken a central initiative to help boost the value of IVET practice. This centres on a range of reforms implemented under a 2003 strategy which, alongside structural reforms and upgrading initial and continuing VET training, have sought to enlarge the teaching skill mix (to make jobs more diverse), customise professional training, provide early career support, and boost the use of ICT in IVET. The effectiveness of these measures is unclear, and it is expected to take some time to become effective. Some similar measures have been adopted also in the UK, but these have been supplemented here with specific reforms to IVET earnings aimed at supplementing starting pay for those in shortage subjects, as well as providing for salary enhancements for individuals in later career, where these are designated as advanced practitioners. Here, the measures seem as much about reducing early career losses as enhancing professional esteem. Evaluation evidence of the effectiveness of measures aimed at boosting VET professional esteem remains thin, but any assessment may be set against cautionary experience from Australia. This suggests that once professional status is damaged or eroded, it can take a very long time for policy to start to reverse the trend (Dickie et al., 2004).

None of this analysis has looked at the effects of changing professional status or skills mix on VET trainers: those operating in companies to coordinate or deliver workplace provision. The evidence base here is remarkably thin. Even in countries such as the UK, which have seen some policy interest and professional education measures to enhance the practice and knowledge base of VET trainers, there is very little evidence of how their professional practice is changing.

5.3. Changing professional roles and knowledge base

Commentators have talked about some of the underpinning developments in VET teaching and training leading a transformation of effective VET practitioner roles. In particular, Grootings and Nielsen (2005a) have talked in the newer Member States about the impact on the profession in Europe of ‘a new paradigm of active learning’ which draws together more learner-centred approaches with teachers needing to draw on more interactive learning resources and methods for facilitating learning. The empirical evidence for this in these Member States seems limited, but it is reflected in a variety of professional reform programmes.

In an important comparative analysis, albeit limited mainly to the then accession countries and also some transitional economies, Grootings and Nielsen (2005a) suggested that the main driving features of this new model focus for VET professional practice were:

- (a) an accelerating quest in national policy for greater quality and relevance in VET;
- (b) more widespread decentralisation of governance of VET;
- (c) a rising profile for active learning to engage and personalised learning methods;
- (d) a trend in VET systems away from learners securing qualification to demonstrating competence;
- (e) greater embedding of learner-centred guidance and counselling in VET programmes.

These features were seen as strongly represented in changes to the practice of IVET and CVET professionals in these economies. However, this might also be taken to reflect similar pressures in some of the more established Member States, with some common influences such as developments aimed at common qualification frameworks, increased provider-autonomy (in many Member States but not all) and also rising demands on quality assurance arrangements that are directly affecting practitioners. This review is not the place to reflect on the continued currency of these pressures for change. However, it does illustrate some of the effects at national level on an apparently changing and widening knowledge base for VET practitioners.

In newer Member States, one fairly common

thread has been national policy initiatives to introduce more student-oriented teaching and learning approaches. The features of this are not always reported in detail, but seem to include an emphasis on new or modified professional knowledge and practice in initial (and continuing) assessment of learners, teamwork, communication skills, and critical thinking. Such developments have been long recognised in some of the established Member States and in some, such as Denmark and Finland, have become an important feature of more self-directed approaches to professional practice. Other established Member States, such as the UK, seem to continue to aspire to enlarge this capacity in IVET⁽³²⁾. In newer Member States, these developments seem to have come about especially within the framework of internationally assisted reform programmes, with Phare a common focus for building such professional reforms and sharing practice.

The available evidence suggests this has been a particular challenge for those countries where many existing teachers have come into a VET profession dominated by teacher-centred delivery, with little or no development of learner-centred assessment or delivery of concepts such as personalised learning (e.g. the Czech Republic, Estonia, Latvia, Lithuania). The situation in Slovenia illustrates this well. Here, initial teacher training for IVET and CVET teachers and trainers working in providers is well established, but is seen to lack adjustment to concepts of facilitating vocational learning. VET programme evaluations for the Ministry of Education and Sport in the 1990s consistently showed high drop-out rates among vocational programme learners, which were linked to unsuitable teaching methods which were not adjusted to students' abilities. A subsequent Phare-funded MOCCA project identified some solutions around learner-centred methods which could help modernise the training of VET teachers. The Slovenian Higher Vocational Act of 2004, which came into effect in the 2005-2006 academic years, is expected to support reforms to initial and continuing training of VET teachers which enhances this capacity.

These challenges to widening the professional knowledge base are not restricted to the newer Member States, and a weak pedagogic base

for many established teachers results in similar challenges for some of the established Member States. Consequently, similar challenges have long been recognised in the UK, and particularly for VET subjects, which had traditionally relied on teaching by vocational specialists, often with little or no pedagogical foundation. Here, evaluation studies of VET programmes have been a consistent feature of evidence-led policy in VET, but many of these studies seem to have been slow to look to practitioner determinants of weak performance in some programmes, and notably for often low student retention and achievement rates. Inspection reports from the independent Adult Learning Inspectorate in England have been quicker to come to this conclusion. These have been an important stimulus to more recent programmes aimed at building more learner-centred teaching methods (and resources) through a series of pilot studies in 11 subject areas between 2003 and 2006. Some of these reforms have now been brought together in the newly-established Quality Improvement Agency, funded by central government, and are part of the National Transformation Fund for the post-16 sector.

Although the development and use of what some have come to refer to as personalised learning approaches in VET remains a recurrent feature of an expanding knowledge base for professionals, the review shows other influences, and in particular:

- (a) the increasing use and embedding in teaching and assessment practice of competence-based qualifications;
- (b) development of ICT literacy and e-learning knowledge among practitioners;
- (c) practitioner support to building provider and programme responsiveness to changing and emerging labour-market skills needs;
- (d) programmes for supporting wider practitioner links and experience of vocational practice in industry and commerce;
- (e) integrating guidance and counselling into the knowledge base of VET practitioners.

Although there are some relative common features in widening the professional knowledge base of VET teachers and trainers, many at national level reflect more localised factors, and perhaps a legacy gap from past initial training (or its absence). This analysis

⁽³²⁾ The UK's three-year programme of Post-16 teaching and learning frameworks funded by the Department for Education and Skills (2003-06) has focused in particular on learner-centred teaching methods as a way of upgrading teaching quality in the post-16 sector.

focused on those factors which have emerged from this review from at least three Member States as development issues with at least some national responses.

Changing skills needs and competence-based qualifications in VET: the increasing use and embedding in teaching and assessment practice of competence-based qualifications, and associated approaches to skills demonstration, for VET learners. In several Member States, this is having a significant impact on practitioners where they are used to examination-based accreditation, or knowledge-based assessment, and in particular in IVET. The issues seem to affect newer and established Member States, those new to competence-based IVET and CVET, and those where it is more established. Available evidence (for Estonia, Cyprus, the Netherlands, Finland, among others) suggests this is a nationally recognised issue for the VET professional skills base.

National evidence tends to be stronger in reporting this as a challenge, rather than for setting out the particular issues for enlarging the knowledge (or skills) base of professionals. This seems to relate to changed delivery methods for more personalised learning, but commonly cites themes about emerging or enhanced practitioners roles in competence (and skills-based) assessment and verification systems. One illustration from Finland, for example, suggests the challenges go beyond new curricula and assessment systems to developing practitioner ability to support learning and assessment across different settings. In Finland, the substantial reform of the VET system in 1999-2000 has seen progressive implementation of competence-based approaches across the IVET qualification spectrum, with skills demonstrations (and assessment) incorporated into all upper-secondary vocational qualifications by August 2006. This is seen to require not only skills in competence assessment in VET teachers and tutors, but also working practices which more closely align institutional delivery with learner practice in industry and commerce. The Association of VET Colleges here has identified this as one of the six main challenges to building the responsiveness of VET practitioners into 2010, with central government also launching the new *nayttotukkintomestari koulutus* qualification (specialist in competence-based qualifications) to support this.

ICT literacy and e-learning: Section 4 has

shown that where evidence is available, nearly all Member States have some programmes in place to support the development of ICT skills among VET practitioners, although in some cases they seem to lose out to their counterparts in general education. Mostly this seems to centre on the individual skills and knowledge of practitioners in using ICT, but several programmes link this more specifically to developing the knowledge and capabilities of VET practitioners in multi-media methods, and particularly e-learning. This would seem to be a common thread in the enlargement of the knowledge base of VET teachers and tutors, but the evidence often lacks transparency on if and how it is distinguished from general levels on ICT competence.

Responsiveness to changing and emerging labour-market skills needs: Grootings and Nielsen (2005a) has identified the rising demands on VET practitioners brought about by more reforms of curricula, and learning settings, in line with new labour-market needs. Looked at across the EU, this has different facets and combines adaptations which are aimed at meeting new knowledge and skill needs for learners in new technologies, materials and working practices, with a stronger focus on basic employability skills such as language and literacy, numeracy, communications, and ICT. In some Member States, this has seen important developments in VET practitioners being able to accommodate, and embed, core skills training into mainstream delivery (the Czech Republic, Estonia, Ireland, the Netherlands, Slovakia, and the UK). Again, the demands on VET practitioners are not limited to those in newer Member States where employers, among others, have been looking for rapid evolution to enhance provider responsiveness, and support the emergence of market economies and more flexible labour markets. In some of the established Member States, similar demands have intensified on mainly IVET teachers (but not usually trainers) as components of vocational qualification reform (as in the UK), or employability programmes targeted at those disaffected with learning or in (or at risk) of longer-term unemployment (Ireland, France, the Netherlands and others).

None the less, these developments (or their intensity) seem more rapid and acute in some of the newer Member States. In Estonia, for example, three key policy documents (HM, 2005a; 2005b; State Chancellery of Estonia, 2005) have aimed to build

greater VET provider responsiveness, and together have been seen as a foundation for raising the quality of labour. The measures taken include improving the quality of the education system, including introducing a system for acquiring occupational qualifications (2006) among practitioners. This is supported with the financial assistance of the European Social Fund, and includes a training model for workplace supervisors developed and applied with a first group of supervisors in 2005-07. According to the action plan for developing the Estonian VET system 2001-04, all VET programmes should have focused on new core skills. In Lithuania, newly designated Industrial Lead Bodies⁽³³⁾, who are representatives from a priority vocational areas, determine the new (and changing) knowledge and competences to be acquired by VET teachers to respond to changing labour-market needs from the new technologies. The Industrial Lead Bodies assess the labour-market needs in a specific economic field, define the priorities for developing VET standards, assess current practitioner knowledge and skills gaps, and according to this analysis, approve and recommend a list of modern competences needed by VET teachers.

Practitioner links and experience of vocational practice in industry and commerce: many Member States continue to recognise a distinction between VET practicum teachers and tutors, and those emphasising more theoretical content or disciplines. Section 3 shows that where this is retained, it is often underpinned by different recruitment pathways, and a requirement that lower-level requirements for teacher attainment in general education are combined with requirements to achieve specified levels of occupational certification and/or length of practical work experience. Not all Member States follow this model, but even where they do, practitioners with substantial work experience can see the currency of this knowledge erode in rapidly changing technologies and operating systems. Consequently, programmes to boost practitioner awareness of industry and commerce (evolving materials, processes and technologies at the workplace) are becoming a common feature of VET modernisation policy, and of provider reform and responsiveness. Details of national-level responses here are limited from the

available evidence, but suggest that in established Member States these may be long-established, but often peripherally supported, programmes.

These programmes may have greater profile and currency in some of the newer Member States, although this does not seem to be commonly reflected in programmes of practitioner development.

There are exceptions. In Cyprus, for example, a long-established HRDA programme supports the modernisation of the VET infrastructure of both public and private training providers to provide skills training more effectively, and to meet emerging human resources training needs in sectors, occupations or areas of priority. Adopted in 1986, this allows secondary, technical and vocational education (STVE) teachers and trainers to become attached to industry on a full- or part-time basis, with their salary being paid by the state. The aim is to offer these teachers the opportunity to update their knowledge and keep abreast of technological changes. They also act as links between STVE providers and industry, and therefore enhance the cooperation between them.

A more recent initiative among newer Member States has been from Poland, where employers have been obliged since 1999 to release staff to teach in a vocational school for up to 6 hours a week or 24 hours a month, to build links between industry and vocational education. However, Faudel (2002) comments that here it remained difficult to attract specialists due to the salary level, and in practice positions were filled by retired people. More recently, agreements concluded between the Ministry of National Education and employers' organisations have sought to support placements for VET practitioners through nationally coordinated agreements with different employers' organisations to create opportunities for vocational teachers to update their knowledge and skills. This has been organised by the Ministry of Education and Sport, and is fully subsidised for teachers of practical vocational subjects and training instructors from providers. The initial impact has been limited, with just 171 teachers taking part in 2004, the first year of the programme, out of 7 000 across Poland.

Among all Member States, Estonia seems to have gone furthest here, putting increased emphasis on practical skills in vocational education for VET

⁽³³⁾ These are based on a social partnership model and bring together lead employers, trade unions, and specialist VET institutions.

practitioners. Here, in 1999, it was made compulsory for vocational teachers to undergo enterprise-based training for at least two months during each three years of service. This seems to have been an attempt to parallel a requirement for general subject teachers in upper-secondary education to participate in at least 160 hours of continuing training during each five years of service. Participation is a statutory requirement, but as an added incentive, taking part is taken into account in evaluating teachers and in the award of career grades. The reform seems to have been endorsed further by the vocational education development plan 2001-04. However, although enshrined in policy, the placement programme has had substantial implementation difficulties, and by 2002 the compulsory industry-based training for vocational teachers had yet to be implemented three years after it was launched.

Integrating guidance and counselling into the knowledge base of VET practitioners has been cited by Grootings and Nielsen (2005a) as an emerging feature of VET practice and the widening knowledge base of practitioners. Unfortunately, the evidence base for this across nearly all Member States as yet seems to be limited, although it may remain a more current, or embryonic, development not yet emerging from the evidence available to this review. Where this is cited in national-level documentation (³⁴) it seems to relate more to the capacity to support inter-professional collaborations between VET teachers and trainers and those engaged as information advice and guidance (IAG) specialists, where IAG has emerged as a distinctive and professional level activity in IVET (uncommonly in CVET). However, it may also affect some job enlargement pressures for teachers and trainers with individuals in VET (more than in general education) being faced with developing enlarged skills from hybridised functions crossing teaching and IAG. In some countries, such as Ireland, the Netherlands, Finland, and the UK, there has been an intensifying public policy debate on the balance between specialist IAG functions and those embedded in mainstream teaching and training functions in VET, although even here there seems to be little objective evidence mapping the practitioner-level effects of new initiatives and developments.

5.4. Reprofessionalising VET teaching

Tackling these and other intraprofessional pressures for change is recognised to present substantial challenges for VET professionals. de Rooij (2005) has suggested that in the newer Member States at least, this adds up to a need for what has been seen as a reprofessionalising of VET teachers and trainers.

The analysis is controversial. In Australia there has been a debate among policy-makers if VET can be seen as a distinct profession, and conclusion seems to suggest that here it does not (e.g. Cedefop, Lassnigg, 2001). In particular IVET and CVET practice does not meet what are regarded as professional attributes for practice such as defined standards of practice and self-regulation. Here this also contrasts with these pillars for professional status being long established for teachers in general education, some of whom practice in TAFE institutions. There seems to be no parallel for such a debate in Europe, perhaps because of the complexity of the inherited systems at national level and difference in national perspectives on professionalism.

The reprofessionalising argument may consequently have insecure conceptual foundations and also conceives an existing professional asset base for some of the smaller of the newer Member States (notably Estonia, Latvia and Malta) which is at best illdeveloped or embryonic. It may also imply the re-mixing of professional-level skills for practitioners to build and sustain their effectiveness against a background of VET modernising across Europe. The evidence for such change (and notably endogenous skills mix) remains limited across most Member States.

The empirical evidence for reprofessionalising is consequently unclear. While this review confirms there is extensive activity aimed at building professional competence, it remains fragmented, with contrasting (and some contradictory) directions. At the same time, the scale of these efforts in some Member States does suggest attempts to improve or reforge a knowledge and skills base which, in different ways by different Member States, is seen

(³⁴) Available in this review only where captured from cross-national efforts to assess change, and from the six countries reviewed in more depth in this analysis.

as not well placed to meet the current demands placed on the quality and responsiveness of VET delivery. Many Member States are looking to a similar end-result, with VET teachers and tutors with a strong general education background, often at degree level, and appropriate vocational expertise linked to a robust and modernised pedagogical foundation, with an ongoing commitment to update this knowledge base, vocational as well as pedagogic, and to share this expertise to improve wider practice. For some of the newer Member States, and for practitioners in some parts of the VET system in others, there remains considerable distance to travel for individuals currently in practice to achieve this.

Reprofessionalisation is set to present a diversity of challenges for Member States, both for reform of IVET teacher training, and for continuing education aimed at upgrading, or extending, the skills and knowledge base of existing practitioners. Sections 3 and 4 have set out recent developments in both areas across the EU, but the evidence to link this to a consistent policy direction for reprofessionalisation is limited. Whatever the case, and as noted in Sections 3 and 4, for many Member States the response is fragmented, often aligned to complex and widely distributed funding systems, where different funding agencies respond to any reprofessionalisation and adaptation needs of practitioners in different ways. The fragmentation seems particularly acute in Member States such as France where, for CVET in particular, a complex structure of different policy leads by central government agencies, and a tradition of regional funding and responsiveness in CVET, has resulted in a patchwork of responses.

Three issues do emerge, however, which identify what may be some of the more common barriers to reprofessionalisation. The first, and most widespread, is centred on building the capacity of the professional education system to respond to the initial and/or continuing development implications. This seems more acute for CPD, perhaps reflecting that most Member States have an entry-level training and accreditation system in place, and which is capable of adjustment to new and changing professional demands. However, reported concerns about enlarging the professional knowledge base have

often centred on programmes to build or upgrade the pedagogical knowledge and competence of practitioners. These seem more common among the newer Member States, where they are often rooted in preaccession development programmes and reform packages in VET capacity.

For some, these reforms for practitioners are long established, although continuing to evolve (Estonia, Lithuania). For others, the implementation of strategy is very recent, although these are often thought to have much deeper roots of concern about the quality of VET teaching inputs and responsiveness to modernisation pressures. For example, both the Czech Republic and Latvia have raised concern at the capacity of providers of CPD to respond to the scale of the challenge. In the Czech Republic, this centres on the quality of infrastructural responses to the 2005 reforms requiring compulsory pedagogic training for all existing IVET teachers. Here, there is particular concern that the capacity of CPD providers, particularly in higher education-based providers of pedagogical education, remains insufficient to rise to the challenge.

A second dimension of constraints to any reprofessionalisation seems to be how, beyond statutory compliance, to engage existing practitioners in the adjustments. Some Member States, as noted in Section 4, may already be well placed to address this, particularly where CPD is linked to progression or earnings differentials within teachers' pay and conditions. However, systems which have relied on self-motivation by practitioners, or provider-level policing, have seen some problems with participation. Here again, the Czech Republic, among others, has also seen limited past engagement of practitioners in CPD, and may lack the pay and reward structures for incentivising professionals to take part. Similar concerns have been raised in Hungary.

A third factor may reflect how reprofessionalisation is placed in CPD and associated systems against a background of rising levels of stress on the practitioners expected to engage, and their ability to absorb and accommodate this. While this is likely to be a feature of many Member States, and perhaps all, the evidence for a conscious response at policy level is limited. One example, however, is in Finland,

⁽³⁵⁾ Cedefop, national VET systems: training of VET teachers and trainers: comparative presentation. Available from Internet: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis-comp.asp [cited 19.7.2007].

where continuing reforms of CPD to better prepare practitioners for changes is seeing extensive local and national-level actions. As a result, the levels of engagement on VET teachers in continuing development in Finland are five times higher than for counterparts in general education. The reforms are consequently seeing policy putting in place local packages for support of VET practitioners to help with the well-being of teachers as they implement new curricula, new pedagogical methods, and address more heterogeneous learner groups.

A fourth factor which may impair any coherent approach to reprofessionalisation lies in national resourcing, or prioritisation of any funding for CPD. There are some reports that, while CPD strategies in particular are well advanced, the funding systems to support this may be underdeveloped or do not provide sufficient prioritisation for VET teachers and trainers against those teaching general education subjects.

5.5. Labour-market effects on practitioners

For many of the established Member States, modernisation, deregulation and devolution of the VET sector has also seen some knock-on effects for issues of practitioner demand and utilisation. Some commentators⁽³⁵⁾ have speculated that Member States with devolved VET and provider level recruitment (and competitiveness) are now more likely to be experiencing recruitment difficulties for practitioners. This may be the case although from this review the empirical evidence to support this seems limited. In addition, some Member States with state centred recruitment of IVET teachers (e.g. Germany) are also reporting recruitment difficulties and growing concerns about future practitioner supply.

Consolidation, and interprovider competitiveness, is a rising issue in VET modernisation, notably for CVET, but also for those parts of IVET operating in a market context. This is seen to be advanced in Germany, Austria, and the UK, and in each case has seen an increasing number of privately run, profit-oriented CVET institutions entering VET provision, and often with different employment practices for teachers and tutors than those in publicly-funded

institutions. Similar effects may be experienced where central government is looking to increase efficiency, ratchet up regulation and standards, and/or consolidate provision into fewer or more differentiated VET providers. In Cyprus, for example, demand for qualified VET teachers is expected to fall following the effects of proposed consolidation of CVET, which is currently highly fragmented and largely unregulated.

Although the VET system is more mature and regulated across Denmark, similar concerns have been raised here about teacher demand with CVET consolidation. The UK has already seen significant consolidation with mergers of some of the publicly-funded institutions, and also streamlining of the contracting arrangements for non-public and voluntary sector providers of VET seeing a reduction in a half of the numbers of national suppliers. However, weak staffing data across the sector in the UK means that the effects on demand for VET teachers and tutors is unclear, although there is no reported reduction in recruitment difficulties for those VET subjects affected by skill shortages for teachers.

Beyond this, the review paints a patchy picture of levels of future demand for VET practitioners. In general, demand planning is either immature where conducted by national agencies (Cyprus, Hungary, Poland) and this information is not easily accessed, or is highly fragmented, with rising provider autonomy also seeing training policy at national level relying on market forces to regulate any imbalance in future supply. However, the review has shown some concerns with future effects on VET teacher demand, albeit with apparently contradictory effects:

- (a) some of the newer Member States see demand falling in IVET with changing student choices between general education (e.g. university) and vocational pathways moderating future demand. This might in turn be affected by greater demand for teachers resulting from structural effects on IVET providers (and programmes) seeing falling student:teacher ratios in VET. Here, some of the newer Member States have seen substantial declines in recent years, but in none does this seem to be a continuing feature of rising demand for practitioners. Indeed, some (Estonia) anticipate an impending reversal consequent on restructuring effects;

- (b) many Member States have also commented on the demographic trends moving towards zero population growth, and the more immediate consequences of demographic trends as the fertility effects of the post-war baby boom generation move through education. These anticipate a sharp fall in IVET learner rolls through the decade and beyond, with VET providers looking to compete for student choices in an over-capacity upper-secondary education system, and probably needing fewer practitioners to meet demand levels;
- (c) another, and more direct, demographic effect is on the practitioner population itself. High levels of replacement demand due to those leaving VET practice are commonly anticipated in the medium term as the professional population ages and retires. Again quantification of this as a demand effect is rarely available, but any effects are set to boost levels of new entrant supply to fill vacancies arising.

Although these are current issues for nearly all Member States, they are generally seen as medium-term planning issues, with little or no evidence of current effects on teacher supply. This may be because any such effects are difficult to interpret against widespread restructuring of the sector and/or (mostly in the newer Member States) a recent sharp fall in student:teacher ratios in upper-secondary education.

Whatever the situation, these changes do seem to have been accommodated within current teacher supply (there is rarely evidence available for trainers or training supervisors working in a workplace setting). In particular, there appears to be little or no evidence of rising skills shortfalls for IVET or CVET teachers, even in Member States which report low esteem for the profession against others. Indeed, where such shortfalls are apparent, they relate to subject-specific influences where VET

teaching seems to be a less attractive option for new (or mid-career) entrants, and notably in ICT and modern foreign languages.

Some Member States report continuing attractiveness for entry to VET teaching boosted less by attractive earnings than enhanced job security (in particular where the profession has secured or sustained civil status (Cyprus)). However, others have reported that continuing demand for vacancies in several the newer Member States is boosted by high levels of unemployment elsewhere, and limited opportunity for new graduates or diplomats in the wider labour market. Here, entry to VET teaching (often a second choice to general education) has been described (Faudel, 2005) by some as an alternative to unemployment.

In general, the labour-market contextual evidence for VET teachers and tutors across the EU is weak, and for trainers almost non-existent. This seems to be held back by a combination of weak staffing data and collation systems in some Member States, and fragmentation of funding and contracting systems in others. However, there is little reported evidence of any current labour-market crisis for posts or vacancies for new entrants to the VET professions. In a minority of the established Member States, such as Ireland, the Netherlands and the UK, there is evidence of more extensive skills shortages. These seem to be driven by rising labour turnover among established professionals increasing vacancy levels and intensifying some difficulties reported for new supply being held back by relative low prestige, and low entry-level earnings. On this evidence, the labour-market situation for VET professionals remains buoyant across much of the EU, although with some latent difficulties linked to demographic changes, and perhaps also the demands on individuals for higher-level qualifications before entry, and diminished job security.

6. Teachers/trainers and VET modernising

6.1. Introduction

The review was also tasked with looking at the available evidence across the EU of teacher/trainer effectiveness as change and innovation agents in the VET modernising agenda. There are several facets to such engagement which have been brought together in this assessment to review in particular:

- (a) VET teacher/trainer engagement directly or through representative structures in expressing the VET modernising agenda at national (or regional) level, or in bringing professional expertise to associated policy developments;
- (b) VET teacher/trainer engagement as practitioners in implementing specific change and innovation responses as part of VET modernising agendas at national, regional, or local level, and within individual providers.

The evidence for both forms of engagement in VET modernising are brought together here. Unlike that available for much of the foregoing analysis (Sections 3, 4 and 5), this evidence is very limited. It remains to be seen if this is because the engagement issue has attracted little interest among VET researchers and analysts, or because in most Member States there is little engagement for them to draw on. This is an important distinction. This section of the report consequently concludes with a contribution which aims to contextualise this discussion, by looking at what evidence is also available of barriers that may be affecting the direct (or proxy) engagement of practitioners in the modernising agenda.

6.2. Professional engagement in articulating the VET modernising agenda

VET teachers and trainers may have a variety of pathways for influencing the shape and prioritisation of the VET modernising agenda at national (or subnational) level. The options are likely to vary

with the national structures and traditions of social partnership, and also the maturity (and focus) of professional integration or lobbying systems. The HOST assessment, summarised in Table 8, suggests great diversity in such arrangements, and in particular actions by representative or interest groupings for VET practitioners that include:

- (a) trade unions, with a widespread and important role in reflecting (educational) practitioner engagement in VET modernising, through social partnership and social dialogue with policy-makers, and more direct engagement in collective bargaining with employer groupings among providers (where these exist);
- (b) sector-specific VET agencies, expert or interest groups, or quasi-autonomous development agencies in VET (or parts of the sector) that are cross-provider in focus. These are very diverse in scope and constitution. They include non-executive specialist agencies of government which have independently appointed managing boards, and may function as central VET development agencies, or largely autonomous expert centres (sometimes attached to individual universities and sometimes separate), whose focus may be more on knowledge development and dissemination;
- (c) professional associations and independent membership bodies, usually independent of government or political affiliation. The nature of these bodies for teachers and trainers in VET varies greatly across Europe, but they are generally concerned with sustaining and building the knowledge base and standards of practice for VET practitioners;
- (d) subject associations within disciplines associated with largely VET content and outcomes, and which act as either as mini-professional agencies, or as knowledge-based groupings drawing together practitioners (from VET and elsewhere) to develop and reflect a subject base and its application in different tiers of the educational system.

According to the previous analysis (Section 3), these opportunities are also likely to be different

for IVET/CVET teachers and tutors, as opposed to trainers. Indeed, the evidence for trainers' engagement through professional, representative or other structures is very limited.

However, each of the pathways identified is considered in the following analysis for IVET and CVET teachers, although the evidence base does not always support such a distinction.

IVET teachers in general have a limited role in re-shaping VET structures, although there is more evidence of involvement in modernisation which centres on curricula, resources or content reform (considered in Section 6.3).

On the available evidence, it seems that among different membership and representative bodies, trade unions dominate the processes for influence, although with very different experiences across the different Member States. These influences are not easy to disentangle. In countries with established tripartite or similar arrangements in educational policy, VET reforms can be traced to such dialogue, but without any clear differentiation of the impact of trade union contributions (or of employers or non-governmental interests). The field-specific National Education Committees in Finland, for example, are an illustration of social partner-led reform, which in VET are thought to improve cooperation in policy developments for VET (and other education fields) between practitioner representatives from education and working life, policy-makers and the National Board of Education. However, the distinctive role of practitioners through trade unions in these committees is difficult to unpick from non-union contributors from employers in industry and commerce, employers among VET providers, educational administration, funding agencies, and professional bodies. None the less, in several Member States (Ireland, Greece, the Netherlands, Austria, Finland) this review suggests there is evidence from policy document endorsements and from commentators that trade unions were significant players in reform arrangements particular for entry-level and continuing training structures.

Even in Member States with a robust social partnership tradition or other arrangements for social dialogue, it seems that the nature of VET teacher and trainer engagement through this route varies greatly. On the available evidence, this seems to be affected substantially by contrasts in

trade union organisation nationally, and different priorities given to VET modernising issues in collective bargaining and wider social dialogue with policy-makers. In particular, the influence of VET teachers may be substantially affected by contrasts in the organisation and membership of different national trade union structures. Here, there is some evidence that educational trade unions with a wide membership (primary, lower and upper-secondary schools, academic and vocational, school and college/technical school) may have competing VET and non-VET interests reconciled in favour of those areas with larger membership, which may not profile or favour the distinctive interests of VET teachers.

Unions may also have a limited capacity to contribute where the reform agenda is intensive and diverse. This is especially in the newer Member States, and others with substantial educational reform agendas, where they face responding to a much wider educational change agenda. Not all unions may have the necessary professional structures to contribute effectively. Here, priorities may not always place much emphasis on VET modernising issues beyond those directly concerned with protection of members' interests in employment security, remuneration and reward. In these situations, the active involvement of trade unions in shaping aspects of VET modernisation agendas may act ineffectively in reflecting VET practitioner interests or expertise.

In Malta, for example, the Malta Union of Teachers has been an important stakeholder in policy debate on professionalisation of all teacher training and in-service development. However, with a membership dominated by school teachers' inputs to shaping programmes such as Tomorrow's Teachers have been seen to have emphasised expectations and needs in lower secondary education and non-VET providers (Sultana, 2002).

There are some clearer illustrations of trade union influence in the newer Member States, where the VET reform agenda has been most current and often extensive. In the Czech Republic, for example, consultation by Ministry of Education on the proposed national programme of education development saw extensive debate on integrating issues of teacher professionalisation, and in particular pedagogic weaknesses in IVET (Faudel, 2002), and where educational trade unions were

Table 8. Practitioner effectiveness as VET change agents: IVET

	IVET/CVET teacher/trainer engagement in VET modernising agenda through:				
	Professional associations and similar	VET sector-specific agencies/interest groups	Subject associations	Trade unions	Other
Belgium	✓	✓	?	✓	✓
Czech Republic	–	–	–	✓	✓
Denmark	–	✓	–	✓	✓
Estonia	?	–	–	?	–
Germany	–	✓	–	✓	✓
Ireland	✓	–	–	✓	✓
Greece	?	–	–	✓	✓
Spain	✓	✓	–	–	–
France	–	–	–	✓	–
Italy	–	✓	–	✓	✓
Cyprus	✓	✓	–	✓	✓
Latvia	–	–	–	?	?
Lithuania	–	✓	–	?	✓
Luxembourg	–	✓	–	?	✓
Hungary	–	✓	–	?	–
Malta	✓	–	–	✓	–
Netherlands	–	✓	–	✓	✓
Austria	–	✓	–	✓	✓
Poland	–	✓	–	✓	–
Portugal	–	✓	–	✓	–
Slovenia	✓	–	✓	✓	✓
Slovakia	–	–	–	?	✓
Finland	–	✓	–	✓	✓
Sweden	✓	–	✓	–	✓
United Kingdom	✓	✓	?	✓	✓

Note: ? indicates information not available, or unclear, from reviewed literature.

Source: HOST-Cedefop national profiling, 2006.

seen to be particularly active contributors. This saw the subsequent publication of the reform programme (Prague 2001) including a separate section on ‘educational staff as supporters of changes’ which raised issues relevant to professional reform among VET teachers/trainers.

Trade union structures, such as in the UK, which have seen a more distinctive focus on VET, with unions or divisions within them focusing on post-compulsory education, may be better placed to contribute to informed debate on VET modernising issues. However, capacity may not always be

reflected in breadth of engagement. In the UK the former National association for teachers in further and higher education, now restructured, has often focused its policy inputs on issues of remuneration, salary structures, and job tenure, although there is more recent evidence of closer engagement with reforms in pre-service teacher training and IVET/CVET teacher qualifications (Parsons and Wilson, 2006).

In the UK, formal tripartite structures are not the traditional form of engagement by representative bodies in educational reform.

Trade union engagement has consequently seen a more fragmented pattern of engagement combining joint membership of some of the key development bodies reporting on policy reform and measures to government, union sponsored reforms, and essentially fragmented and largely ad hoc responses on specific measures through 'open' consultation from a range of government and government agencies.

Elsewhere, where tripartite structures are more consistently developed, trade union input to VET modernising issues may have been more robust. In the Netherlands, for example, there has been a recent wide range of VET and associated reform initiatives, but with commentators suggesting that these have to date had limited impact because the profession and trade unions were not closely involved in the development of the policy instruments (Grootings and Nielsen, 2005b). In contrast, the current wide implementation of the competence framework for IVET teachers (only now being introduced: see Section 3) has been seen to have grown from 'grass roots' inputs. Here, the Dutch teacher unions, collectively with other professional groupings of teachers, formed an open professional organisation, the SBL, to widen practitioner engagement in shaping the competence framework (i.e. whether trade union members or not). The SBL has been at the forefront in commenting on the drafting of these competences, standards and assessment guidelines⁽³⁶⁾.

On this evidence, trade unions have various opportunities for contributing representative VET inputs (and practitioner engagement) in the modernising agenda, although apparently with varying levels of activity, focus and influence. These rarely seem to have much impact on any reforms aimed at VET trainers, perhaps because of less distinctive membership structures, or lower levels of union membership among workplace-based or self-employed trainers and training supervisors.

Beyond formal social dialogue and similar arrangements with trade unions, there is only limited evidence of non-trade union VET agencies, expert or interest groups helping to shape strategies

and/or priorities⁽³⁷⁾. In some cases, this may be because any anticipated role for social partners, and specifically for trade unions representing VET practitioners, is expected to embrace this input. However, there are some important exceptions where non-trade union representative structures have been involved.

In some cases, these arrangements, although uncommon, seem to have been particularly effective in shaping expert input from practitioners. In Cyprus, for example, the VET modernising agenda had evolved and been driven strongly from central agencies, and notably the HRDA, and the secondary technical and vocational education agency (STVE), working with the Ministry of Education and Culture, the lead policy-setting agency. Both HRDA and STVE have been described as dominant influences (Zenios, 2002). However, here, the Ministry of Education and Culture worked closely with the Pedagogical Institute of Cyprus to develop and shape reforms to in-service training across 12 technical schools. This was seen to have particular influence in shaping, and later supporting, the development of what became a national arrangement for change agent teams (CATs) working in each major VET provider. CATs have had a particular impact on helping VET teachers in publicly funded institutes to develop learner-centred teaching skills: an important part of the Cypriot IVET reforms.

Also among the newer Member States, Hungary demonstrates one of the few identified examples of practitioner engagement in CVET, with the Ministry of Education working closely with the National Institute for Adult Education, and with financial support from the EU, to develop a model system for in-service continuing development of CVET teachers and instructors. This is now embedded in the HR operational programme of the national development plan (Soósné, 2003). Hungary has also seen a requirement for practitioners to sit on public education councils, although the level of engagement in wider VET modernising through these councils is obscure.

To date, there is only very limited evidence

⁽³⁶⁾ Here, the consultative process involved in arriving at the new competences was more extensive than just the teachers, involving institutions and agencies at national, regional and local levels, as befits a country with a strong sense of social dialogue.

⁽³⁷⁾ The distinction between union and non-trade union influencing systems needs to be interpreted carefully, as some of the non-trade union bodies may well have trade unions (and employers) on their governing boards.

of IVET or CVET professional bodies playing an active role in VET reforms, partly because in some countries these seem to be embryonic or immature in development or stature. Where these exist, these are characteristically membership bodies for individual practitioners, whose focus is on sustaining and developing the knowledge base, and the quality and standards of knowledge-based and ethical practice of members. As such, their scale and scope varies with the size of the VET systems in different Member States, and also the legacy and relative fragmentation of professional structures, if and where they exist. These are quite distinct from other individual membership bodies, such as trade unions, whose focus is collective representation of employment and associated interests.

In some Member States where these groupings are relatively new, they are not part of social dialogue arrangements, and may be struggling to secure influence in VET modernising. In Estonia, for example, there has been an active reform programme aimed mainly at professionalising an IVET teacher training structure emerging from a system where pedagogic training was minimal. However, the Estonian vocational teachers association formed in 2004 has yet to have much influence on this agenda, partly because of its currency and (very) small size. In others, their capacity to reflect practitioners' potential to engage with the modernising agenda may vary with more localised political developments, such as the merger of previously separate bodies, or formation of new groupings. In Greece, unlike Estonia, structures for the entry, continuing development and regulation of VET teachers and trainers are well established, if highly fragmented. However, here also, a professional body has been formed. The technology teachers association was formed by practitioners to provide for a distinctive voice in influencing VET policy and professional development issues. A key feature here (as in Estonia) seems to have been the desire among VET teachers to provide a focus for improving their status, and through this their influence. It is unclear if the new body here is having much impact yet on the VET modernising agenda in Greece,

although it has been said to have been engaged in the discussions leading to the ministerial decree on the new accreditation system for VET trainers expected to be set up by the Greek national agency for CVET (EKEPIS), and implemented in 2007.

In general, the evidence suggests that VET trainers (as opposed to VET teachers) are rarely engaged directly in shaping VET modernisation across Europe through trade unions or sector bodies. However, where professional bodies represent VET trainers, the impact may be more significant. This is notable in Ireland and the UK. Here, the Chartered Institute for Personnel and Development has a separate arm concerned with policy development, and this is said to have a significant voice in some aspects of VET modernising. There are clear illustrations of this in the 2000-02 revision and reform of national competence standards for VET trainers (but not for VET teachers and tutors), and at the same time for assessment and verification standards for vocational qualifications in the UK⁽³⁸⁾. The same seems to be true for Ireland, but this may reflect in part the wide membership, and also long-established nature, of the professional grouping.

The fourth arm for representative structures influencing VET modernisation at national-level is with subject associations. Structures such as these are a feature of the larger Member States, but are not present uniformly here. Where they do occur, their coverage and constitution varies widely⁽³⁹⁾, as does the nature of any engagement in VET modernising. They are commonly distinguished from professional bodies in a focus on knowledge rather than professional practice and standards, although for some this distinction is becoming blurred as they seek, or are encouraged to seek, greater quality and standardisation in the expression of knowledge through teachers and tutors.

These groupings may have significant influence as agencies, or through lead members, in curriculum reform, but there is very little evidence that they are having much direct effect on policy-making or implementation outside of this. This may be because policy tends to adopt generic measures in VET reform rather than subject-specific agendas,

⁽³⁸⁾ The evidence of policy impact and influence in Ireland (other than Northern Ireland) is less clear from the available evidence.

⁽³⁹⁾ In some Member States, such associations may be well defined and developed, and even embedded in regulatory systems. Slovenia has over 100 such groupings which remain predominantly practitioner-led. In others, they may be less well (or not) represented or limited to legacy domains and/or areas of strategic significance, such as tourism in Malta, or land-based studies in Ireland.

and executive agencies tasked with developing these tend to look to cross-sector bodies for social partnership inputs. It may also be because the capacity for these bodies to contribute may be very limited, with their focus tending to be knowledge- and curriculum-centred, and practitioner subject networking rather than wider reform. Executive bodies may also be faced with a lot of such agencies to engage, and to do so in an even-handed way, with the prospect that they may not all have the professional resources to provide a steer on reform. In the UK, for example, an initiative to develop and introduce subject induction programmes for new teacher trainers had to work with 16 different subject associations, some of these loosely constituted confederations of subject subgroupings, whose ability to implement the reforms was shown to be highly variable (TTA, 2004).

Overall, this analysis is hampered by a lack of national review of the process shaping the modernising agendas, and consequently of VET practitioner engagement (and that of others such as employers) in these. None the less, the impression that emerges is of trade unions dominating where there are established arrangements for social dialogue, and where trade union structures provide for a distinctive (and effective) voice from VET practitioners. Even here, the influence is variable (and not always very clear), and may be centred in some Member States on essentially protective interests concerned with security, remuneration and benefits. The evidence is stronger for VET practitioner engagement in implementing the reform agendas when they have been established, particularly in established Member States. However, on this evidence, it seems that robust and broadly-based VET teacher engagement is limited in helping to shape the VET modernising agenda at national level. For VET trainers, it seems almost non-existent.

6.3. Practitioners implementing the VET modernising agenda

There are rather more examples of public policy working with practitioners to implement modernisation agendas at local level. This most commonly relates to the engagement of practitioners

as individuals rather than through representative structures, and most clearly as agents in the review and reform of VET core curricula.

Unpicking this input at national (and subnational) level presents problems. Much of this engagement by individual practitioners will be undocumented. This is especially the case in those Member States where national agencies concerned with VET policy and modernisation wholly, or very largely, delegate the review and development of new curricula and resources to individual providers. In others, policy development may rely more on consultation arrangements which can draw in individual inputs by VET practitioners, although the effectiveness (and level of overall engagement) is difficult to assess. Looking across the comparative evidence, we separate out individual practitioner inputs through:

- (a) largely centralised systems of VET modernisation that also provide opportunity for individual practitioner engagement in refining design or arrangements for implementation of reforms;
- (b) largely devolved systems of VET curricula reform which rely on the local capacity, adjustment and development resources of VET practitioners;
- (c) hybrid systems which draw on a combination of centralised and devolved opportunities for engaging local practitioners.

This typology is illustrative, and the distinctions between each can be subtle, and are often not well supported by national-level reporting or evaluation. A further feature is also included, where this review has secured evidence of cross-national working by practitioners having a distinctive impact on VET modernisation agendas.

In most Member States, the opportunity for individual practitioners to contribute to VET modernising agendas is through consultative or similar arrangements built into reform processes. These are characteristic of Member States where there is a highly centralised pattern of setting, and implementing, the VET modernisation agenda. Here, practitioner input may come from specific practitioner review arrangements built into national VET development agencies (the Czech Republic, Greece, Hungary, Slovenia and others) or even open government policies of others (Ireland, the Netherlands, the UK). In open government-type

arrangements, national-based revisions of VET core curricula typically draw on VET practitioner feedback before such content becomes part of regulatory or quality assurance systems in IVET and CVET. This is likely to be shaped by established practice and/or even formal guidelines requiring such consultation before ministers will sign off policy measures or regulation⁽⁴⁰⁾.

The efficacy of such consultation, and direct engagement of VET practitioners, is difficult to determine from available evidence. However, in some Member States, this is thought to be a robust and established part of VET (and other) curricula reform. In Finland, for example, core curricula are drawn up by government-appointed working groups, which combine VET practitioners with other sector representatives appointed by the Finnish National Board of Education. After receiving provisional approval by the board, the relevant curricula are circulated among providers for comment. Individual teachers are also encouraged to comment on the draft versions via the National Board of Education website, and this practitioner-derived feedback is said to have become an established pathway for enhancing the content emerging from the working groups.

A common theme for many Member States is that the modernising agenda for VET assumes the need for a high level of devolved development to reflect distinctive subject, subregional and/or provider-level needs. Typically, this involves central guidelines on goals, processes and principles, with practitioners at local level anticipated to take these forward to enhanced curricula and modified systems for teaching and training (including new and enhanced VET resources and delivery collaborations). However, the starting points across Member States for such opportunities for VET practitioners to shape the VET modernising agenda are often very different.

In newer Member States, and in particular those emerging from a centralised economic planning system, this seems to have often started with a recognition that the resources practitioners are working with in IVET and CVET are outdated or insubstantive. Here, there are many examples of

practitioner working arrangements being supported by national policy measures. In Lithuania, these difficulties were recognised early by government and resulted in the development of a central Methodological Centre for VET, aiming to work with providers and practitioners in IVET and CVET, and employers in CVET, to build a modernised resource base. The centre evolved from an initially Phare-funded collaboration (see below).

In Estonia, new VET curricula being implemented in 145 different subject areas were showing up problems of use among VET teachers and trainers who had worked mostly in a teacher-orientated upper-secondary and technical school system, many with little or no pedagogic background (Section 3). Learning resources to implement the new curricula were also very limited, and with no central development centre, responsibility for modernising this was wholly devolved to providers. These difficulties (e.g. Faudel, 2002) have intensified under other VET reforms such as the lifelong learning strategy implemented in 2005, and the new requirements for in-service teacher training and development (Sections 3 and 4), and have seen an accelerating problem with falling retention among VET teachers (but not trainers) (Kivilo, 2002).

In Hungary, the National Qualifications Register sets out all state-recognised vocational qualifications, and agreed frameworks for these. However, from earlier practice and the revised requirements set out in the Ministry of Education's development plan for vocational schools, individual providers have devolved authority to define and develop the curricula to local circumstances and modernising needs. Not all do so, and resource pressures and some specific shortages of VET practitioners with the necessary experience have seen some schools simply adapting the National Qualifications Register framework criteria (Soósné, 2003).

Denmark also has a long tradition of local and regional innovations which are seen as central to modernising curricula and systems in VET. These centre on *Forsøgs-og udvikling* projects led by teachers, and at provider or cross-provider level. Here, the Ministry of Education lays down overall reform priority areas, and innovation against these

⁽⁴⁰⁾ In the UK, the Cabinet Office publishes regularly reviewed national guidelines on public policy consultation, and a Code of Practice which is binding on central and regional government departments, and also on the directly sponsored non-executive agencies which organise and manage VET reform in England (but not for all agencies with delegated authority in Northern Ireland, Scotland and Wales).

is shaped and implemented at mainly provider level, with expertise to guide these projects (often from VET teacher-consultants) often funded direct by government. These development projects are also seen as an important feature in the continuing development of VET teachers in Denmark.

One of the newer Member States seems to be following similar devolved arrangements to draw on localised expertise in the modernising agenda. However, this has seen a discipline-based and mainly cross-provider model for devolved practice, with Hungary seeing the evolution, since the Organising and Financing of Education Act in 1995, of just over 100 'study groups in VET', drawing together mainly IVET teachers of vocational theoretical subjects and practical subjects in resource improvement networks guided by central principles (and funding) from the Ministry of Education and Sport, and supported by the National Institute for VET.

In another of the newer Member States, Cyprus, the Ministry of Education and Culture has established new curricula for VET for all technical schools with implementation from 2001-02. To support this, it anticipated a cascade and peer-led model of support and reform of VET at provider level within the 2001 national programme of educational development. This centred on establishing CATs at each institution coordinated by the school head teacher, engaging senior VET teachers, and supported by external training (supported by the European Training Foundation) and external coordination task force. The initiative is considered an example of good practice by the Ministry of Education and Culture.

Although most of these examples seem to draw together some features of central influence with local energy and expertise, the review has also found some examples of hybrid arrangements. These typically combine national direction and design with local adjustment of modernised curricula or resources by practitioners. As noted above, 14 years of Lithuanian independence have seen the development of a new legal framework for education and education development. This has included the establishment (assisted under Phare) of the Methodological centre for VET as a national centre of expertise on new teaching methods in vocational areas. Since 1990, and under Ministry of Education and Science direction, this

has seen a substantial programme of curriculum modernisation devolved to providers who develop programmes which embed core national content on areas of activity, competences and VET standards, with locally adjusted content which is approved by competent employer organisations, whose membership and professional support is coordinated through the National Centre for VET. This combination of national and local evolution, under overall quality requirements and approval by the Ministry, has been accompanied by some rationalisation of the VET provider infrastructure to provide for a more manageable system of devolved activity (Grootings and Nielsen, 2005a).

The UK has seen a more focused approach, but one which remains embedded in devolved activity in VET modernisation. This has been put in place and adopted in England since 2002-03, where the Department for Education and Skills, the lead ministry, has developed a cascade model for embedding quality improvement in IVET and CVET. This has seen a rolling programme developed of teaching and learning frameworks based on trialling locally and then piloting nationally developed (and modernised) resources in key problem areas for improving learner and provider performance. Problem areas have been identified mainly from quality assurance inspections across post-16 providers. Nominated lead practitioners have coordinated piloting and adaptation of the mainly vocational resources in over 300 providers since 2003. To date, programmes have been run (and are ongoing in eight subjects and for 3 000 VET teachers) almost wholly in IVET, with emerging evidence of successful implementation and early cascading of enhanced VET teaching methods to other teachers and tutors (DfES, 2006). The programme methods, using quasi-autonomous piloting teams in different providers, lead tutor development programmes and subject networks (national and regional), have since been taken up by other VET provider improvement programmes in England (e.g. LFS, 2006).

Programmes such as these may be important change vehicles at local level. However, although often harnessing practitioner expertise, and with some exceptions such as the *Forsogs-og udvikling* local projects in Denmark, across Europe their initiation seems to be policy-led and not practitioner-led.

The review has also shown some evidence

that VET practitioners have seen trans-national working as a small but significant influence on VET modernisation at local level. The processes for this are not adequately covered in the available evidence. However, it is clear that developments in several newer Member States have associated such influences as usually stemming from transition funding programmes such as Phare. The scale and intensity of this effect is not clear. However, while possibly adding to the speed of development and reform, and perhaps the effectiveness of implementation, VET reforms predominantly seem to evolve in highly differentiated and not plural models. With the exception of Lithuania and Latvia, which shared a joint three-year development programme (2000-02) implementing a range of VET pilot studies aimed at reviewing strengths and weaknesses in IVET and CVET delivery, there is as yet little evidence of VET modernising structures involving practitioners in more than one country. It is not clear if this stems from a lack of impact evidence from previously funded EU programmes encouraging practitioners to share good practice, or issues of limited transparency (or transferability) of any shared practice being able to substantially influence review and reform of such arrangements.

6.4. Barriers to engagement

Notwithstanding the examples shown above, we conclude that the evidence on how VET teachers and trainers act as change and innovation agents in the VET modernising agenda is piecemeal and very limited. This endorses the findings of other commentators (Faudel, 2002; Grootings and Nielsen, 2005a) that the comparative evidence available has tended to focus on VET capacity structures, and to a lesser extent on the relative status of modernising themes within these, and not on issues of practitioner engagement in shaping or mobilising necessary reforms.

At the same time, the lack of systematic evidence may reflect empirical difficulties in capturing such engagement, or the fact that this is not fertile territory for policy or educational researchers. There is some evidence from HOST's assessment of a counterfactual argument affecting VET development agencies and researchers that, as there is little

practical evidence of engagement in shaping the VET modernising agenda, then practitioners must often be too remote from such arrangements, or lack the capacity or capability to engage. Certainly, the review suggests that in many Member States, the reality is that VET practitioners, and perhaps less than their professional counterparts in lower secondary schooling, non-vocational upper-secondary education and in higher education, are not commonly active change agents (as individuals or through professional or similar representative structures). The issue remains why do VET practitioners lack the aspiration, or opportunity?

Here, the evidence suggests some common factors, and in particular:

- (a) in many Member States, influence may be held back simply by the size and/or maturity of non-trade union representative structures for VET teachers and trainers;
- (b) trade unions constitute a more substantial change agent, but here, the organisation and structure of educational unions, and apparent tensions within their membership on some vocational and non-vocational issues, may be resulting in reduced influence for VET teachers;
- (c) even where the VET profile is strengthening in unions' agendas, the modernising issues which gain most priority centre on bargaining issues such as pay, security and benefits, which are not always the driving forces for VET modernisation;
- (d) distinctive professional structures for VET teachers are often weakly developed in Member States, and any latent influence may also be held back by low esteem for VET teachers (set against school or university teachers). In many countries, measures to address this low esteem remain embryonic;
- (e) there also seems to be limited capacity among VET practitioners for influencing the reform agenda in some of the newer Member States, particularly where entry-level requirements (or the lack of qualification requirement or regulation for VET teachers) have only recently been reformed to include a substantial pedagogic requirement;
- (f) there have been limited opportunities for VET practitioners to share experiences of engagement in VET modernisation. This contrasts with the experience of, for example,

higher education practitioners, and others working with established professional education structures.

These barriers mainly affect VET teachers, but there is evidence from this review of some important national-level developments and rising

capacity. For trainers, the constraints to engaging in the VET modernising agenda seem even more substantial, and on this evidence it would seem that VET workplace and workplace-based practitioners remain substantially dislocated from influencing the modernising agenda in most Member States.

7. Conclusions and implications

7.1. Introduction

As with other contributions to the fourth research report, the focus of this review has been on evidence collection from available cross-national and national-level sources. This section attempts to start to draw together some of the common threads emerging across often very diverse systems, structures, and across Member States with different legacies for VET professionalisation and showing great diversity in how VET modernisation is being tackled. More specifically, it looks at:

- (a) emerging national themes in VET professionalisation;
- (b) critical information gaps that might hold back policy assessment at EU level.

It concludes with a short assessment of what are the next steps for this ambitious review, and how it might contribute to wider discussion and debate in the context of VET modernisation in Europe.

7.2. Emerging national themes

The most consistent impression left by this wide-ranging assessment has been the very great diversity that remains across Europe in the structure, status and situation of the initial and continuing training and development systems for VET teachers and trainers. Europe now has a distinctive (post-Lisbon) analysis, together with the Copenhagen process for enhanced cooperation in VET and prospects for a robust development agenda for the modernisation of VET. It is none the less very clear from this review that such challenges are being addressed against widely different national backcloths of practitioner capability and adjustment. The specific contrasts are reflected in Sections 3, 4, 5, and to a lesser extent also in Section 6, and are not summarised here. However, practitioner capability will be one of the cornerstones of successful (and continuing) adjustment, so some of the wider issues for starting to look at national responses to the modernisation agenda, and the relative successes of different

members in adjustment, are set out here. In particular:

- (a) comparative analysis needs to be looked at very cautiously. Very often it becomes clear that different national profiling of the systems and situation are not comparing like with like. The vocational trainer in one Member State may be institutionally based, largely publicly-funded, and perhaps even a civil servant undertaking the tasks and roles of what a neighbour state may call a teacher of practicum. If there is more comparability for mainstream teaching roles, this is complicated elsewhere by the evidence that some Member States may have almost wholly harmonised arrangements between general and vocational education at upper-secondary level, which makes any distinctive analysis of VET teachers very difficult. In this, Europe seems to lack a common, and functionally defined, typology of core occupations within professional VET practice;
- (b) in most Member States, there is evidence of rising entry-level demands on practitioners, either as occupations become more integrated with upskilling resulting from the job enlargements, or because this is seen as a natural response to job enrichment at other levels and tasks. In much of Europe, VET teachers working with vocational theory and knowledge are now becoming a graduatised workforce, although for some in newer Member States this transformation may take a long time to complete against a legacy of very liberal entry requirements, where vocational aptitude and experience may have substituted wholly for any pedagogical or didactical knowledge. Whatever the case, change to the entry requirements, qualifications, and continuing development of VET teachers and trainers is endemic across Europe;
- (c) the scale and pace of this change is not surprising for many of the newer Member States, who in some cases are facing great pressure to modernise their VET workforce. However, it is true for some of the longer-established

- VET traditions in Europe. Even Member States such as Germany, the Netherlands and Austria, with often highly regulated and previously durable structures for how VET practitioners were qualified to undertake their roles, are now seeing some, and sometimes substantial, changes in these structures;
- (d) this highly dynamic situation is most extensive in IVET. Indeed, in some Member States there seems to be remarkably little attention yet paid to the professionalisation of CVET and specifically to those operating as trainers of adults in a company-based context. Here regulation is unusual, with emerging tensions between encouraging trainers to seek and secure qualification and de-regulation of industry and commerce to encourage competitiveness. An evident gap is emerging between different areas of VET practice in the extent to which qualifications (or regulation) is expected to contribute to a skilled, adaptable and upgraded practitioner workforce. It would seem that at national level, many Member States are having difficulty in balancing the competing demands of qualification (initial and continuing) of company-based practitioners with other competitiveness strategies looking to reduce the amount of regulation in industry and commerce. In this, there seem few examples in Europe to show practical ways to resolve these tensions;
 - (e) while a lot of change is ongoing to build (and extend) pedagogical skills for a mainly IVET context, the evidence does not provide a clear picture of a distinctive professional knowledge base across the pedagogy of VET learning and delivery. Many national systems which require a pedagogical foundation for VET practitioners continue to derive this from teacher training rooted in general education contexts. Other evidence suggests that the demand of more learner-centred approaches in a vocational context call for something more specific and applied which is not always served well by current approaches. It remains to be seen if there is a consistent and coherent knowledge base which can underpin professional practice for VET teachers across the EU, and for trainers. However, if there is, it may also be that in some Member States the current deliverers of VET teacher training may not be well placed to meet such needs, and those in universities have been seen as lacking the application and workplace experience to respond effectively;
 - (f) the role of new and adapted qualifications, and a professional knowledge base informing CPD in VET modernisation is further complicated by a trend towards greater devolution of responsibilities for workforce development for VET teachers and trainers. In some Member States such as Belgium, Italy and the UK, this is reflected in greater regionalisation of processes, funding, priorities and programmes for teacher development. In others, it stems from widespread (but not universal) devolved authority, often to individual providers operating in a competitive labour market for professionals;
 - (g) change is certainly widespread, difficult to map and keep current, but it also clearly not yet complete. Indeed, for the newer Member States some caution might be expressed here if the reforms introduced largely in the decade prior to joining the EU, and often with transition support, are being effectively mainstreamed. There is early evidence in the process of transformation, which has sometimes hardly started, that there are common problems of embedding policies and new practices, for resourcing these at provider-level and through national funding, and for engaging practitioners in the new arrangements;
 - (h) there is only limited evidence so far that any of these changes and adjustments are starting to have a material effect, positive or otherwise, on VET practitioner supply, careers or recruitment difficulty. Indeed, generally, and despite what seem to be accelerating difficulties for many Member States with low esteem in much of VET professional practice, against general education, there is only limited evidence that there are recruitment difficulties other than in some specialist areas. However, there are early signs in Germany, Ireland, the Netherlands, and the UK that such difficulties are intensifying, and may do so very quickly against an adverse demographic context for new labour supply. Retention of professionals entering practice may be critical to addressing any future supply problems, but any such adjustment does not seem to be well informed by current evidence on practitioners' retention and what enables,

and constrains, low turnover of VET teachers and trainers.

The picture which emerges is that across the EU no single model for VET teacher training emerges. There are a few common trends, such as an evolving expectation that VET teachers will be qualified before entry to practice, and the increasing (but not yet universal) requirement for pedagogical qualification as well as subject expertise as a part of this expectation. There is some evidence that the Bologna and Lisbon accords have influenced the general thrust of some of these reforms at national level, and most notably in the newer Member States.

In general, however, new or modified qualification requirements for IVET and CVET teachers seem to stem largely from nationally-centred modifications and evolving policy experience at this level. The different stages of development in what might be seen as the professional underpinning of VET practitioners, and the great diversity between Member States reforms and adjustments (and often within them) of what the qualification requirements are for practice, means that this seems to be evolving less as a plural system, more as a loosely interconnected patchwork of national responses, with many adjustments stemming from ad hoc national responses to their situation and concerns.

Consequently, this review concludes that across Europe not only is there no single model for VET teacher training, there is also very limited evidence of convergence except at the most general level. Against this background, it is difficult not to speculate that the post-Lisbon agenda may have underestimated the scale of the challenge in putting in place one of the cornerstones for European-level reform, the competence and effectiveness of the professionals delivering VET. Indeed, the review suggests that nationally (and regionally) orientated agenda's and priorities for enhancing professionalism may be making goals of common action and a common framework for European practitioner capability more elusive.

This is not to suggest that these structures and reforms are not well placed to start to address modernising challenges, but only that any shared understanding of how this can be successfully tackled at national level (and below) is held back by the great (and intensifying) diversity which exists. The review has demonstrated numerous examples of innovation and responsiveness in national policy,

by stakeholders and representative bodies, and by providers of VET, and of professional training for VET practitioners. There is much that might be learnt from what works well (and what does not) across Europe, but at present too little empirical evidence seems to be available to help unpick relevance in different national contexts.

7.3. Information gaps

A subsidiary goal of the review has been to identify, and reflect on, what seem to be emerging as critical information gaps that might hold back policy assessment at EU level. The review has been based on secondary analysis. Any comments on information gaps must be interpreted in this context. It is quite possible that at national or regional level, some evidence does exist which can be tapped, at least for some Member States, but if so it lacks breadth or accessibility to a comparative review of this nature. With this caution, several evidence gaps do seem to emerge:

- (a) the first, and perhaps most important, is that any attempt to take forward this assessment needs, but essentially lacks, a functional reference framework against which to start to map national practice. With competence structures starting to evolve more robustly in many Member States, it seems appropriate that any attempt to map specific roles in VET professional practice needs a common competence framework to provide a benchmark for assessing similarities in changes such as job enlargement and job enrichment. This is likely to need to be seen separately for IVET teachers and tutors, CVET teachers and tutors, and also for IVET and CVET trainers. These emerge across Europe as three rather distinct groupings in function, qualification requirements and practice, and although there will be many shared activities and requirements, they are set to need distinctive common frameworks to act as a basis for shared analysis and development across Member States. This seems to go beyond efforts recently established through Cedefop to map common competences;
- (b) such a framework would be especially timely for better understanding the dynamics of VET modernisation, and professional adjustment

- for VET trainers. To date, there is virtually no distinctive information on changing structures or reforms for trainers, as opposed to VET teachers and tutors;
- (c) although beyond the brief for this review, it seems likely that a next step, particularly if looking towards mobility issues for VET practitioners, would be some attempt to quantify the European labour market for VET teachers and trainers. At present, there would seem to be only very patchy information to provide for a quantitative baseline and for information on the changing demographics of that workforce;
 - (d) the situation for VET practitioners, in initial and continuing education, is changing rapidly. This review has provided a starting point for an analysis, but it remains only that, a start. In addition, to embellishing on some of the information needs suggested here, there would seem an urgent need for feedback on continuing reform at national level;
 - (e) one recurrent issue seems to be a concern with the effectiveness of engagement of practitioners in CPD. This is despite the fact that for IVET at least, nearly half of the Member States have some aspect of obligation, but very little evidence of what this requirement produces, and where there are participation gaps. Such an assessment would also better inform what currently seems a highly speculative commentary on success factors in engaging VET teachers and trainers in CPD;
 - (f) peer learning and communities of practice are starting to emerge as vehicles in the reprofessionalisation of VET teachers. There is also some narrow but positive evidence that these are proving to be both cost-effective and also well received and regarded by practitioners as a focus for reflective practice, a foundation for professionalism, and for sharing this with others in the professional field. Both would seem to merit more attention through comparative analysis of the national initiatives that are emerging.

These remain preliminary thoughts. We are conscious that other contributors to the fourth research report will have been covering some similar ground and welcome their feedback and others', on this conditional analysis.

7.4. Next steps

This review has covered very considerable ground, across Member States with longer-established VET practitioner qualifications and CPD, and those where processes remain embryonic or most of those working as VET teachers and trainers. It has looked at countries with a substantial and accessible evidence base, and those where it has been difficult to collate relevant information against some of the distinctions and specific information challenges we have set ourselves. What emerges is a highly complex picture, where differences are easier to observe than similarities, and where common messages are often elusive.

This section has none the less attempted to draw together some of these threads. These must be seen as preliminary conclusions. Although much of the evidence has already been verified by national commentators, the validation process has not been (and cannot be) completed, and for two Member States (Portugal and Sweden) such feedback could not be secured. In addition, the review has chronicled an often very fast moving process at national level (and below) and consequently often outdated current publications. Great difficulties are also involved in contextualising this analysis, and notably where different Member States have not only different functional groupings of practitioners across IVET and CVET, but also have regulatory or other standards using common terminology in different ways.

What seems to be called for is action to start to fill some of the information gaps we have proposed, together with a debate which closely engages practitioners on the issues and some of the contrasts set out in this review. This will need to recognise that these are foundations to be built on and which will help to refine a much needed cross-EU understanding of common trends and pressures against these very diverse national situations. As such, this analysis provides a starting point which, together with other comparative analyses, can start to inform a more realistic assessment of just how current and changing structures to build VET practitioner capability can drive forward the post-Lisbon and modernising agenda (and Copenhagen process), or hold it back.

Annex: Member States validation*

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
Austria*	Mag. Sabine Archan ibw – Österreichisches Institut für Bildungsforschung der Wirtschaft Rainergasse 38 A-1050 Wien Tel: (43-1)5451671-15 Fax: (43-1)5451671-22 E-mail: archan@ibw.at Website: www.ibw.at	Telephone calls, e-mails, validation T3		
Belgium	Eddy Donders af Innovatie Keizerslaan 11 B-1000 Brussels Tel: (32-2)5060429 Fax: (32-2)5060481 E-mail: eddy.donders@vdab.be	E-mails, validation T3		
Cyprus	Ioannis Zenios HRDA E-mail: i.zenios@hrdauth.org.cy	Input to T.2, validation T3		
Czech Republic*			Vera Czesana ReferNet E-mail: czesana@nfv.cz Website: www.nfv.cz/ observatory Barbora Krutáková National Training Fund Information Centre Opletalova 25 CZ-110 00 Praha 1 E-mail: Krutakova@nfv.cz	E-mail, signposting to documents and sources
Denmark	Rasmus Frimodt Consultant The Danish Institute for Educational Training of Vocational Teachers (DEL) Rosenørns Allé 31 DK – 1970 Frederiksberg C Tel.: (45)35247958 Fax: (45)35247910 Web: www.delud.dk	E-mail, validation T3		

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
Estonia*	Hans-Kaspar Kivilo Foundation for Lifelong Learning Development E-mail: kasper@hot.ee	Heidi Paju Tallinn University Department of Vocational Education Tel: (372)6199776 E-mail: heidi@tlu.ee	Reply from Hasso Kukemelk University of Tartu E-mail: hasso.kukemelk@ ut.ee Associated Professor of Educational Management and responsible for teacher training for VET schools in the university.	Kaie Piiskop Manager of Vocational Education Department National Examination and Qualification Centre Sakala 21 EE – 10141 Tallinn Tel: (372) 7350650

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
Estonia*				<p>E-mail: margus.laidre@estonia.gov.uk</p> <p>Maris Hakman E-mail: maris.hakman@estonia.gov.uk</p>
Finland	Kristiina Volmari Finnish National Board of Education PO Box 380 FI – 00531 Helsinki Tel. (358-9)77477764 E-mail: Kristiina.Volmari@oph.fi	E-mails, validation T3, advice in respect of Norway and Sweden		
France	Françoise Dax-Boyer E-mail: f.daxboyer@centre-inffo.fr	E-mail, amendment to country profile		
Germany	Herold Gross Nationale Koordination TTnet DE Bundesinstitut für Berufsbildung/1.3 Tel: (49-228)1071631 (49-177)3007494 Fax: (49-228)1072963 E-Mail: gross@bibb.de	E-mails, validation T3		
Greece	Konstantinos Papaefstathiou Planning and Development Unit EKEPIS E-mail: kpapaef@ekepis.gr	E-mails, validation T3		

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
Hungary	Tamas Kopeczi Bocz Hungary National Observatory E-mail: kopeczit@omai.hu Arpad Kovacs Kovács E-mail: kovacsa@omai.hu	Eszter Bükk ReferNet programme coordinator Fund Manager Directorate of the Ministry of Education E-mail: bukkie@omai.hu		
Italy*	ISFOL Institute for Vocational Training and Work Website: www.isfol.it	Claudia Montedoro Tel: (39-06)44590545 E-mail: c.montedoro@ isfol.it	Fondazione Brodolini Website: www. fondazionebrodolini.it Independent research institute	Paola Mengoli Tel: (39-06)4746345 E-mail: mengoli@ fondazionebrodolini.it
Latvia	Anita Lanka Humanitarian Institute Riga Technical University E-mail: anita@bf.rtu.lv			
Lithuania	Kestutis Pukelis Vytautas Magnus University Head of Centre for Quality of Studies E-mail: k.pukelis@smf.vdu.lt	Ausra Fokiene E-mail: a.fokiene@smf. vdu.lt 25/5		
Malta	Joseph Cutajar Senior Manager Training Services Division Employment and Training Corporation Head Office E-mail: joec@etc.org.mt Antoine Barbara Activities Administrator of TTnetMalta E-mail: antoinebarbara1983@yahoo.co.uk			

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
Netherlands*	Peter van Schijndel Bve-team, Fontys University of Applied Science E-mail: P.vanSchijndel@fontys.nl	E-mails, validation T3	Bye Raad Website: www.bveraad.nl Dutch Council for VET and Adult Education	Erik Oosenburg E-mail: E.oosenburg@ bveraad.nl Michiel Geursen
Poland				Agnieszka Luck ReferNet, Biuro Koordynacji Kształcenia Kadr, Fundacja Fundusz Współpracy ul. Górniośląska 4a, PL – 00444 Warszawa Tel: (48-22)6253937 Fax: (48-22)6252805 E-mail: aluck@cofund.org.pl
Portugal	César Teixeira E-mail: cesar.teixeira@iefp.pt Emília Almeida Andrade IEFP E-mail: emilia.a.andrade@iefp.pt	E-mails referral also to Emília Andrade (no response)		
Slovakia		Dagmar Jelinkova 10/06 ReferNet E-mail: sno@ netax.sk E-mail: ytetnyin@ stonline.sk		
Slovenia	Davorin Majkus* National Institute for Vocational Education and Training E-mail: davorin.majkus@cpi.si			
Spain	Nieves Varela Diez E-mail: nieves.varela@inem.es	E-mails, no reply		
Sweden	No TTnet contact			

Country	Training village TTnet contact	Responses	Other contacts including ReferNet	Responses
United Kingdom*			Monica Deasy E-mail: monicadeeasy@lluk.org Angela Joyce Lifelong Learning UK E-mail: angelajoyce@lluk.org Lee Davies, Institute for Learning E-mail: lee.davies@ifl.ac.uk Paul Moses Training and Development Agency for Schools Johnathon Sibley Department for Education and Skills	Pending
General	Olga Strietska-Ilini E-mail: olga.strietska-ilina@cedefop.europa.eu Irene Psifidou E-mail: irene.psifidou@cedefop.europa.eu György Ispánki E-mail: gyorgy.ispanki@cedefop.europa.eu			

Note: This covers only personal, telephone or e-mail contacts with specific experts and individuals for the purposes of validation of whole (or part) country profiles. It does not cover other dialogue with agencies, etc., (in case studies) helping to collate additional evidence.

*Denoted case study country.

List of abbreviations

AEVO	1972 trainer aptitude regulations	DE
CPD	Continuing professional development	
CVET	Continuing vocational education and training	
EU	European Union	
Eurydice	Information network on education in Europe	
HRD	Human resource and development	
HRDA	Human resource development authority	CY
IAG	Information advice and guidance	
ICT	Information communications and technology	
ILO	International Labour Office	
IVET	Initial vocational education and training	
OECD	Organisation for Economic Cooperation and Development	
ReferNet	European network of reference and expertise	
TAFE	Training and further education	AU
TTnet	Training of trainers network	
VET	Vocational education and training	

Bibliography

- ANTA – Australian National Training Authority. *Shaping our future: Australia's National Strategy for vocational education and training 2004-2010*. Brisbane: Australian National Training Authority, 2003.
- Barry, J. et al. *Employer co-funding of publicly funded training*. London: Department for Education and Skills, 2006.
- Cedefop; Greinert, W.D., Hanf, G. (eds). *Towards a history of vocational education and training (VET) in Europe in a comparative perspective: proceedings of the first international conference October 2002, Florence: volume I: the rise of national VET systems in a comparative perspective*. Luxembourg: Publications Office, 2004 (Cedefop Panorama, 103).
- Cedefop; Lassnigg, L. Steering, networking, and profiles of professionals in vocational education and training (VET). In Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training research in Europe 2000: background report, volume I*. Luxembourg: Publications Office, 2001, p. 11-70 (Cedefop Reference series).
- Cedefop; Tessaring, M.; Wannan, J. *Vocational education and training: key to the future: Lisbon-Copenhagen-Maastricht: mobilising for 2010: Cedefop synthesis of the Maastricht study*. Luxembourg: Publications Office, 2004.
- Cek, M.; Vranjes, P. *Modernisation of vocational education and training in Slovenia 2002*. Ljubljana: National VET Observatory Slovenia, 2003.
- Chakroun, B. In-company tutor training issues: the Mediterranean partner perspective. In Grootings, P.; Nielsen, S. (eds). *ETF Yearbook 2005: teachers and trainers: professionals and stakeholders in the reform of vocational education and training*. Luxembourg: Publications Office, 2005, p. 65-71.
- de Rooij, P. Teachers and trainers in education and training: a need for reprofessionalisation. In Grootings, P.; Nielsen, S. (eds). *ETF yearbook 2005: teachers and trainers: professionals and stakeholders in the reform of vocational education and training*. Luxembourg: Publications Office, 2005, p. 87-96.
- DfES. *Evaluation of teaching and learning frameworks pilots*. Sixth Interim Report. London: Department for Education and Skills, 2006.
- Dickie, M. et al. *Enhancing the capabilities of VET professionals*. Brisbane: Australian National Training Authority, 2004.
- Eurydice. *The teaching profession in Europe: profile, trends and concerns: report IV: keeping teaching attractive for the 21st century: general lower secondary education*. Brussels: Eurydice, 2004 (Key topics in education in Europe, Vol. 3).
- Eurydice. *The teaching profession in Europe: profile, trends and concerns: report III: working conditions and pay, general lower secondary education*. Brussels: Eurydice, 2003 (Key topics in education in Europe, Vol. 3).
- Faudel, H. *Teachers and trainers in VET in the future Member States: an overview*. ETF, Luxembourg: Publications Office, 2002.
- Faudel, H. Teachers and trainers in vocational education and training reform in the new and future Member States. In Grootings, P.; Neilson, S. (eds). *ETF Yearbook 2005: teachers and trainers: professionals and stakeholders in the reform of vocational education and training*. Luxembourg: Publications Office, 2005, p. 39-46.
- Grootings, P.; Nielsen, S. Teachers and trainers: professions and stakeholders in the reform of VET. In Grootings, P.; Nielsen, S. (eds). *ETF yearbook 2005: teachers and trainers: professionals and stakeholders in the reform of vocational education and training*. Luxembourg: Publications Office, 2005a, p. 11-28.
- Grootings, P.; Nielsen, S. (eds). *ETF yearbook 2005: teachers and trainers: professionals and stakeholders in the reform of vocational education and training*. Luxembourg: Publications Office, 2005b.
- Harris, R. et al. *The changing role of staff development for teachers and trainers in VET*. Adelaide: National Council for Vocational Education Research, 2000.
- HM – Estonian Ministry of Education and Research. *Development plan for the Estonian vocational education and training system 2005–2008*. Tartu:

- Estonian Ministry of Education and Research, 2005a.
- HM – Estonian Ministry of Education and Research. *Lifelong learning strategy 2005-2008*. Tartu: Estonian Ministry of Education and Research, 2005b.
- IFL – Institute for Learning. *Guidance on qualified teacher and learning status (QTLS)*. Leeds: IFL, 2006.
- Karmel, T.; Nguyen, N. *Australia's Tertiary Education Sector*. Paper presented at CEET 7th national conference on strategic directions for VET held in Melbourne the 15 September 2003. Clayton, Victoria AU: CEET – Centre for the Economics of Education and Training. 2003.
- Kearns, P. *Vocational education and training in the 21st century*. Brisbane: Australian National Training Authority, 2004.
- Keating, J. et al. *Comparative study of VET systems. National vocational education and training systems across three regions under pressure of change*. Adelaïde, AU: NCVR – National Centre for Vocational Education Research, 2002.
- Kivilo, H.K. Teaching career opportunities: what has Estonia done to retain people in the (VET) teaching profession. In ETF; Cedefop. *Teachers and trainers in VET in the future Member States*. Turin: ETF, 2002.
- Kristen, C. et al. *Longitudinal studies for education report: European and North American examples*. Berlin: BMBF, 2005.
- LSC – Learning and Skills Council. *Support for success: phase 3*. Evaluation report from the learning and skills national office. London: LSC, 2006.
- Marshall, V.; Parsons, D. *Skills change, utilisation and qualifications*. Sheffield: Department for Education and Skills, 1997.
- OECD. *Education at a glance: OECD indicators*. Paris: OECD, 2005.
- Parsons, D. et al. *Forecasting skills needs for adult basic skills teachers and tutors*. London: DES – Department for Education and Skills, 2002.
- Parsons, D.; Wilson, B. *Evaluation of national consultation on initial teacher training provider requirement*. London: TDA – Teaching and Development Agency, 2006.
- Soósné, F.M. *Teacher training policy in the context of Hungarian educational policy trends*. Background study for the EU/teachers visiting committee. Budapest: 2003.
- State Chancellery of Estonia. *Action plan for growth and jobs 2005-2007: for implementation of the Lisbon strategy*. Tallinn: State Chancellery of Estonia, 2005.
- Sultana, R.G. Teacher education in Malta: national agendas and the reform process. In Sultana, R.G. (ed.). *Teacher education in the Euro-Mediterranean region*. New York: Peter Lang, 2002, p. 177-192.
- TTA – Teacher Training Agency. *Formative evaluation of subject induction packs*. London: TTA, 2004.
- Zenios, I. *Developing HRD professionals: activities in support of trainers training*. In ETF; Cedefop. *Teachers and trainers in VET in the future Member States*. Turin: ETF, 2002.

Learning at the workplace

Elke Gruber, Irene Mandl,
Thomas Oberholzner

Abstract

In contrast to the broad consensus on the significance of learning in non-formal/informal settings and, in particular, of learning taking place at the workplace, relatively little is known about its exact nature, forms, drivers, barriers, effects, etc. This report investigates various aspects of the subject.

First, it seeks to identify different forms of workplace learning and the knowledge and use of them among companies and individuals. The training/learning types most often applied in companies are visits to expos/trade fairs, followed by courses/seminars/conferences by external trainers. Considerably less widespread are job rotation, quality circles and self-learning activities or more modern work-related learning forms such as learning islands, learning partnerships and platforms, networks of practice, communities of practice (CoP), cognitive apprenticeship and blended learning. Smaller companies show a clear preference for informal training activities (in-house off-the-job training and on-the-job learning).

Second, the report aims to discuss appropriate contexts for learning at the workplace and to highlight barriers as well as conducive factors. The diverse influencing variables can be systemised into environmental framework factors, company organisation and culture, design of learning measures and resources, barriers at company level, and workers' personal aspects.

Third, assessment of costs, benefits and effects of learning at the workplace are discussed, including managing and assuring quality of competence development. In this context, businesses face challenges regarding, for example, methods of assessment of benefits, evaluation of employee performance and competences, as well as training needs assessment.

Fourth, measures to foster the engagement of businesses and individuals in workplace-related learning are increasingly being developed at policy level. This refers to financial support for, and increasing the awareness about, workplace learning, advice and consultancy in designing training and learning, programmes encouraging business cooperation and network formation in training, and making visible and measuring informal learning. In this context, the present report identifies further strategic fields of action – at research, policy and company level – to support the growth of workplace learning and meets present and future demands.

(¹) Cedefop description of national VET systems, theme 6: training VET teachers and trainers. Available from Internet: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis.asp [cited 6.7.2007]

Table of contents

Introduction	146
1. Learning at the workplace: definitions, typologies, forms	148
1.1. Concepts of workplace learning	148
1.2. Classifications and forms of workplace learning	151
1.2.1. Workplace learning by location of training	151
1.2.2. Workplace learning by content of learning	154
1.3. Selected modern forms of workplace learning	157
2. Spread of learning activities among European enterprises	161
3. Conditions for effective workplace learning	167
3.1. Environmental or framework factors	168
3.2. Company organisation and culture	168
3.3. Design of (semi-)intentional learning activities and applicable resources	170
3.4. Barriers at company level	170
3.5. Personal factors and employee barriers	172
4. Costs, benefits and quality management	173
5. Recent and innovative policy initiatives	176
5.1. Financial support for workplace learning	176
5.2. Awareness on the importance of workplace learning	177
5.3. Advice and consultancy to promote workplace learning	178
5.4. Providing modern instruments for workplace learning	179
5.5. Cooperation among companies on workplace learning	180
5.6. Changes in apprenticeship	182
5.7. Visibility and measurement of informal learning	183
6. Conclusions for research and policy	184
6.1. Understanding learning at the workplace	184
6.2. Raising awareness about implicit learning processes at work	184
6.3. Promoting inter-company learning and training	185
6.4. Incentive structures for learning and knowledge sharing	185
6.5. Bringing elements of learning into work processes	185
6.6. Barriers to training in SMEs: scarcity of time and lack of management expertise	185
6.7. Experience-based learning at the workplace: building on initial formal knowledge/education	186
Country codes in figures and tables	187
List of abbreviations	188
Bibliography	189

List of tables, figures and boxes

Tables

1. Examples for formal, non-formal and informal learning	149
2. Personnel development measures by type of location of training	152
3. Knowledge-oriented measures	155
4. Behaviour- and personality-oriented measures and activities	156
5. Percentage of the population participating in lifelong learning, by learning form and country, EU-25	162
6. Training enterprises as percentage of all enterprises, by learning form (CVTS) and country, EU-25	164
7. Percentage of SMEs using different methods for developing the competence base of their human resources in the last three years, by enterprise size, Europe-19	165
8. Relevance of different practices for increasing the enterprises' knowledge, competence and skill base, by enterprise size, selected European countries	166
9. Barriers for enterprises to engage in competence development activities (percentage of enterprises identifying the barrier as significant)	171
10. Percentage of enterprises with formal management tools for competence development	175

Figures

1. Factors influencing workplace learning	167
2. Levels of evaluation	174

Boxes

1. Organisational learning and learning organisation	150
2. Training off-the-job: Elias Emergency University Clinic Hospital, Romania	151
3. Along-the-job and out-of-the-job training: PTK ECHO s.r.o., Slovak Republic	153
4. Instruction/coaching - ZEMAT, Poland	154
5. Vocational training and professional development at Daimler-Chrysler	159
6. Learning through external contacts in a service company	168
7. Structuring implicit learning and making knowledge explicit: the case of a small manufacturing firm	170
8. Assessment of learning needs: the case of a medium-sized manufacturing firm	171
9. Encouraging teaching at the workplace: the case of a large manufacturing firm	172
10. Selected studies measuring effects of company-based training	173
11. Comprehensive quality assurance in competence development in a medium sized manufacturing firm	175

Introduction

The strategy launched by the European Council in Lisbon in March 2000 sets the objective for Europe to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth, creating more and better jobs, and developing greater social cohesion. From the reference to a knowledge-based economy it seems immediately clear that initial and further education and training of Europeans and lifelong learning have a key role to play in achieving these aims⁽¹⁾. The importance of knowledge for general macroeconomic goals is reflected at individual and enterprise levels, as it contributes to work performance, productivity, competitiveness, income and, ultimately, living standards.

While the relationship between knowledge and performance is well recognised, public and policy efforts to foster vocational education and training are often focused on formal learning, which is more visible, measurable and, therefore, controllable. In addition, its provision can be organised by public authorities. However, there is consensus in recent research on the frequency of learning in non-formal/informal settings among the European population, as well as on the essential role of informally acquired competences in continuous adaptation of vocational competences to changing requirements on the labour market. A paradigm shift can be observed from the dominance of traditional education institutions towards a diverse field of traditional and modern learning opportunities⁽²⁾ that are more process- and outcome-oriented and follow modular structures (European Commission, 2006). This – and the recognition of the value of various forms of learning – also pinpoints the relevance of learning taking place at the workplace

(Leney, 2004; IKEI, 2005; European Commission, 2003a)⁽³⁾.

Learning at the workplace includes a broad and diverse variety of models such as job rotation, coaching, apprenticeship, e-learning, quality circles, etc. In contrast to the broad discussion of such types of learning, relatively little is known about its exact nature, forms, drivers, barriers, effects, etc., at individual and/or enterprise levels. The lack of such information may imply a low degree of intentional influence and design, at all levels (individual, business, policy), to optimise uptake, effectiveness and efficiency of learning at the workplace. Although research substantiates the claim that informal learning constitutes the most important way of acquiring and developing the skills and competences required at work (Cedefop, Skule and Reichborn, 2002) such learning is not subject to any quantitative policy objectives (at different levels).

A better understanding of non-formal and informal learning is essential to exploit its potential to help achieve the Lisbon objectives. Continuous follow-up of work-related learning from a research and analysis point of view seems imperative, as skill needs and occupational profiles constantly vary with structural changes in economic influences such as technological change, globalisation, etc.

This report aims to contribute to an improved and updated understanding of workplace learning and derive conclusions on how to arrange such learning to be most effective. In particular, the following research objectives are pursued:

- (a) to identify different forms of workplace learning and their usage and diffusion among companies (with a focus on SMEs) and individuals, and to highlight innovative types;

(¹) 'Youth education attainment level' and 'participation in lifelong learning' are explicit indicators to measure progress in the frame of the Lisbon strategy. Further, with respect to VET the relevance of education and training for achieving the Lisbon goals is also acknowledged in the Copenhagen declaration of 2002 (Available from Internet: http://europa.eu.int/comm/education/copenhagen/copenhagen_declaration_en.pdf [cited 2.7.2007]) and in the Maastricht communiqué (Available from Internet: http://europa.eu.int/comm/education/news/ip/docs/maastricht_com_en.pdf [cited 2.7.2007]).

(²) Modern in terms of new ways of training provision, e.g. e-learning or training partnerships/networks.

(³) Learning at the workplace is also an important part of formal initial vocational education paths, especially in the frame of apprenticeship systems.

- (b) to discuss appropriate conditions for learning at the workplace and to identify and highlight barriers hindering, as well as conducive factors supporting, such learning;
- (c) to discuss how costs, benefits and effects of learning at the workplace can be assessed and measured;
- (d) to identify and highlight new initiatives at policy level, including apprenticeship systems.

Section 1 of this report aims at setting a reference frame by discussing in depth the concept and notion of learning at the workplace. Instead of arriving at a definite and straightforward definition or typology, different models, forms and views of workplace learning are highlighted, based on different criteria of categorisation. Further, new and innovative forms of learning are presented.

Section 2 deals with the spread and usage of different workplace learning forms among European companies and the workforce, with a special focus on small and medium-sized enterprises where data permits.

Section 3 is dedicated to discussing factors which support or restrict work-based learning.

An attempt is made to establish a broader and more comprehensive view on the subject, including environmental conditions, organisational factors, barriers and employee-related issues.

Section 4 deals with workplace learning assessment. Due to its often informal character, strong evaluation and control measures (quality assurance) are rarely applied in enterprises, and there is a clear gap between large companies and SMEs. The focus is mainly on what kind of assessment and quality assurance tools are used in enterprises.

Section 5 analyses recent and innovative initiatives and measures introduced at supra-company level: State VET systems, government policies, support instruments, social partner initiatives, etc. Initiatives discussed are those responding to new developments and changing requirements in workplace learning.

Finally, Section 6 pinpoints the main conclusions of the analysis, including suggestions on relevant conditions for fostering beneficial workplace learning at both micro (i.e. company) and macro (i.e. public) level.

1. Learning at the workplace: definitions, typologies, forms

1.1. Concepts of workplace learning

Against the ambitious aim of ensuring a successful transition towards a knowledge society, seen as a relevant precondition for realising the Lisbon objective, lifelong learning has become a key element of education and training policy in Europe. In this context, lifelong learning includes all learning activities that are purposeful and undertaken continuously, independent of their degree of formality, source of funding or mode of provision. Learning activities, in turn, are referred to as any individuals' activities organised with the intention of improving their knowledge, skills and competence, i.e. pinpointing the criteria of it being intentional (by the learner or another individual) and organised (in terms of typically involving the transfer of information in a broader sense to bring about learning) as the distinguishing factors vis-à-vis non-learning activities (European Commission, 2006) (4).

There is no similar consistent and generally accepted definition of learning at the workplace. In this report, we follow a rather broad conceptual framework without elaborating a strict definition, but discuss diverse (related) concepts and models to illustrate the phenomenon. The ideas regularly associated with learning at the workplace are surrounded by various terms with often similar or related meanings. Examples are: learning through work, at work, on-the-job learning, work-integrated learning, work-related learning or experience-based learning. In general, workplace learning focuses on developing and acquiring vocational competences and refers to any forms and concepts of internal and external learning (within and outside enterprises) based on work and work processes in respect of learning contents and learning

processes. In the wider sense it also involves learning through simulation at school (e.g. training companies, junior firms) (Dehbostel, 2003).

The distinctive design and characteristics of skill development activities in companies differs from case to case. Probably most important in this regard is the degree of formalisation though, in practice, the distinction is blurred in many cases and often a combination of the different concepts is applied. Formal learning is defined as highly structured learning that takes place off-the-job, typically in classroom-based/institutional formal educational settings constituting, in most cases, a continuous ladder of educational achievement (Marsick and Watkins, 2001; European Commission, 2006). Formal learning is typically provided by an education or training institution, leading to certification, structured in terms of learning objectives, learning time or learning support: it is intentional on the learners' part (European Commission, 2001). Programmes of joint part-time employment (resulting in workplace learning) and part-time participation in the regular formal education system - such as the dual system/apprenticeship - are classified as formal education (European Commission, 2006).

Outside of education or training institutions, learning may take place non-formally or informally (European Commission, 2001). Non-formal learning is also structured and intentional but usually does not lead to certification (e.g. within the national framework of qualification) (5). Examples are combined theoretical-practical courses, private lessons or guided on-the-job training.

Informal learning, in contrast, results from daily activities related to work (European Commission, 2001; 2006) and is, therefore, not institutionalised and structured; the control of learning mainly rests in the hands of the learner (Marsick and Watkins,

(4) In the following we will see, however, that learning processes go far beyond intentional and organised activities, especially as far as learning at the workplace is concerned.

(5) Being understood as the single, nationally and internationally accepted entity through which all learning achievements may be measured and related to each other in a coherent way (European Commission, 2006).

2001). Summarising several definitions, informal learning is seen to be integrated into daily routines (i.e. experience-based learning), triggered by an internal or external jolt, not highly conscious (i.e. implicit learning), an inductive process of reflection and action, influenced by chance and linked to learning of others (learning by communicating) (Lee et al., 2004; Marsick and Watkins, 2001; Meier, 2002; Cedefop, Descy and Tessaring, 2001). It may include learning activities occurring in the family, in the workplace, in daily life, on a self-directed, family-directed or socially-directed basis (European Commission, 2006). Informal learning might, for example, take the form of self-learning, practice or non-guided visits.

It should be mentioned that all of these three forms of learning may take place within an enterprise or externally and could be conducted individually or collectively; examples may be found in Table 1.

Along with these intentional learning concepts, some authors quote the terms incidental and non-intentional learning, a 'by-product of some other activity', such as interpersonal interaction, task accomplishment, learning from mistakes (trial and error) (Marsick and Watkins, 2001). This is important, especially in the context of experience-based learning at the workplace.

Whereas attending education and training courses and getting qualifications lays the foundation for initial competence at work, the importance and role of workplace learning, and experience-based learning in particular, is related to the fact that the most significant learning effects

occur in real work situations while mastering a concrete problem (work-integrated competence development; Meier, 2002); improved performance is often more reliant on doing the job and learning from others (Felstead et al., 2004). Expertise development requires a continuous and subtle process of putting knowledge into action, jointly developing personal and professional knowledge, integrating individual knowledge into a larger dimension of knowledge held by groups and whole organisations (also see Box 1) rather than for simple information acquisition. The dynamic (business) environment results in a shift of emphasis from the mere transfer of knowledge to the facilitation of learning, particularly as far as (rapidly changing) work process knowledge is concerned. Work process knowledge might be referred to as complex and multifaceted knowledge encompassing the whole work process. It comprises tacit and explicit knowledge accumulated by the individual being part of an organisation (in terms of a particular community of practice (CoP) developing ideas about how knowledge should be acquired, applied and shared), mobilising this knowledge at individual level and, therefore, resulting in a knowledge-creating company (Nonaka and Takeuchi, 1995). Soft competences like creativity, conflict management, and personal development in the broadest sense play a key role in this context. In this respect, experience-based learning constitutes a valuable resource. According to a German study, the division between working

Table 1. Examples of formal, non-formal and informal learning

Formal education	Non-formal education	Informal learning
Participation in formal education (e.g. defined by the national framework of qualification) leading to formal certificate (including apprenticeship)	<ul style="list-style-type: none"> • courses external to the company (conducted via classroom instruction, including lectures, combined theoretical-practical courses (including workshops), conducted through open and distance education, private lessons) • guided on-the-job training, including information and instruction 	<ul style="list-style-type: none"> • taught learning (coaching/informal tuition, guided visits) • non-taught learning (self-learning, learning groups, practice, non-guided visits, visits of trade fairs/congresses)

and learning will disappear in future. In 2004, 55 % of German companies thought that there will be no such division in 2020, compared with 44 % agreeing to that viewpoint in 1997. Of these companies, 68 % were of the opinion that project and practice-oriented learning forms will displace classical vocational training (compared with 53 % in 1997). Finally, 63 % mentioned that education and training at the workplace will provide the same career opportunities for top management positions as other learning forms (45 % in 1997) (BIBBforschung, 2005).

Various models explaining the process of experience-based learning are discussed below,

including models based the ‘activity theory’ such as the expansive learning model (Engeström, 2001), the connective model (Griffiths and Guile, 2003) or the learning cycle of Nonaka and Takeuchi (1995): all these pinpoint the relevance of experience-based learning (i.e. practical activity) in combination with the ability to adapt to altered situations for coping with a continuously changing business (and, therefore, labour market) environment. These models also offer insights into how workplaces, organisations and learning environments, including vocational education and training (VET) systems, may be designed to foster knowledge acquisition and skills among the workforce (also see Section 3).

Box 1. Organisational learning and learning organisation⁽⁶⁾

In recent years the notion of organisational learning or learning organisations has become an important tool in improving the performance of a company by a continuous increase in competences/skills/abilities at all levels in the workforce. Organisational learning may be triggered by changed environmental conditions (adaptive/single-loop/lower level/tactical learning) or the planned intention of the company’s management (proactive/double-loop/higher level/strategic/generative learning), where the latter is seen to be more successful and effective in the long term.

Organisational learning, which is generally seen to go beyond workplace learning of the individual, refers to the combination of knowledge acquisition, information distribution, information interpretation within the organisation and organisational memory, which may not necessarily be realised consciously or intentionally or result in observable changes in people’s behaviour. Organisational learning is realised, if the range of its members’ potential behaviour is changed. As a result, a learning organisation is considered an entity able to respond to new information by altering the programming by which information is processed and evaluated, i.e. an organisation disposing of a high level of adaptability (in terms of increasing the capacity of information processing and a continuous rebuilding of one’s view of reality). Errors/mistakes are not seen as something negative but as a valuable resource for learning (and avoiding them the next time). Similarly, contradictions/conflicts constitute a good basis for reflection and are, therefore, not suppressed. Against the background of an increasing complexity and uncertainty of the organisational environment, the rate at which organisations learn may become the only sustainable source of competitive advantage (Malhotra, 1996).

Originally, organisational learning focused on the practice of five core disciplines/competences:

- systems thinking, i.e. focusing on the relationships among the individual parts of a system;
- team learning, i.e. the realisation of increased synergy and productiveness due to a group of people working together (the group is more than just the sum of its parts) as well as pro-active personnel development (continuously building up competences for anticipated future needs);
- shared vision, i.e. complete commitment to the achievement of the company’s vision and best possible contribution to making this vision real; safeguarded by understanding the development of strategies as a learning process realised by employees’ participation and free information flow;
- mental models, i.e. surfacing and testing one’s deepest assumptions and beliefs on how the world works and helping others do the same;
- personal mastery, i.e. exploration of one’s life experiences and desires to identify the own purpose in life and how to fulfil it.

⁽⁶⁾ See: <http://www.sfb504.uni-mannheim.de/glossary/orglearn.htm> [cited 2.7.2007] and/or <http://www.pegasuscom.com/aboutol.html> [cited 2.7.2007].

1.2. Classifications and forms of workplace learning

According to the notions and concepts discussed above, there are many approaches to systemising and classifying forms of workplace learning activities. This section presents two important classification schemes concerning learning activities in the context of work (i.e. differentiation according to the location and setting of training as well as by the content of training) to illustrate better what types of learning may occur in enterprises (Colley et al., 2002).

1.2.1. Workplace learning by location of training

Deschy and Tessaring (Cedefop, Deschy and Tessaring, 2001) provide a classification of work-related learning methods, stressing the location of training as a systemising factor. Adapting the model of Dehnhostel and Dybowski (Cedefop, Dehnhostel and Dybowski, 2001), various classes of work-related learning methods were suggested. Work-related learning may be tied to work (when location of learning and work are identical), connected to work (when work and learning are organised separately but sharing location and/or organisation models) or work-oriented (when learning takes place in centralised

venues). Learning by working and learning through systematic instruction at the workplace are seen to be tied to work: this includes craft training, traditional on-the-job training, group learning and the dual system of initial vocational training. Either tied to, or connected with, work are forms like quality circles, learning islands, order-based learning, coaching, interactive learning and apprenticeship, summarised under the categories of learning through informal or deliberate integration and learning through exploration and practical training. They are characterised by a combination of learning by on-the-job experience and more deliberate forms, for example school-based preparation. Learning in simulated work or production processes, for the acquisition of complex skills and increase in experience, may be conducted at training centres (Cedefop, Deschy and Tessaring, 2001).

A second classification which is frequently used, and which is also partly based on the location of the training, introduces terms like on-the-job, off-the-job and near-the-job training. While training on-the-job generally concerns activities at the immediate place of work including learning due to the demands and challenges of daily work, training off-the-job takes place away from the enterprise and includes, for example, traditional continuing vocational training measures.

Box 2. Training off-the-job: Elias Emergency University Clinic Hospital, Romania

Elias Emergency University Clinic Hospital is a public health care services institution employing about 1 300 people in 2005. Between 2004 and 2006 a training and development project for medical personnel aged 35-45 was run in the framework of the participation in a multinational research study requiring attendance at (international) specialisation courses by neurology and cardiology department employees (both, nurses and physicians).

In the framework of this programme, almost 500 employees were trained to become more efficient. The project objectives were accomplished by training courses, seminars or symposiums held in the country or abroad.

The board considers that personnel training and development will improve the medical service quality, especially in areas with a significant degree of difficulty. Beneficial effects for both employees and the employer include personnel skills improvement, professional development or even initiation related to different medical specialisations, and increased efficiency.

Some negative effects were noted in that, after specialisation, employees may leave the institution which financed the training.

Source: Mandl et al., 2006.

Table 2. Personnel development measures by type of location of training

Personnel development measure	Training on-the-job	Training off-the-job	Training near-the-job
Job enrichment ⁽¹⁾	x		
Job enlargement ⁽²⁾	x		
Working team	x	x	
Job rotation	x		
Brainstorming		x	x
Planned instruction/initial training	x	x	
Introduction of new staff members		x	x
Internship			x
Training courses		x	
Case study		x	
Group counselling interview		x	x
Group dynamic approaches		x	
Conference, workshop/symposium, trade fair	x	x	
Career planning	x	x	
Teaching conversation	x		
Learning workshop			x
Mentoring, coaching	x	x	x
Appraisal interview			x
Successor-/assistance positions	x		x
Project work	x		
Quality circle			x
Presentation		x	
Role play		x	
Overtaking proxy tasks (substituting colleagues)	x		
Team building			x
Team training		x	
Semi-autonomous team ⁽³⁾	x		
Trainee programme	x		x
Practice firms	x		x
Behaviour training		x	
Workshop		x	x
Audio-visual training		x	x
Simulation (virtual reality, computer-assisted instruction, programmed instruction, business games)	x	x	
e-learning		x	x
Action/active learning ⁽⁴⁾	x		

(¹) Job enrichment refers to measures including a vertical expansion of the tasks of an employee for him/her to attain higher qualification.

(²) In contrast to job enrichment, job enlargement refers to the adding of qualitatively equal tasks with the aim of dissolving a too strict division of tasks.

(³) Semi-autonomous working groups consist of three to ten persons that are supposed to work on a specific definable task from start to end without a formal leader. Participants are free to choose working times, division of tasks, methods of completion of the tasks, etc.

(⁴) Teams of five to eight employees of different company departments cooperate for a duration of three to six months with the aim of solving an important company-wide problem (e.g. reduction of overhead costs, launch of a new product, etc.).

Source: Adapted and translated from Weinert, 2004.

Training near-the-job refers to measures in proximity to the workplace in terms of location, time and/or content (Scholz, 2000). It has to be noted, however, that neither these concepts nor the allocation of the concrete terms lack ambiguity. Table 2 gives an example of this classification, showing a number of training activities from a personnel development perspective.

In addition to the classification of on-the-job, near-the-job and off-the-job training, some authors add the models of training along-the-job (concerning career planning and vocational development activities), out-of-the-job (concerning preliminaries to retirement) and training into-the-job, which refers to qualification for future vocational activities, including vocational school and university studies (Scholz, 2000).

Further subdivision of on-the-job learning was suggested by Dehnboestel and Pätzold (2004) who distinguish working-type and learning-type forms of workplace learning. Working-type forms (forms of work organisation) cover experience-based learning at the workplace. Although learning occurs mainly in an informal way, its effects are planned and the time for learning is an integral part of the working hours. Group work, forms of rotation, project work, continuing improvement and networks are applied.

Whereas this type of on-the-job learning is limited to experience-based processes and usually omits planned learning activities, new learning-type forms (forms of learning) of workplace learning follow the principle of connecting experience-based learning with organised learning. They are characterised by a combination of planned (formal) learning activities and learning through experience (informal learning). The required integration of learning and working within the working process is conducted at workplaces; working processes are enlarged and enriched with regard to organisational, personal and didactic-methodical aspects, creating a workplace setting which demands, fosters and supports learning. The work infrastructure is connected with a learning infrastructure, providing additional resources of space, time, material and/or personnel. Important new learning-type forms (also see Section 1.3) include instruction/coaching, quality circle, learning workshop, learning islands and CoP (Dehnboestel and Pätzold; 2004; Dehnboestel, 2003). Both working-type and learning-type forms are expected to initiate and support improvement and innovation in a significant way, where informal learning plays a central role (Dehnboestel, 2003; Dehnboestel and Pätzold, 2004).

Box 3. Along-the-job and out-of-the-job training: PTK ECHO s.r.o., Slovak Republic

The Slovak company PTK ECHO with about 130 staff members has been active in education and languages services, publishing, accommodation, restaurants and catering for about 15 years. The staff are offered training measures from the company's portfolio of training and education courses free of charge. A good example of career development enabled by this training offer is a warehouse employee who went through several educational programmes and now is in a responsible position as a middle manager.

Also, older employees (close to retirement age) are invited into educational programmes for starting-up businesses, accountancy, personal computer knowledge or any other special course according to their wish. The aim is to enable them to establish small own businesses, for example as accountant, or a home career after retirement by providing training not necessarily linked to their present work. Further, the General Manager/owner introduced a specific educational offer for older employees, stimulated by the training and requalification courses provided by the Offices of Labour Social Affairs and Family, where she recognised the concerns of older people in an uncertain and difficult labour market which generally does not appreciate an ageing workforce.

In general, the training and educational activities for the staff resulted in improved performance and higher goodwill towards the company. It also supports the company's position in the Slovak market. The benefits resulted in several cases of career growth and in a generally low employee turnover.

Source: Mandl et al., 2006.

Box 4. Instruction/coaching – ZEMAT, Poland

ZEMAT is a privately owned company established in 1957 in Lodz (Poland) employing about 60 full-time workers. Currently, ZEMAT manufactures a wide range of machines, from prototype custom-made machines through simple machinery such as impulse welders and cutters, to advanced vacuum formers and automated production lines.

As the business activities of ZEMAT require high technological and production-related qualifications, the company, from the start, has paid great attention to a stable workforce, believing that its main asset is in a dedicated professional engineering staff. The knowledge and professionalism of long-term experienced employees are a guarantee of quality and reliability for ZEMAT and most of the staff have worked in the company for over a dozen years. Their experience and qualifications are used in preparing young/new staff: the long-term staff at ZEMAT appear to be excellent teachers, mentors, and tutors.

An example of these coaching activities is seen in one of ZEMAT's work units which has eight young employees recruited from technical schools, led by a 50 year-old employee who also acts as mentor and tutor. Experience and memory capability are key to success. ZEMAT hopes that these employees will stay with the company for a longer time, will improve their qualifications within the company (also through the possibility of cooperating with production workers with long-term practical experience) and acquire new knowledge in the field. The firm's long-term development strategy sees these employees as a locomotive core for the 'natural' restructuring of the firm.

Source: Mandl et al., 2006.

1.2.2. Workplace learning by content of learning

Another means of systemising workplace learning is founded on the content of learning as a discriminating criterion and was presented by Sonntag and Schaper (2006) and Sonntag and Stegmaier (2006). Knowledge- or competence-oriented activities, targeting improved vocational skills, knowledge transfer and promotion of flexible cognitive capabilities can be distinguished from behaviour-oriented activities seeking modification of behaviour and personality development. Given the continually changing demands made of the workforce in modern work organisations, there are measures which particularly seem to foster competence acquisition in a problem- and work-related way and also support self-organised and cooperative learning (Sonntag and Schaper, 2006). Table 3 gives an overview of such selected knowledge-/competence-oriented methods especially.

Cognitive training activities are intended to qualify individuals for mastering complex tasks in which the focus is laid on cognitive performance (such as planning of and decision-making in specific work tasks and self-critical reflection of realised outcome) rather than on actual concrete activities. They also include also processes of self-reflection

and use various teaching/learning methods (Sonntag and Schaper, 2006).

Methods of workplace-focused cooperative forms are characterised through referring explicitly to work processes in terms of contents and place of learning. As a prerequisite, opportunities for learning have to be provided at the immediate workplace where the arrangement of learning depends on real working and learning requirements as well as on the individual's developmental needs (Sonntag and Schaper, 2006).

Modern computer- and net-based learning programmes include flexible instruction and are supported by audio-visual media (e.g. video). They allow for differentiated learning through memorising and repetition (practicing programmes), interaction (tutorial systems) or through explorative processes (learner-driven systems, simulations) (Sonntag and Schaper, 2006).

Finally, complex teaching/learning settings aim to qualify the learner dealing with the complex knowledge and activity requirements in everyday work. They operate in multi-dimensional settings (Sonntag and Schaper, 2006).

Alongside vocational and cognitive capabilities, soft skills like self-confidence and self-esteem, attitudes and values are required to empower

Table 3. Knowledge-oriented measures

	Intention/objective of learning	Examples for measures
Cognitive training	<ul style="list-style-type: none"> • regulation of complex operations • problem-solving 	<ul style="list-style-type: none"> • internalisation of mental actions • heuristic rules • self-reflection • self-instruction • multiple cognitive training
Workplace-focused cooperative forms	<ul style="list-style-type: none"> • working process knowledge • expertise 	<ul style="list-style-type: none"> • task-oriented information exchange • learning workshop • cognitive apprenticeship
Computer- and net-based learning programmes	<ul style="list-style-type: none"> • knowledge, skills • problem-solving • mental models 	<ul style="list-style-type: none"> • training systems • tutorial systems • learner-driven systems • simulation • online teaching • online tutorial • cooperative net-based learning cases
Complex teaching-/learning settings	<ul style="list-style-type: none"> • interdisciplinary qualification • vocational competence to act 	<ul style="list-style-type: none"> • guiding text method • learning islands • practice firms • case studies/business games

Source: Adapted and translated from Sonntag and Schaper, 2006

individual and organisations in coping with situational needs. Proactive, self-reliant and entrepreneurial behaviour is demanded. A range of methods focused on developing personality and behaviour modification are available and – as a result of new and sophisticated forms of production and organisation – increasingly targeted at operative level (skilled worker) and middle and lower management. There is a current emphasis on group-oriented activities. Table 4 gives examples of behaviour-oriented activities in personnel development of high relevance to modern work organisations (Sonntag and Stegmair, 2006).

Behaviour modelling and methods of team building can be included in learning in problem-based, authentic contexts, offering learning opportunities in real learning environments and including real organisational units. Mentoring, coaching and the leader/member-exchange are

based on counselling and supervising activities, using feedback and reflection as elements of learning. Simulations demand a high degree of self-control and individual adjustment, mainly applied in computer-assisted forms such as business games. Group-dynamic approaches, originally based on a clinical/psychotherapeutic background and outdoor training are included in personality centred/experience-oriented measures where relevance to daily routine is not immediately visible. Whereas all methods mentioned in this section cover explicit learning processes, learning through the design of work tasks and contents in form of work-immanent qualification and job assignment leads to competence development in a more implicit way. Job assignment aims to present challenging tasks to the individual and is mostly used at management level. Both forms are summarised as task-oriented and structure-oriented approaches (Sonntag and Stegmair, 2006).

Table 4. Behaviour- and personality-oriented measures and activities

	Intention/ objective of learning	Examples for measures
Approaches in a problem-oriented, authentic context		
Behaviour modelling	<ul style="list-style-type: none"> • communication • coping with conflicts 	<ul style="list-style-type: none"> • films showing a behaviour model • role-play • video feedback
Team-building	<ul style="list-style-type: none"> • comprehension of group processes • communication • cooperation 	<ul style="list-style-type: none"> • analysing processes • problem catalogue • (working) techniques • reflection
Counselling- and supervision-oriented approaches		
Mentoring and coaching	<ul style="list-style-type: none"> • personality development • career advancement 	<ul style="list-style-type: none"> • mentors' behaviour as a model • counselling
Leader/member-exchange	<ul style="list-style-type: none"> • leadership behaviour • attitude towards employees 	<ul style="list-style-type: none"> • in-group/out-group identification • recreating the relationship with • the out-group
Simulation		
Simulation	<ul style="list-style-type: none"> • explorative learning 	<ul style="list-style-type: none"> • role play • business games • audio-visual learning environment
Personality centred/experience-oriented approaches		
Group-dynamic approaches	<ul style="list-style-type: none"> • self-image (view of oneself) 	<ul style="list-style-type: none"> • self-awareness • feedback • social learning
Outdoor training	<ul style="list-style-type: none"> • self-confidence • self-concept • problem-solving • cooperation 	<ul style="list-style-type: none"> • navigation tasks • river crossing • boat trip • abseiling • assistance on simulated accidents
Task-oriented approaches		
Job assignment	<ul style="list-style-type: none"> • planning • shaping relations • self-concept • values and attitudes 	<ul style="list-style-type: none"> • challenging and problem- • imminent tasks
Work-imminent qualification	<ul style="list-style-type: none"> • planning • problem-solving • interpersonal behaviour • self-esteem • self-concept 	<ul style="list-style-type: none"> • scope of action • participation • problem-imminence

Source: Adapted and translated from Sonntag and Stegmaier, 2006.

1.3. Selected modern forms of workplace learning

Technological innovation, changing macro and microeconomic conditions, market and supply chain globalisation have led to fundamental reorganisation of the workplace and workforce. New forms of organisations, for example manufacturing systems organised as high performance work organisations, made extra demands on the working individual. Increasing degrees of worker participation and autonomy, as well as broad occupational competences, are required (Leney, 2004). There is a strong demand for multi-tasking people who can do non-routine tasks demonstrating high degrees of 'situational' knowledge, exploratory behaviour, problem-solving and excellent communication capabilities. Personal traits and competences such as self-reliance, self-confidence, proactivity, creativity, an entrepreneurial spirit and self-direction are also associated with this new world of work, following a trend to working in multiple teams across multiple geographies, time zones, languages and cultures (Weinert, 2004; Reuter, 2005; Dehnboestel, 2003). Correspondingly, various companies question the effectiveness and suitability of traditional learning forms (Schulz, 2005). This section provides a short overview of some modern work-related learning forms responding to these changing requirements.

Learning islands help match the imperative for integration of work and learning by explicitly defining and extending already existing work places into places for learning. Learning islands are equipped with additional learning material, software and visualisation tools as well as modified organisational conditions such as additional time for learning processes. Developing a workplace into a learning island usually includes five distinct stages. After analysing the workplace, the workplace-specific tasks, conditions and requirements to qualification (stage 1) and deciding towards or against development of a certain workplace into a learning island (stage 2), the infrastructure for working and learning is

installed (stage 3). In stage 4 targets, contents and methods of learning are stated on the basis of the organisational framework and the personal and social targets. Detailed planning of the learning island work and processes, plus a model of quality assurance, form stage 5. In contrast to traditional working places, learning islands represent learning environments providing more time to pursue the processes of qualification and learning, following a holistic principle in designing work tasks (complexity, problem-imminence and variety) but still working on the same work tasks (Dehnboestel and Pätzold, 2004).

Learning partnerships and platforms (⁷) are characterised by technical, organisational and/or pedagogical cooperation and competence-development activities based on agreements of objectives among the network partners. The network usually comprises a number of local training and education institutions as well as education and training managers in the companies. In the past, collaboration was often limited to the creation, organisation and coordination of apprenticeship training positions, while no agreed arrangements were made with regard to the contents and methods of training (Meyer, 2004). Modern forms of learning and working partnerships and platforms include learning through exploration and practical training, such as internship, either in the context of initial or continuing training to provide insight into matters external to the institution or enterprise. This includes forms of rotation between local enterprises as well as cross-border partnerships. Collaboration exists between enterprises which track a common goal and which expect additional profits through attending a learning network. The aim of the particular network can be professional/technical or methodical or social/personal competences.

Networks of practice are another form of on-the-job learning, characterised by problem-oriented and cooperative learning, based on social processes. Networks of practice integrate work and learning and provide a setting where situated learning is combined with effective knowledge sharing. Both, the concept of CoP and cognitive apprenticeships are, described under this section.

(⁷) For public policy measures fostering the cooperation of enterprises in the field of workplace learning see Section 5.5.

Networks of practice are often implemented through application of network-technology in modern work organisations (e.g. virtual CoP). In this regard they are associative with the e-learning approach.

CoP are set up by experts, sharing similar work tasks or problems to find solutions or build innovations and are often constituted within a work organisation ⁽⁸⁾. CoP are characterised by self-organised learning, exchange of experience and reciprocal support. Thus, emerging problems can be discussed, perspectives of a phenomenon can be demonstrated and the complexity of a problem can be recognised in order to develop new solutions. Problem-solving and learning are interlocked processes in CoP and a higher degree of efficiency and quality of solutions result. Using internet technology, international knowledge exchange and learning can take place, bringing experts of different locations together (Lang and Pätzold, 2004).

Another problem-oriented form of workplace learning which explicitly includes learning by others in everyday business is the cognitive apprenticeship approach. It follows an expert/novice-type interaction where experienced staff (experts) support the learner (novice) not only with explicit-theoretical but also with the more implicit, experience-based (practical) knowledge. Processes of recognition, thinking, valuation and reasoning and the application of strategies are fostered. This concept transfers elements such as application-oriented tasks, authentic activities and feedback of traditional craft training into cognitive learning processes. Learners and experts participate together in working groups and, through the additional application of net-based learning environments, learning opportunities of distributed expertise are created where different experts can be called on to impart complex knowledge. Empirical data show better results for cognitive apprenticeships concerning learners' ability in problem-solving as well as their ability to apply earlier problem-solving strategies to new and complex situations. Communication, and in particular exchange of individual experience, plays a crucial role in the learning processes of networks of practice (Lang and Pätzold, 2004); learning is not limited to knowledge and skills as attitudes and values are also

developed through this types of workplace learning (Dehnboestel, 2003).

Work-related learning in simulated work processes is applied at schools and training centres within and outside enterprises. Simulations are increasingly important as there are more complex work processes for the workforce. Self-directed activity and problem-solving processes are an important part in simulations. Learning through a realistic setting of economic, locational or organisational criteria fosters the acquisition of complex qualification and experience, including processes of reflection. Concepts such as practical training courses, practice firms and task-oriented learning are involved (Dehnboestel, 2003). In addition, computer-assisted simulations are applied in the context of e-learning applications.

E-learning is enhanced learning supported by information and communication systems (Schüle, 2002). A variety of e-learning instruments had been developed and distributed since the beginning of computer-based training ⁽⁹⁾ in the 1980s. Since then, traditional distance-learning courses have been redeveloped to new and complex systems where multimedia, interactive applications are incorporated. Examples are experience-based learning via immersive virtual worlds, experimental learning via computer-generated simulations, pedagogic veils (products teaching people how to use them), pedagogic learning objects or learning content management systems (Punie and Cabrera, 2006). Asynchronous learning which occurs just-in-time is possible and courses can be tailored to specific needs. In addition, e-learning fosters the learners' self-reliance and responsibility. Cost savings (not least from economies of scale as highly qualitative support material may be easily accessed by a high number of employees) (Scholz, 2000), the availability of expertise within the entire enterprise and flexibility in time, location and contents of vocational programmes (i.e. orientation towards individual needs and requirements) are some of the benefits of computer-assisted learning methods (Scholz, 2000; Heitger and Baudisch, 2003; Heinicke-Renner, 2003; Schüle, 2002). E-learning activities typically work on application-oriented and individual cases, projects and situations (Heinicke-Renner,

⁽⁸⁾ Away from the enterprise, CoP are associated to online-communities.

⁽⁹⁾ Learning programmes provided by a single computer, frequently using CD-ROMs.

2003) and the technology provides the opportunity to integrate substantial controls of the learner's progress automatically into the system. However, the lack of social contact and the need for learner self-motivation (particularly in combination with the danger of information overflow) are potential disadvantages and not all contents/issues are equally suitable for e-learning solutions (Schüle, 2002; Scholz, 2000).

Web-based training (¹⁰), simulation, teleconference (video/audio), email, discussion forums, newsgroups, virtual workshops, business television are examples of a wide range of e-learning methods (¹¹).

E-learning courses can be assisted by tutoring, seen as indispensable for trainees with little or no familiarity with self-directed online-learning (¹²) (Fietz et al., 2004). Tutors operate either in a face-to-face setting or as teletutors, with synchronous communication (e.g. in virtual classrooms) or asynchronous (e.g. on discussion boards) (Mandl and Winkler, 2003; Heinicke-Renner, 2003). In this way the benefits of network-supported learning

are reinforced by providing learners with individual support (Fietz et al., 2004).

Blended learning is a hybrid method which integrates technology (such as internet, television, conference calls) with traditional methods of education or training. This concept typically includes learning arrangements which combine face-to-face courses, workshops or seminars, with e-learning elements such as email to maintain continuous dialogue with participants (Sack and Reglin, 2004; Vejvodová and Hán, 2004; Cordes and Sauter, 2004, p. 123). In this respect, the concepts of e-learning and blended learning show some overlaps but in contrast, teletutoring applied in blended learning arrangements rather supports face-to-face measures. Measures of blended learning are not limited to simply alternating electronic-based and traditional presentations in a serial form but provide added value through optimising the coordination of different learning modalities (Vejvodová and Hán, 2004; Sack and Reglin, 2004).

Box 5. Vocational training and professional development at DaimlerChrysler

The multinational car manufacturer DaimlerChrysler highlights vocational training and professional development as strategically important to sustainable corporate success and, therefore, promotes lifelong learning through its programmes in more than 40 training centres worldwide. In 2004, the company invested more than EUR 255 million in vocational training and professional development in Germany and employed more than 10 000 apprentices (80 % of them in Germany, constituting about 40 % of all apprentices at German automobile manufacturers).

Training measures directly related to the workplace and to the specific job of the employee are increasingly important for professional development. Nature summer camps have been established for young employees in partnership with the global nature fund; they aim to raise employee environmental awareness and improve intercultural skills.

DaimlerChrysler created a group-wide standardised process known as leadership evaluation and development to assist management development. In 2004, this was further developed to become a sustained resource-management system for key technology. Special management training focusing on leadership, general management and strategy, with an everyday company and work-environment context is organised by the DaimlerChrysler Corporate University. In 2004, it invested EUR 7 million in a total of 5 650 participant days.

Source: <http://www.daimlerchrysler.com/>

(¹⁰) Web-based training refers to learning using network-technology (internet, intranet). Elements of web-based training are information-systems (e.g. databases) and learning programs (consisting of exercises, tests, etc.).

(¹¹) Terms like (e-)learning-platforms, learning management systems, learning content management systems, authoring tools and authoring management platforms are also mentioned in the context of e-learning. They are software tools and platforms aiming to administrate e-learning methods, media contents and courses as well as trainees or to create, evaluate or provide learning exercises, contents and/or communication tools.

(¹²) Online learning can be seen as a subset of the broader e-learning category as online learning refers to learning via internet or intranet.

Another important trend from recent years is corporate universities or other comprehensive approaches taken by enterprises to provide workplace learning for their employees. In contrast to public education, the corporate university is designed to support the strategic goals of the enterprises (Sauter, 2004). Characteristic of most corporate universities are application of e-learning methods, development of strategic management and leadership competences,

implementation of a knowledge management system and a virtual network of executives, experts and knowledge to fostering self-organised learning. An example of a virtual organised corporate university is the DaimlerChrysler Corporate University which aims to design and coordinate top-management (executive) development programmes and implement a virtual communication infrastructure (Heitger and Baudisch, 2003; Neumann, 2003, p. 60).

2. Spread of learning activities among European enterprises

Against the background of continuing discussions on the increasing importance of lifelong learning fostered, not least, by the anticipated demographic shift (keyword: ageing society/workforce) plus the need to utilise the latest knowledge in an increasingly competitive marketplace, a growth in workplace learning may be expected for some years to come.

This section provides an overview of available data on workplace learning across the population, for employees and companies (with particular attention paid to SMEs). Although a wide range of such data exists, it lacks coherence because of different approaches to definitions (what is understood by workplace learning, what types and forms are included) and target groups (population versus employees, all companies versus selected size classes/sectors, etc.). Further, in comparisons between countries the varying framework conditions (e.g. design and quality of the education system, structural characteristics of the private sector, availability of public support for training activities, etc.) need to be kept in mind. Consequently, the following data should rather be considered as a benchmark roughly describing the level of Europe's engagement in workplace learning.

In the framework of the European labour force survey 2003 (*source*: Eurostat) 42 % of the EU-25 population indicated participation in lifelong learning activities (Table 5). The highest proportion could be found in Denmark, Luxembourg, Austria and Finland, the lowest in Greece and Hungary (plus Romania if the acceding countries are also considered). Generally, participation in lifelong learning decreases with age and is higher for men than for women. Further, there is a positive relationship between engagement in lifelong learning activities and educational attainment. On average across Europe, only 4.5 % of the population attended formal education/training courses in the year of the survey (the highest proportion in the Nordic countries and Slovenia, the lowest in central Europe as well as in Greece and Malta) with greater female participation than

male. In contrast, almost one third of the European population (more than 80 % in Luxembourg and Austria, but less than 10 % in Hungary and Romania) takes advantage of informal learning activities (higher proportion of men than women). About one quarter of Europeans uses self-study material, being particularly widespread in Denmark and the Slovak Republic but rare in Hungary. One fifth of the population of the EU-25 refers to computer-based training when engaging in lifelong learning, and almost as many benefit from non-formal learning. Participation in the latter in Denmark, Sweden and Switzerland is about three times higher than the EU-25 average while it is markedly lower in Bulgaria, Greece, Italy, Lithuania and Romania: there are virtually no gender differences. About 84 % of Europeans participating in non-formal learning have occupational reasons (more than 90 % in Germany, France, Lithuania and Poland); the other 16 % indicate personal/social reasons.

This data suggests that the workplace is already regarded as the most important venue for learning by the labour force. For example, more than 60 % of Norwegian employees indicate that they have acquired their knowledge through learning through daily work while vocational training is mentioned by only about 15 %. Also employers confirm the importance and value of daily work for the employees' ability to do a good job (mentioned by more than 90 %) and consider schools and studies to be least important (mentioned by less than 30 %) (Cedefop, Skule and Reichborn, 2002). Also, recently published UK research suggests that formal/external training and qualification activities are not rated so highly as on-the-job training by employees wanting to improve their performance at work (Felstead et al., 2004): one in four employees are of the opinion that training courses are of little or no value in improving work performance while over half think that learning by doing is the most effective means of achieving better work performance, with 90 % agreeing that they pick up most of their skills through on-the-job

Table 5. Percentage of the population participating in lifelong learning, by learning form and country, EU-25

	Total	Formal ⁽¹⁾	Informal ⁽²⁾	Self-study ⁽³⁾	Computer-based training ⁽⁴⁾	Non-formal ⁽⁵⁾
AT	89.2	3.0	85.6	48.0	16.6	25.3
BE	41.9	4.0	32.3	24.1	15.7	19.5
CY	37.8	2.1	30.2	23.6	14.9	20.6
CZ	28.7	1.4	21.4	19.6	12.4	12.9
DE	41.9	3.4	37.3	24.4	21.8	12.7
DK	79.7	7.7	65.6	53.3	42.4	47.1
EE	31.4	3.7	25.1	17.8	10.3	14.8
ES	24.5	4.7	16.0	9.4	7.2	10.3
FI	77.3	9.3	69.5	47.1	27.8	41.3
FR	51.0	0.9	45.9	37.2	28.1	20.1
GR	17.4	1.3	14.2	12.1	6.6	4.9
HU	11.7	2.9	6.0	5.5	2.8	4.8
IE	48.7	5.4	45.0	34.5	18.9	14.0
IT	48.6	4.5	46.8	35.5	24.4	5.1
LT	27.8	3.0	25.1	20.5	8.9	7.8
LU	81.9	1.0	80.9	59.1	47.1	15.9
LV	46.2	4.8	42.6	36.3	14.0	13.4
MT	53.2	1.4	52.0	50.1	19.0	9.4
NL	41.6	7.8	32.3	23.5	16.7	11.0
PL	30.0	4.1	26.6	20.7	10.7	9.8
PT	44.1	4.0	42.1	33.9	16.1	9.3
SE	71.0	13.3	52.6	41.7	38.1	48.0
SI	82.0	7.6	78.1	50.4	29.9	23.5
SK	59.5	1.0	57.1	54.6	12.2	20.5
UK	37.6	8.4	n.a.	n.a.	n.a.	34.5
EU-25	42.0	4.5	32.5	24.0	19.2	16.5
BG	16.1	1.2	15.4	13.0	7.0	1.7
CH	68.0	6.7	49.9	42.1	19.3	53.3
NO	34.7	3.9	n.a.	n.a.	n.a.	32.9
RO	10.0	1.4	9.1	7.4	2.9	0.6

n.a. = not available

(¹) Education and training in the regular system of schools, universities and colleges.

(²) Self-learning which is not part of either formal or non-formal education and training, using different methods such as books, computers, learning centres or educational broadcasting.

(³) With the assistance of printed material (e.g. professional books, magazines and the like).

(⁴) Online internet based web education.

(⁵) All types of taught learning activities which are not part of a formal education programme.

Source: Eurostat (labour force survey, 2003).

experience (and being of particular relevance to those lower down the occupational hierarchy).

Similar results are found by the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2001) indicating that up to 71 % of European employees mention learning new things in the framework of their work. A German study (Sauter, 2004) showed 67 % of employees participating in informal acquisition of knowledge such as self-learning or reading of specific literature in 2000.

However, confirming the variation in perception, other available German data show that only about 11 % (western Germany) and 16 % (eastern Germany) of employees participated in vocational training within the three years prior to the survey. This difference is assumed to be caused by different definitions of the learning activities applied. Lower qualified persons, foreigners, blue-collar workers and people working in smaller companies are underrepresented among the participants in vocational training. Further, significantly fewer part-time employees than full-time employees are involved in training activities, which is explained by employer cost-effectiveness considerations (Büchel and Pannenberg, 2004).

On the basis of CVTS II-data from 1999 and dealing with companies with 10 or more employees, it can be shown that more than three fifths of all European companies are engaged in training activities of any type. In the northern European countries proportion is considerably above average while the Mediterranean countries show markedly less activity (Table 6). A positive relationship between company size and involvement in training activities can be observed (e.g. 48 % of the enterprises with 10-19 employees are involved in training while the figure is as high as 95 % in those companies with 250 or more employees). Above-average numbers of CVT courses (¹³) are offered by Danish, Swedish and Norwegian companies but very few by Greek and Romanian ones. Training activities are managed internally by 55 % of European companies, particularly in the UK and Italy but hardly ever in the Baltic countries. About one third of the European enterprises offer continued vocational training in work situations (Ireland (71 %) and the UK (63 %) but little in Greece and Romania) and

at conferences, workshops, lectures and seminars (more than 60 % in Germany and Denmark, little in Greece and Romania). Considerably less widespread (12 %-15 %) are job rotation (with the exemption of Ireland, Sweden and the UK), quality circles (comparatively widely applied in Denmark and the UK) and self-learning activities.

A German study (Sauter, 2004) shows that three quarters of the enterprises offered internal or external courses or other forms of learning such as learning at the workplace or learning via media in 2003, resulting in a medium level of employer-based training supply compared to other European countries. Nevertheless, the proportion of employers offering training activities has dropped by 10 percentage points since 1993. Measuring just own training measures or companies releasing their employees from work for them to attend respective activities shows only 41 % of West German and 44 % of East German companies were engaged in employee skills development in 2003 (Bellmann and Leber, 2005). There is also a direct relationship between involvement in training and company size, attributed to more limited resources and the more prevalent danger of trained employees in smaller enterprises being poached by competitors. The public sector (e.g. social security, health and social services) and companies in financial intermediation (banks, insurance companies) are seen to be particularly active in competence development while producers of consumer goods, the construction industry and the agriculture sector are below average.

In 2002, most European SMEs (up to 80 %) were involved in competence development activities (Table 7) with the highest proportion found in business services (only 13 % with no competence development activity within the three years prior to the survey) and wholesale trade (14 %), while the lowest involvement was in the transport/communication sector (28 %) and in construction (23 %). As with CVTS, a comparatively high level of competence development activities could be found in northern and central Europe whereas southern Europe is characterised by a lower level. This north-south divide is also mentioned by other pan-European studies (European Commission, 2003a).

The higher level of engagement in (workplace)

⁽¹³⁾ Continuing vocational training courses that were designed and managed by the enterprise itself (managed internally) or managed by organisations not part of the enterprise (managed externally).

Table 6. Training enterprises as percentage of all enterprises, by learning form (CVTS⁽¹⁾) and country, EU-25

	Any type of training	CVT courses	Internally managed courses	CVT in work situations	Job rotation, exchanges or secondments⁽¹⁾	Learning/quality circles⁽²⁾	Self learning⁽³⁾	Continued training at conferences, workshops, lectures and seminars⁽⁴⁾
AT	72	71	57	19	7	6	8	23
BE	70	48	42	56	29	19	15	32
CZ	69	61	37	28	5	6	17	49
DE	75	67	59	54	4	11	14	61
DK	96	88	55	48	27	26	65	68
EE	63	47	28	25	11	10	15	49
ES	36	28	33	15	9	9	8	14
FI	82	75	47	39	21	16	40	58
FR	76	71	49	25	17	11	10	19
GR	18	9	60	7	2	4	2	11
HU	37	24	36	16	5	4	6	22
IE	79	56	58	71	36	17	19	54
IT	24	23	64	15	13	5	1	16
LT	43	21	14	15	2	4	7	33
LU	71	50	41	46	29	11	23	44
LV	53	26	19	30	4	7	14	38
NL	88	82	32	50	13	15	31	50
PL	39	26	36	20	12	1	7	26
PT	22	11	55	14	4	5	2	13
SE	91	83	63	50	35	14	29	56
SI	48	33	48	24	9	14	10	42
UK	87	76	68	63	35	24	30	52
EU-25	61	53	55	36	15	12	15	36
BG	28	17	40	16	5	7	8	15
NO	86	81	60	49	21	15	31	53
RO	11	7	34	4	2	2	2	3

(¹) Job rotation and exchanges with other enterprises entails training only if these measures are planned in advance with the specific purpose of developing or improving the skills of the workers involved. Normal transfers of workers from one job to another which are not part of a planned developmental programme are excluded.

(²) Learning circles are groups of employees coming together on a regular basis with the primary aim of learning about the requirements of work organisation, work procedures and workplace. Quality circles are working groups with the aim to discuss about problems and search for problem-solving in the production and on the workplace. Participants have to be integrated in the planning and controlling procedures of the enterprise. A moderator coordinates quality circles.

(³) Open and distance-learning courses, video/audio tapes, correspondence courses, computer-based training.

(⁴) Only if the primary purpose of an employee attending them is training/learning.

Source: Eurostat (CVTS II-Survey 1999).

learning compared to the CVTS-data may be explained by the broader understanding of learning forms. The most important for SMEs were visits to expos/trade fairs (particularly important in wholesale trade and manufacturing), followed by courses/seminars/conferences by external trainers (applied above-average by companies active in business services as well as in Greek and Icelandic companies), reading of professional literature (e.g. in personal services) and meetings among personnel for knowledge exchange (e.g. in manufacturing) (European Commission, 2003a).

These data show that smaller companies show a clear preference for informal training activities, explained by lower costs, better integration into daily business life or greater adaptability to the specific requirements of the individual employee and/or company. These results are confirmed by research on the UK's *Best 50 small and medium enterprises*

to work for showing a clear preference for short rather than long formal courses as well as for in-house off-the-job training and on-the-job learning. In practice, the skill development activities in those companies involve a high proportion of internally provided, informal training (Stone et al., 2006).

Recent research in five European countries (¹⁴) demonstrated that SMEs tend to prefer non-formal and informal mechanisms such as on-the-job learning/learning in everyday work, visits to expositions/trade fairs and job/task rotation within the enterprise. Table 8 shows the relevance of different practices for SMEs (IKEI, 2005).

A German study of computer-based learning, for example, shows that 88 % of large companies (i.e. the 350 top players in the German economy) apply e-learning in which computer-based training is the most widespread type (mentioned by 91 %), followed by video courses (65 %) and web-

Table 7. Percentage of SMEs using different methods for developing the competence base of their human resources in the last three years, by enterprise size, Europe-19 (¹⁵)

	Number of employees			Average
	0-9	10-49	50-249	
Visits to expos/trade fairs	57	70	78	58
Courses/seminars/conferences provided by own personnel	19	38	54	21
Courses/seminars/conferences provided by external trainers	39	56	70	41
Study visits	17	22	41	18
Job rotation (in-house or in other firms)	8	17	29	9
Tutor/mentoring activities for staff	10	20	27	11
Promote reading of professional literature	36	39	58	37
Cooperation with consultants and advisers for developing internal competence	21	32	39	22
Meetings among personnel for knowledge exchange	32	46	56	33
Other activities	4	5	5	4
% of SMEs not involved in any of the suggested methods	20	9	4	19

More than one answer allowed

Source: European Commission, 2003a (ENSR Enterprise Survey 2002)

(¹⁴) Continuing vocational training comprises training measures or activities which enterprises finance, partly or wholly, for employees who have a working contract. CVT measures include CVT courses, which can be managed internally or externally, and other forms of CV such as planned periods of training using the normal tools of work, job rotation, exchanges, secondments, attendance at learning/quality circles, self-learning and instruction at conferences, workshops, lectures and seminars.

(¹⁵) Austria, Belgium, Denmark, Germany, Greece, Spain, France, Finland, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland and the UK.

based training (57 % use the intranet, 23 % the Internet). The main contents of e-learning focus on application software, using the substantial supply of training tools in this and meeting the preferences of the users towards software-based solutions. Nevertheless, only a fifth of companies trained more than half their employees using e-learning. So, e-learning reaches fewer employees than traditional learning forms but growth is expected in the years to come (Riekhof and Schüle, 2002). The spread of e-learning among SMEs is presumed much lower, even though the majority of smaller

companies uses the Internet for their business needs. However, there is a lack of awareness of the practical benefits for the enterprise, an unsatisfactory supply of e-learning material adapted to the specific needs of SMEs, and a general preference for more informal training tools (also see above; Daelen et al., 2003). Further, in the framework of a British study (Felstead et al., 2004) half of the interviewed employees reported that the Internet had been of no use (and 11 % that it has been of little help only) in helping them to improve their work performance.

Table 8. Relevance of different practices for increasing the enterprises' knowledge, competence and skill base, by enterprise size, selected European countries (17)

Variables	Enterprise size		
	10-49	50-249	Total
External-to-the-enterprise practices			
Visits to expositions/trade fairs	5.8	6.0	5.8
Attendance at conferences/seminars provided by external personnel	3.6	4.5	3.8
Attendance at training courses provided by external-to-the enterprise personnel	4.7	5.8	4.9
Cooperation with other enterprises	4.0	4.4	4.1
Study visits to other enterprises/institutions	3.3	3.7	3.4
Job rotation and exchanges with other enterprises	1.6	1.5	1.6
Reading information available in trade and sector magazines, publications	5.1	5.8	5.2
Reading information available in Internet (websites, databases, etc.)	4.8	5.8	5.0
Analysis of patents and licenses	2.7	3.6	2.9
Internal-to-the-enterprise practices			
Internal training courses/seminars provided by own personnel	4.0	5.4	4.3
Self-study activities during working time	4.3	4.7	4.4
On the job learning/learning in everyday work (for current personnel)	6.7	7.3	6.8
Job /task rotation (in-house)	5.6	5.8	5.6
Coaching/guidance activities for staff by other people in the enterprise	4.8	5.9	5.0
Tutor/mentoring systems for new employees	4.7	5.5	4.9
Apprenticeship schemes	3.9	4.2	3.9
Meetings among personnel for knowledge exchange/quality circles	4.8	5.6	4.9
Innovation and R+D activities	4.4	5.6	4.6

Results from '0'= not relevant for my enterprise to '10'=very relevant form my enterprise
All enterprises

Source: IKEI, 2005 (Leonardo CODE Project Survey 2004).

(17) Spain, France, the Netherlands, Austria and Finland.

3. Conditions for effective workplace learning

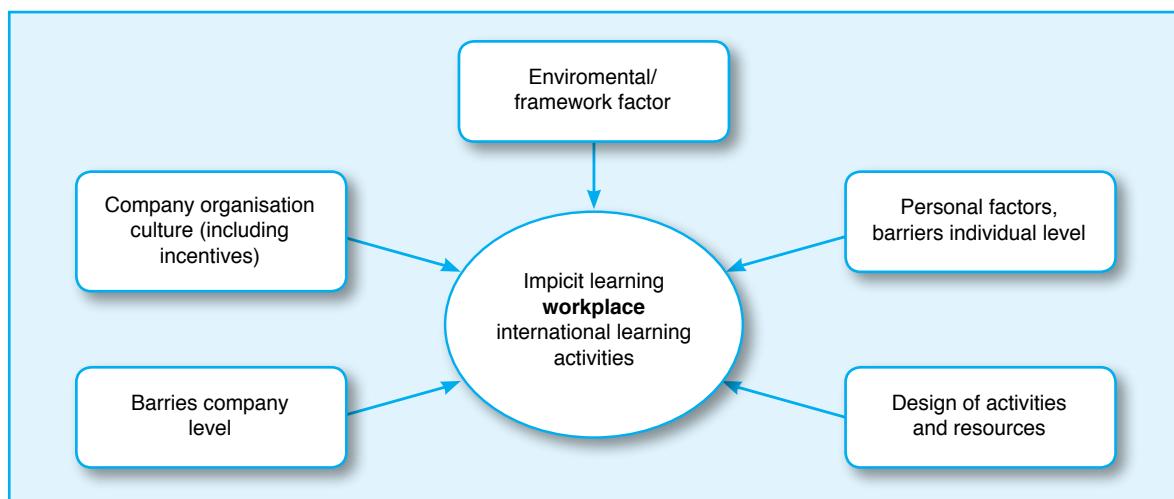
The prevalence, nature and effectiveness of learning activities at the workplace and in companies depends on various factors. Awareness and understanding of these factors is a precondition in fostering and designing such learning, at firm level (business strategy) as well as at policy level. This section focuses the various factors influencing learning at the workplace (i.e. conducive factors, barriers, requirements, context conditions, etc.), while taking into account the very different forms and types discussed in the previous sections.

While earlier studies have often been restricted to factors or specific forms of learning, the aim of this section is to establish a broader and more comprehensive view and a corresponding systematisation of factors; this is based on bringing together existing research in this area. For example, Eraut et al. (2004) have developed a model of 'learning factors' and 'context factors' impacting on learning in organisations; several different factors promoting learning through work have been identified (Cedefop, Skule and Reichborn, 2002); and Ellström (2001) has suggested various factors facilitating or constraining integration of learning and work. By further developing this type of existing research, an analytical framework to systemise the diverse

influencing variables is outlined in Figure 1.

The figure roughly distinguishes between intentional and implicit (or non-intentional) learning activities, emphasising that both forms are current in companies and acknowledging the important role of learning purely through daily work experience and concrete problem-solving. 'Environmental framework factors' refers to the (business/social) environment external to the firm, for example market structure, technology development. 'Company organisation and culture', such as division of tasks, human resources development practices, and attitudes, have an important effect on learning processes in the enterprise. In addition, more structural 'barriers at company level' exist, which mainly pertain to the firm's 'capacity' to provide (intentional or planned) learning opportunities. At the same time, characteristics of the learner (typically the employee) are of relevance as well, shown as 'personal factors and barriers'. Finally, the specific 'design of learning measures and corresponding resources' (facilities) is important, especially with reference to organised or formal competence development activities. The different groups of factors are discussed more thoroughly below.

Figure 1. Factors influencing workplace learning



3.1. Environmental or framework factors

In order to survive and be successful, companies have to adapt continuously to the (changing) economic and social conditions of their wider environment. The adaptation process implies and requires the acquisition of new skills and competences – in professional, technical, management or social terms – also at workplace and job level, thereby almost inevitably influencing the degree and quality of learning in the work context. This relationship is empirically confirmed by Cedefop, Skule and Reichborn (2002) who identify a positive correlation between exposure to competition (of the entire company) and ‘learning-intensity’ of jobs, as based on an investigation of Norwegian enterprises. For employees, frequently adjusting to new tasks and challenges, a comprehensive work-process-type of knowledge is demanded (Section 1) which in turn calls for appropriate learning-conducive organisational and job design (see below).

Diversification of technologies and increasing specialisation of businesses represent another trend in external conditions leading to a drive towards more firm-specific and workplace learning. This is illustrated by Beynon et al. (2002) using the example of the UK printing industry where technological diversification and specialisation are limiting the exchange of staff among the industry’s companies. This has led employers to introduce and invest in new training provision, including a new apprenticeship scheme. Further support of this approach comes from an Austrian business survey showing that the main motive in apprenticeship training (mentioned by 91 % of surveyed firms) is to have young workers who exactly fit the firm’s specific requirements (Flixeder, 2000).

3.2. Company organisation and culture

For companies the question arises how best to meet the learning-related requirements and demands imposed by the business environment and how to foster and enable competence development and learning among the workforce.

In this context, company organisation and culture play an important role, especially in inducing implicit learning at work.

The potential for experience-based learning at the workplace is significantly determined by the organisational design of work. Although there is no one best way or form of learning-conducive work organisation, the literature suggests a number of options or elements favouring processes of learning through work and the acquisition of work-process-type knowledge and problem-solving abilities:

- (a) task variation in the job: frequently changing tasks give scope for applying skills and knowledge in different contexts, where new options for action and practices can be developed (Ellström, 2001; Frank et al., 2004; Dehnboestel et al., 2004). Project-oriented organisation is especially seen to provide such possibilities (Meier, 2002). Job rotation also constitutes an appropriate instrument in this respect. This may even extend to mobility across enterprises (for example in the case of apprenticeship);
- (b) complete and comprehensive work processes: the tasks and duties of employees should be defined broadly and comprise all phases from setting objectives, planning, and execution to control, therefore also including a certain degree of managerial responsibility. Only holistic tasks allow the employee to understand fully the individual steps of working processes (Ellström, 2001; Meier, 2002; Skule, 2004; Dehnboestel and Pätzold, 2004);
- (c) external contacts: possibilities for informal learning through outside contacts – in particular customers, but also suppliers, networks of colleagues, professional forums,

Box 6. Learning through external contacts in a service company

As an example, a UK business service company, with approximately 50 staff, provides opportunities for senior employees to be seconded for a short time to a client firm, with a view to learning more about the client’s perspective.

Source: Stone et al., 2006

trade fairs, etc. – is regarded as essential for competence development (Skule, 2004; Frank et al., 2004). Such outside networks as learning channels seem to be especially preferred by, and important for, entrepreneurs themselves and management level (Lans et al., 2004; Gielen et al., 2003). To be sustainable they need reciprocal functions.

- (d) teamwork and communication: collaboration and information exchange, including informal communication, make possible reflection on own practices, taking on new working practices, etc. (Frank et al., 2004). Boud and Middleton (2003) found that learning from peers is a predominant mode in work sites;
- (e) involvement in problem-solving: employee participation in problem-solving allows improved understanding of work processes and may induce ‘developmental’ activities (Ellström, 2001) and so-called horizontal or sideways learning (suggested by the learning models of e.g. Engeström, 2001 and Griffiths and Guile, 2003). A specific instrument is ‘partisan strategies’. Partisans are groups – sometimes temporary – aside from the routine organisation and working on particular tasks or problems with high autonomy and degrees of freedom. They question traditional practices and work towards innovative solutions (Meier, 2002).

Overall, the above elements suggest flatter hierarchies and more egalitarian power relations as advantageous to an organisation fostering (experience-based) learning at work (see also Boreham and Morgan, 2004). However, Lee et al. (2004) and Boud and Middleton (2003) correctly note that, apart from formally introduced company structures, informal structures and social relations (sometimes strongly bound informal CoP, ‘knowing the right people’, newcomers versus old-timers, etc.) are relevant. This in turn limits intervention to influence workplace learning.

Following company structure and organisation, leadership style may also influence learning processes at work. Feedback culture is regarded as highly important in this respect, where feedback is understood as information on results of actions (Ellström, 2001). Negative feedback is a central step in the learning cycle and can help to correct false assumptions, break inadequate routines, and stimulate exploration. However, as Ellström

(2001) notes, a too strong emphasis on short-term feedback may impede learning results in the case of developmental, innovative forms of learning with a focus on creation of new practices. In addition, learning among employees is enhanced if the management acts as a role model in this respect (Kailer, 2006). If the management shows openness to new solutions this encourages explorative behaviour of workers.

Further, a clear and systematic overarching human resource policy seems to be conducive to general learning in the firm (Cedefop, Pukkinen et al., 2001). Smaller enterprises, however, especially lack such strategies and tend to follow ad hoc approaches. In general, personnel development appears to be more effective if more responsibility is put on line managers and their staff (e.g. needs assessment, selection of participants, evaluation), while the HR department mainly supports and advises line managers, initiating and suggesting new instruments, organising infrastructure, selecting external experts and educating and supervising trainers. Career policy is a particularly important HR policy element. Taking into account competence acquisition in career paths and advancements encourages learning efforts and the willingness of employees (Dehnboestel and Pätzold, 2004; Kailer, 2006). But rewarding skill acquisition is also possible through material incentives such as salary, bonuses, etc. (Lee et al., 2004; Meier, 2002; Skule, 2004). However, as Beynon et al. (2002) illustrate using a case from the UK banking sector, such pay structures have to be carefully designed to ensure fairness and balance in relation to other wage determinants. Finally, it is not only skill or knowledge acquisition which should be rewarded; providing incentives for knowledge transfer and sharing seems to be at least equally important.

In designing work organisation, firms often disregard the potential effects on learning. This is not simply because the creation of learning-conducive working conditions may imply contradictions with purely production- or cost-oriented criteria of organising work. Often, businesses are unaware of the fact that unintentional or experience-based learning takes place at all and such type of informal learning may not be regarded as learning (Lans et al., 2004).

3.3. Design of (semi-)intentional learning activities and applicable resources

The conditions discussed above relate to the general design of work organisation and business strategy and do not refer to how particular and more intentional learning activities should be organised. However, much intentional and explicit learning takes place in enterprises as well. Moreover, some authors suggest that at least some structuring (semi-structuring) and support to informal implicit learning can improve its effectiveness or may even be imperative (Nyhan, 2005; Lans et al., 2004; Schneeberger and Petanovitsch, 2005; Ellström, 2001). This is referred to by Dehnboestel and Pätzold (2004) when discussing new forms of learning, where work infrastructure is enriched by learning infrastructure (environments), for example learning islands or quality circles (see descriptions in Section 1). In such environments the same tasks are carried out with more time available, especially for reflection, and with the support of varied learning materials. So, organised learning is combined with informal experience-based learning.

Another example is what Boreham and Morgan (2004) call ‘opening space for the creation of shared meaning’. This refers, for instance, to the documentation of common experiences and best practices in a company’s operating procedures or to a tutor pack used in a collaborative process as a vehicle for the consideration of how work is organised and how knowledge can be shared (Unwin et al., 2005). From a learning theory point of view these are examples of how implicit knowledge is transposed to explicit knowledge by way of externalisation.

Box 7. Structuring implicit learning and making knowledge explicit: the case of a small manufacturing firm

An example of ingeniously organised implicit learning is found in an Austrian cable manufacturer, approximately 10 staff, using a firm-specific questionnaire game. The questions refer to organisational issues, work procedures, products, customers or competitors (e.g. who are our five most important competitors?). The game is played once a month among the staff. New questions can be included any time. In this way, knowledge which may otherwise be exchanged informally and unstructured, is disseminated in an organised and controlled form.

Source: IKEI, 2005.

The importance of work process knowledge and problem-solving capabilities and experience-based learning forms in companies implies a changing role for teachers and instructors. They increasingly become facilitators and supporters of learning in all aspects (e.g. facilitating group work or discussion) rather than being content experts and transferring knowledge (Lans et al., 2004). The new tasks also include providing guidance and coaching as well as monitoring and assessing competences (Cedefop, Tessaring and Wannan, 2004) and this also has implications for trainer education. However, from another perspective, manager education and skills also have to be adapted to pedagogy and teaching methods to support and structure learning processes in workplaces.

Notwithstanding the importance of social interaction in learning processes, individualisation represents another trend in organising learning activities, in schools as well as in companies. Individual learning support is seen as a critical factor in stimulating and motivating to learn, particularly with different starting positions such as disadvantaged or more talented employees (Flixeder, 2000; Lans et al., 2004). For example, the specific requirements of an ageing workforce should be taken into account, as in assistance with modern learning techniques (Kailer, 2006). One example is e-learning, where individual support is a pre-condition for learning success.

3.4. Barriers at company level

The preceding sections deal with the conditions businesses should put in place to promote learning at work; this section focuses on factors hindering businesses that wish to be more active, especially in intentional and organised learning activities

and competence development. Barriers for SMEs have been investigated in a number of studies. Recent research among 765 SMEs from five European countries (¹⁸) demonstrated that for these enterprises organisational problems were the main barrier to competence development, even more than financial constraints (IKEI, 2005; see also European Commission, 2003a). Organisational problems mainly refer to the daily workload of employees, business pressure and the associated scarcity of resource 'time' (Table 9). Also, the CVTS of 1999 identifies 'no time' as a more significant barrier than 'too expensive' for firms to provide continuing training. Indeed, time is regarded as one of the most important learning resources and a conflict between available time and learning is repeatedly cited (e.g. Ellström, 2001). Considering the demands of increasing competition, i.e. more learning especially of work-

process-type knowledge, firms face a dilemma when pressures on resources increase and they have to be allocated to immediate work.

Another recognised barrier is lack of awareness and proper assessment of learning needs, in particular for very small firms which often lack dedicated HR expertise (see also Cedefop, Pukkinen et al., 2001; Stone et al., 2006) (¹⁹). This is also connected to uncertainty regarding the benefits or return on investment of competence development and leads to a lack of initiative. Moreover, such returns can have significant lead times (Skinner et al., 2003).

Finally, training continues to suffer from the problem of how investment can be secured over the long term. The fear of skilled labour being poached by competitors is not to be neglected, as the data show; this can make employers prefer informal and non-certified training.

Table 9. Barriers for enterprises to engage in competence development activities (percentage of enterprises identifying the barrier as significant)

	Enterprise size (employees)		
	10-49	50-249	total
Insufficient budget/costs are too high	34.1	35.4	34.3
Employee workload makes activities difficult to organise	36.4	38.6	36.8
Difficult to assess the firm's knowledge and skill needs	8.2	3.4	7.3
Lack of information on possible sources of knowledge/skills	8.8	3.7	7.9
Available sources of skills and knowledge are unsatisfactory	8.1	9.8	8.4
Lack of motivation of employees	24.8	12.9	22.7
Risk of trained employees being poached by competitors	16.9	15.5	16.7
Lack of government support	22.3	24.0	22.6

Source: IKEI, 2005.

Box 8. Assessment of learning needs: the case of a medium-sized manufacturing firm

A UK pump system manufacturer, approximately 150 staff, carries out an on-the-job assessment for each role in the company, with an analysis of the competence and skills required currently as well as those anticipated for five years hence. From this, a training programme is developed individually, for each employee.

Source: Stone et al., 2006

(¹⁸) Spain, France, the Netherlands, Austria, Finland.

(¹⁹) More information on the application of relevant management tools by SMEs is provided in Section 4.

3.5. Personal factors and employee barriers

Learning efforts and learning success is not only dependant on organisational conditions, activities and barriers on the part of the firm, but also on personal factors and barriers among the recipients of learning, i.e. the workers.

A key factor is what Ellström (2001) calls learning readiness, which may comprise different components and, in turn, be partly influenced by organisational conditions. For example, basic attitudes to learning and motivation in the specific context play a role (Meier, 2002). Higher motivation does not only lead to the person accepting suggestions or offers to learn, but also to a proactive approach to identifying learning options (Marsick and Watkins, 2001). Willingness to learn can be limited if the specific needs and potential benefits are not apparent, so incentive structures provided by the company – including time made available during working hours – can encourage motivation to learn. Career purposes have been identified as the most important reason to attend vocational courses for the age group up to 35 years (Schneeberger and Mayr, 2004); it is also mentioned as a major motivation by 30 % of European working citizens in the 2004 Eurobarometer on vocational training (European Commission, 2005). Increased visibility and applicability of informally acquired competences can encourage learning, emphasising the importance of recognition and the potential to continue formal education. The Eurobarometer survey showed that recognition and certification would encourage training for 24 % of respondents.

Learning readiness does not only refer to attitudes and motivation, but also to learning capabilities. First, general educational level

seems to positively influence learning on the job (Cedefop, Skule and Reichborn, 2002; European Commission, 2005). Second, learning through experience appears to presuppose some related initial explicit knowledge which cannot be acquired by experience (Ellström, 2001). This, however, indicates that learning through experience or at the workplace cannot be regarded as a full alternative to explicit and formal knowledge transfer, nor does it balance out differences in initial education; the combination of both appears most effective.

Learning and knowledge transfer does not only involve recipients but also providers. Especially in workplace settings, where learning happens informally through social interaction (e.g. colleagues), the providers do not always have an explicit teacher role. In a work context various factors may hamper teaching, instruction and support; for example the fear of worsening one's own position (having competitors for advancements, eventually losing the job) when transferring knowledge (Kailer, 2006). Consequently, teaching readiness or readiness to transfer knowledge has to be encouraged and taken into account in incentive structures.

Box 9. Encouraging teaching at the workplace: the case of a large manufacturing firm

In a Latvian electrical equipment manufacturer, with approximately 700 staff, senior employees are involved in mentoring and training newcomers for three months at a time. The mentors receive an additional remuneration of up to one quarter of their regular monthly salary.

Source: Mandl et al., 2006.

4. Costs, benefits and quality management

In an increasingly competitive business environment, company-based competence development has to be economically justified in terms of costs and benefits. This section focuses on what challenges businesses face when attempting to measure input and output of training activities, what practices they are actually applying to do so, and what they are doing or can do to manage and assure quality in their competence development efforts.

Assessing the costs and benefits of VET is not only an issue for firms, but for society as a whole. However, types of and conditions for workplace learning are very diverse, and research results on outcomes from company training investment in general do allow for conclusions at individual firm level or for individual training practices. Moreover, methodological problems in measuring benefits are serious. Investigation of individual cases finds that training provided by businesses generally pays off (Cedefop, Descy and Tessaring, 2005); a few selected approaches are presented below.

For the firm, assessing the costs and benefits of learning and training activities is only one element in managing competence development; there are

also planning, control and quality assurance. Such a management system is frequently associated with a number of deficits or problems, in particular for smaller enterprises.

First, competence development management covers mainly organised learning and training and regularly disregards the majority of informal learning within the company (Meier, 2002). This is to a certain extent due to the fact that the awareness of implicit learning processes is low and rarely intentionally influenced (Section 3). However, to grasp and make explicitly visible the status of a firm's broader 'learning culture', so-called learning culture inventories have been developed in recent years. These are diagnostic ways to measure an organisation's learning culture from different aspects such as framework conditions, cooperation among colleagues, leadership, information exchange and personnel development.

Second, even for organised training activities, effects are difficult to assess, in particular as far as benefits are concerned (costs are easier to evaluate). Problems occur at different levels of evaluation (Figure 2).

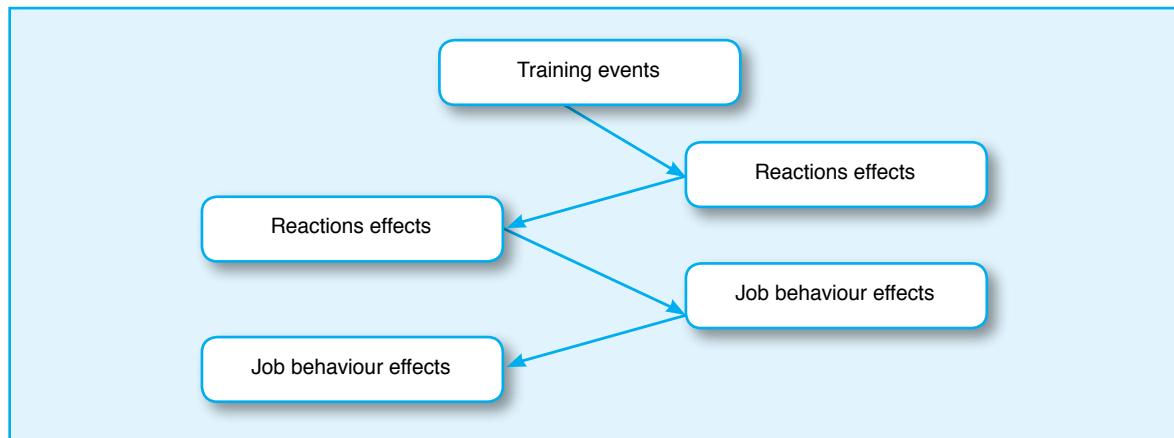
Box 10. Selected studies measuring effects of company-based training

A comprehensive survey-based analysis of costs and benefits of in-company vocational training (apprenticeship) in Germany shows that results vary widely depending on various factors, although, overall, the balance is regarded to be positive when applying a broad understanding of benefits and a long-term view (Beicht et al., 2004). Only for a small proportion (approximately 15 %) of enterprises would find that training does offer benefits. Influencing factors are the business cycle (growth increases the potential to utilise the investments) and, on the cost side, remuneration received by trainees. When taking into account positive external effects results become even more favourable.

As well as examining more formal work-based education and training, impact assessments have also been carried out in the frame of analysing so-called high performance work systems (HPWS). A central element of such work systems is informal learning processes and knowledge creation. Looking at HPWS in the US, Appelbaum et al. (2000) found that differences in how quickly knowledge is accumulated, how widely it is dispersed, and how easily it is passed along to subsequent cohorts all affect rates of productivity growth among firms and that productivity growth is likely to be higher in plants with a HPWS. Some studies have attempted to measure effects of on-the-job CVT through changes in participant (employee) income. Such research found mixed evidence, but by and large a slightly positive impact of job-related training on wages and salaries could be identified (Büchel and Pannenberg, 2004).

Summarising a number of training impact studies, Hansson et al. (Cedefop, Hansson et al., 2004) conclude that continuous vocational training provided by companies leads to substantial gains for employers (e.g. productivity, profitability). However, research results are not entirely consistent with respect to whether informal/specific or formal/general training is more effective. In any case, the effects of training seem to materialise only at least one to two years after training.

Figure 2. Levels of evaluation



In many cases the assessment is limited to 'reaction effects', i.e. subjective views of participant satisfaction immediately after receiving training. 'Learning effects' refer to new knowledge acquired and can be evaluated only for cognitive content. More important, however, is what can be transferred to the workplace and applied practically (job behaviour effects). That transfer of new knowledge and skills is often not evaluated, for example because relevant performance criteria do not exist. In addition, there may be many positive side effects which are difficult to capture. As Stone et al. (2006) report on basis of their analysis of 50 high performance work systems (HPWS) SMEs in the UK, training motivates internally and is encourages loyalty and commitment. It impacts positively on customer care, innovation, and creativity.

Finally, 'organisation effects' pertain to performance changes at organisation level. Further, a causal relationship between training efforts and changed behaviour in the working context or organisation effects is hard to determine, especially over longer periods of time, as many other influencing factors may interfere (Bergmann, 2003).

These measurement and causality problems can be overcome only with cost- and time-consuming methods such as control groups, and the challenge of correctly evaluating effects increases in proportion to behaviour-oriented learning and (non-organised) developmental learning. In this sense, the sophistication of a firm's controlling instruments may not necessarily be seen as an indicator for the quality of learning and competence development in the firm.

The above analysis of 50 HPWS SMEs reveals

that many companies do not systematically calculate or measure costs and benefits in competence development. They are not certain how cost-effective their systems are and quantifying resources and outcomes are regarded as problematic. Moreover, training is seen in a wider context of motivation and commitment (Stone et al., 2006). A qualitative research study among 26 American large corporations shows that this holds true not only for SMEs. The question to managers about linking learning to business results generated many comments about the difficulty of measuring learning's value in business terms and the challenge of isolating its contribution (ASTD, 2006). Case study research from Germany found that the success of different forms of work-integrated learning in companies is typically measured implicitly through informal observation (Grünwald et al., 1998).

Data from Eurostat's 1999 continuing vocational training survey (CVTS) confirms the patterns discussed above. Overall, only 44 % of EU-25 companies providing CVT for their employees manage to evaluate its effects (small firms 39 %, medium-sized 52 %, large 71 %). Measuring satisfaction levels (i.e. reaction effects) is the most common approach, used by more than 70 % of those making assessments. Tests to check new competences (i.e. learning effects) are used by only 30 %. Performance indicators related to work processes and results (job behaviour effects) were found in only 19 % of enterprises, while differences between size classes are small.

Third, systematic evaluation of employee performance and competences is also difficult, in particular for non-cognitive and more behavioural

and tacit-type knowledge and skills (social skills, problem-solving capabilities, creativity, context knowledge, etc.). More sophisticated approaches like work samples, recorded observation, etc., are cost-intensive and the quality criteria of measurement are still questionable (Cedefop, Straka, 2004). This contributes to the fact that there are rarely any efforts in enterprises today to record, document or recognise competences acquired in work processes. Assessments of such competences are normally done in (non-systematic) appraisals and reviews via a dialogue between manager and employee, with a high degree of self-assessment (Frank et al., 2004). The 50 HPWS SMEs analysed by Stone et al. (2006) all operate a system of performance appraisals or reviews.

Finally, systematic training also needs assessment and written training plans are not applied by the majority of European SMEs. A recent survey among 765 SMEs from five European countries (20) reveals that approximately one third have implemented such competence management tools, with the occurrence increasing with firm size (Table 10). The figure for the 50 UK-based HPWS firms (see above) is approximately 40 %; Eurostat's 1999 CETS has similar frequencies in assessment of training/skill needs. An average 32 % of enterprises across the EU use this tool, ranging from 29 % for firms with 10-49 employees, 45 % in the 50-249 group, and 57 % for larger enterprises.

Although highly professional and systematic competence development management may, in principle, be regarded as an important success factor for learning and training in companies, its low take-up, especially in SMEs, is not only down to low awareness and insufficient management.

There are a number of deterrents: the costs of maintaining a sophisticated system; the inherent methodological problems of reliability and validity; and the need for more flexible systems for designing training and learning in environments requiring multi-faceted, tacit knowledge that allow quick response to new opportunities and situations. Thus, even though there is room for upgrading competence management in smaller businesses, care should be taken to not overregulate nor overstandardise processes of learning and training in SMEs.

Box 11. Comprehensive quality assurance in competence development in a medium sized manufacturing firm

A Dutch machine parts manufacturer, with approximately 85 staff, showed that existing quality assurance systems for competence development can also be used in medium-sized companies. In recent years production planning has become an important issue and more workers are involved in production process programming. This demands constant reflection at planning and operative levels and intensive cooperation between both. Employees had to develop a more holistic view of tasks, while the continuous innovation, quality and flexibility required to stay competitive in turn requires closer cooperation with customers. Company success depends on the knowledge and skills of its employees, so the company runs an active training strategy linked to overall business strategy. A system of measurement and evaluation of staff performance, and regular monitoring of competence development, have been introduced. The company complies with the Investors in People Standard and was awarded appropriate certification.

Source: IKEI, 2005.

Table 10. Percentage of enterprises with formal management tools for competence development

	Enterprise size (employees)		
	10-49	50-249	total
Formal system for evaluating personnel performance	30.5	51.9	34.4
Formal system for evaluating personnel training needs	28.8	50.6	32.7
Written training plan	29.8	68.8	36.9

Source: IKEI, 2005.

(20) Spain, France, the Netherlands, Austria, Finland.

5. Recent and innovative policy initiatives

National and European public authorities have developed a wide range of measures to foster workforce competence development, either targeted specifically at employees or employers or concerning structural changes in the training framework. However, the majority of these initiatives relate to formal learning from institutionalised training providers (Cedefop, Pukkinen et al., 2001) as this kind of learning is more visible, measurable and, therefore, controllable than (informal) workplace learning from a policy point of view. Nevertheless, instruments focusing on workplace-related learning are also being increasingly developed. This includes formal training and access to external consultancy services as well as more informal empowering tools for management and organisational innovation (European Commission, 2003a).

This section highlights recent and innovative measures introduced above company level, such as State VET systems, government policies, support instruments, measures implemented by social partners, etc. It is not the intention to provide a substantial overview or detailed list of all respective measures available at national or European level. Instead, it discusses responses to new developments and changing requirements in workplace learning plus several issues (i.e. barriers/obstacles) raised in Section 3.

Measures to foster workplace learning may be linked to different immediate objectives (such as stimulating training or increasing productivity) and take different approaches. These range from changing the legal framework facilitating competence development in companies, to assistance in detecting training needs and planning appropriate efforts in direct support (e.g. provision of training programmes or financial support) (IKEI, 2005). The following policy initiatives favouring workplace learning are grouped according to the

domains addressed, although overlaps may occur where specific measures respond to different aspects.

5.1. Financial support for workplace learning

European governments not only provide but also fund vocational training provided by private sector suppliers. Public funding of CVT is a traditional core policy instrument justified by the fact that firms would not be in a position fully to secure their investments in training and that there are clear positives related to training. Financial constraints rank second as barriers to CVT provision (Section 3) but, in most of these cases public financial support relates to training measures external to the company (i.e. not learning at the workplace in the strict sense). Programmes implemented within an individual company are mostly only subsidised if they are conducted by an external training provider and use of the new knowledge/skills is not restricted to the specific enterprise; this is, for example, the case for tax refunds or subsidies for training costs (²¹). This also holds true for financial incentives targeted at individuals to stimulate them to undertake learning opportunities (e.g. grants, learning accounts, income support). Exemptions are found in the Netherlands and Luxembourg where the costs of internal training (the wage costs of the trainers) are eligible for the tax allowances (Schneeberger and Mayr, 2004). So, if a Dutch company organises training for its own employees, costs for teacher wages, instruction rooms and study equipment are deductible from corporate income tax, if they are used at least for 70 % of the time for training activities (Jansen, 2003).

One of the comparatively few examples of public

⁽²¹⁾ Some of the public expenditure for fostering vocational training is, however, also directly dedicated to training in companies. This might refer to apprenticeship training or training for slow learners, handicapped persons or socially impaired juveniles. These above-mentioned approaches may be seen to constitute rather traditional public support, e.g. wage subsidies; they are omitted in this report.

financial support for learning at the workplace refers to the transitory programme 'on the job' training (in-work training). A programme from the Greek organisation OAED (22) addresses enterprises or consortia of enterprises employing at least 100 persons and conducting activities to complete and improve vocational skills of their employees (i.e. internal CVT courses). It involves 63 industries and more than 250 vocational specialisations across Greece. Enterprises have to design and submit their training proposal (including the 'curriculum' and its modes of materialisation) and receive – if awarded – 50 % to 70 % of the necessary financial means from OAED and the European Social Fund (ESF); the remaining costs are contributed by the enterprises. For enterprises with fewer than 300 employees a training provider must be hired; larger enterprises may provide training from their own resources.

The Italian law 236/93 finances company training plans (company-based training or experimentation for individual training courses) for micro enterprises and for lower-qualified workers and those in precarious occupations (23). Companies may apply for contributions to carrying out continual training, i.e. jobs enabling adjustment or improvement of worker experience. The educational activities must relate to quality, technological and organisational innovation or safety and environmental protection. The public contribution granted to single firms (companies of all sizes are eligible) can reach a maximum of EUR 25 000, while applications from partnerships of companies are supported up to EUR 100 000 (with a maximum of EUR 25 000 per enterprise). The company must guarantee a financial support of at least 20 % of the total cost of the project.

A different approach has been chosen in the Spanish *Servicio de Integración Activa en la PYME* (service for active integration in SMEs) offered by the High Council of Spanish Chambers of Commerce and the National Employment Institute (IKEI, 2005). Targeting both regional SMEs (up to 250 employees) and job seekers, the first stage of the initiative identifies SME skill needs in a specific region. On this basis, free training including general knowledge (such as personal

development and information technologies skills) and job-specific training is provided to selected candidates registered with the Public Employment Service. A third stage provides paid internships with companies of up to two months, mainly funded by the Public Employment Service (70 %-75 % of the total budget). During the first wave of the measure (2002-03) training was provided to 1 005 participants, 482 of which were afterwards hired by SMEs.

In 2003, the reform of French vocational training on the initiative of the social partners (IKEI, 2005) introduced the so-called professionalising contract (*contrat de professionalisation*). In this, young people up to 26 years and the unemployed are entitled to a combination of an employment contract of 6 to 12 months and training during at least 15 % of the contract length (minimum of 150 hours). In an assessment of the reform in July 2004, 73 % of the SMEs were considering applying this contract type and expected advantages from it including recruitment potential, tailor-made skills for the company, and flexibility. Some 58 % of the respondents indicated that they would use this contract for recruiting young graduates, 32 % for young unemployed, 23 % for unemployed over 26 years and 14 % for disadvantaged people (handicapped, long-term unemployed, etc.).

5.2. Awareness on the importance of workplace learning

In Sections 3 and 4 it has been demonstrated that the awareness of learning processes taking place at the workplace may be low and that effects are difficult to measure and rarely visible for employers. This implies an underestimation of training benefits and an underinvestment in profitable training projects. So, institutional and/or legal infrastructures encouraging employers to invest in training and making them aware of the potential benefits would seem to be a suitable instrument for fostering workplace learning (Cedefop, Descy and Tessaring, 2005).

(22) See on Internet: <http://www.oaed.gr/> [cited 4.7.2007].

(23) See on Internet: <http://www.fondosocialeuropeo.it/ennewfse/aziende.htm> [cited 4.7.2007].

With the aim of increasing the awareness of the population of the relationship between continuous (vocational) training and employability, Slovenia emphasises the importance, necessity and omnipresence of lifelong learning: the Slovenian lifelong learning week was designed in 1996 to contribute to the development and dissemination of the lifelong learning theory and practice (²⁴). Traditionally, the seven-day event is held in the third week of October and brings together numerous organisations, associations and individuals committed to learning and education, with the aim of helping to develop a positive attitude towards learning and promoting the recognition of it as the key to a better life. The lifelong learning week thus helps to promote awareness of the fact that school education is not enough for the attainment of sufficient knowledge and skills to last the whole lifetime; all paths for one's personal development, including creating a learning environment in companies and the value of non-formal and informal learning, must be open. The lifelong learning week was initiated and coordinated by the Slovenian Institute for Adult Education and proved an ideal occasion for celebrating outstanding adult learning achievement. During the week, many presentations, educational, informative, advisory, cultural and other events and exhibitions take place at national and local level. The project is sponsored by the Ministry of Labour, Family and Social Affairs and the Ministry of Education and Sports.

Another opportunity to encourage lifelong learning is the award of prizes to companies implementing innovative or efficient ways of continuously upgrading the skills of their employees. One example is the Austrian KnewLEDGE prize (²⁵) first awarded in 1999. The aim of this instrument is to reward innovative training concepts that have proven to be efficient in practice as well as to generate ideas among those responsible for personnel development. Participation is high and the feedback is very positive. The prize is awarded in three different categories (up to 100 employees, 101-500 employees and more than 500 employees) for innovative approaches across the economy, from traditional manufacturing to

information technologies services. In 2005, prizes were also awarded to a qualification network of construction companies in Upper Austria and the SOS Children's Villages. The award is based on a two-stage selection process conducted by a jury consisting of both theorists and practitioners. Award criteria are the holistic character of the personnel development in relation to corporate strategy, the inclusion of personnel development in the company planning, the target groups and their involvement in the development of the training plan, the implementation of the concept and the evaluation of the implementation. Alongside the annual prize awards various events (such as the KnewLEDGE congress in 2001) are organised to foster an exchange of good practice and the generation of new ideas (Strasser, 2005).

5.3. **Advice and consultancy to promote workplace learning**

Smaller enterprises, in particular, experience management and planning deficit in competence development; problems in identifying skill needs constitute a barrier repeatedly cited by employers. Hence, there is obvious demand among European businesses for support to evaluate competence gaps and in designing corresponding measures to overcome them. As a result, some European countries have established contact points for businesses providing them with appropriate advice and consultancy.

The REDE programme in Portugal provides advice on workplace training organised under the aegis of the Instituto do Emprego e Formação Profissional (employment and vocational training institute). Since 1996, the programme has offered consultancy and training and management support for small enterprises (less than 50 employees) over a year, focused on strengthening the enterprise's competitiveness; it mainly offers problem-solving and investment in new competences and necessary knowledge (vocational training). The support services are designed as tailor-made solutions to run at the workplace. After strategic analysis and

(²⁴) See on Internet: <http://llw.acs.si/> [cited 4.7.2007].

(²⁵) See on Internet: <http://www.knewledge.at/> [cited 4.7.2007].

creating a short-term action plan, the consultant supports operations using pedagogic material prepared for small enterprises. (see Ministério da Educação and Ministério da Segurança Social, da Família e da Criança, 2004) (26).

The Austrian *Qualifizierungsberatung für Betriebe* (qualification consultancy for enterprises) is offered by the *Arbeitsmarktservice Österreich* (Austrian public employment service) and funded by the Austrian Federal Ministry of Economics and Labour (supported by ESF funds) for the period 2000-06 (27). The programme consists of three operational measures:

- (a) *Qualifizierungsberatung zum Aufbau von JobRotation-Projekten* (qualification consultancy for implementing job rotation projects): the project provides the opportunity for employees in the federal states of Styria and Upper Austria to participate in training measures while unemployed persons fulfil their tasks as proxies. Employers are supported in establishing a JobRotation concept, a training plan for employees and job specifications and training plans for the proxy persons. Respective advice and consultancy of up to four days are covered by the Austrian public employment service and ESF;
- (b) *Qualifizierungsberatung zum Aufbau von Qualifizierungsverbünden* (qualification consultancy for implementing qualification networks): to intensify know-how transfer between enterprises, facilitate training activities and safeguard employment, the Austrian public employment service and ESF fund advice and consultancy of up to four days if at least three companies of which at least 50 % are SMEs, want to establish a qualification network. Support may involve establishing network management, agreeing common statutes, identifying qualification needs within the network or drawing up a qualification plan;
- (c) *Qualifizierungsberatung für Betriebe* (qualification consultancy for enterprises) offers specialised consultancy to small enterprises (up to 50 employees) to find the most appropriate

method of human resource management. It aims to draw up a target-oriented education plan for the employees during two days (maximum). Various promotional activities are carried out to raise awareness of the measure among Austrian companies: presentations at company visits by the Austrian public employment service; proactive telephone contacts with potential target companies; provision of information folders; and advertisements in target group magazines.

The Swiss FormaConseil (active in the Canton of Geneva) is a competence centre established by the government and the social partners to promote CVT at the workplace. It assists companies in identifying training needs and possible ways of covering them (including finding financial support possibilities), and assists and advises the company in specific actions in the enterprise. Since June 2004 businesses have been offered the CD-ROM Performances PME free of charge, providing a tool enabling companies to analyse their competence needs as well identifying corresponding training and financial support opportunities (28).

A related project providing consultancy through employee-oriented coaching on training was the German *Leben und Arbeiten* (LeA – life and work) model, initiated by the association of trade unions (29). In the period 2002-05 it aimed to qualify training coaches to assist lower- and medium-skilled workers in developing their qualification, learning or career strategies.

5.4. Providing modern instruments for workplace learning

Another type of support is public provision or support for e-learning courses; these favour learning at the workplace because they are independent of time and location (also see Section 1). Norway, for example, is characterised

(26) See also on Internet: <http://rede.iefp.pt/static/oquee/default.asp> [cited 4.7.2007].

(27) See on Internet: <http://www.ams.or.at/neu/1347.htm> [cited 4.7.2007]

(28) See on Internet: http://www.geneve.ch/ofpc/carrefour/conseil_formation.asp [cited 4.7.2007].

(29) See on Internet: http://www.dgb-boha.de/material/projekt_lea/ [cited 4.7.2007].

by a long history of distance education. The Norwegian information technology in open learning project originated in 1994 as a part of the European just in time open learning project and inspired in 1998 the creation of the Networked University (*Nettverksuniversitetet*) – a partnership among various Norwegian universities – aiming, among others, at facilitating lifelong learning in the workplace⁽³⁰⁾.

Another example of programmes directly targeted at companies is *learndirect*, launched in 2000⁽³¹⁾ by the University for Industry⁽³²⁾ in the UK on remit from government. The measure provides more than 550 courses (more than three quarter are available online) for the improvement of computer and office skills, self development, maths or English skills as well as a network of more than 2 000 online learning centres in England, Wales and Northern Ireland assisting the learners. Further, the University for Industry runs a government funded national learning advice service⁽³³⁾ offering impartial information, advice and guidance via phone or its website on more than 700 000 training providers and a free careers and guidance service. *learndirect* also provides specific benefits for businesses⁽³⁴⁾. First, it initiated national vocational qualifications (work-related, competence-based qualifications reflecting the skills and competences needed to do a job) so that the abilities of the staff can be assessed at work and trained at a time and place that suits the employer. Second, the programme helps upgrade the numeracy and literacy skills of the workforce. Third, ‘learning through work’ enables working people to achieve recognised university qualifications without taking time off, tailored to their individual objectives, needs and framework conditions (e.g. possible learning periods). Learning through work programmes may, among others, include activities and assignments or projects at work, online and/or distance learning

materials, university and college courses, personal or management development programmes undertaken at work in law, health and safety standards, software and computing, management and people skills or planning and finance. The University for Industry has developed separate approaches to working with small businesses as well as sector skills Councils and large employers to address their specific needs.

5.5. Cooperation among companies on workplace learning

For businesses, the main purpose of in-company learning is often to develop firm-specific knowledge and skills; businesses are often reluctant to share information and know-how with other companies. Nevertheless, this report has shown that experience in different contexts, for example different types of inter-company training, is conducive to learning. Further, inter-company training systems can help offset the lack of resources that hinders SME competence development (also see Section 2). Public support (e.g. in the form of sector- or industry-level initiatives) can encourage business cooperation in learning.

The Finnish workplace development programme TYKES (2004-09) is funded by the Finnish Work Environment Fund, the Occupational Safety Centre, the VETO programme of the Ministry of Social Affairs and Health, the National Technology Agency Tekes, the ESF and the TRIO programme coordinated by the Technology Industries of Finland. It aims to promote the modes of operation of Finnish companies while simultaneously enhancing productivity and the quality of life of the employees (qualitatively sustainable productivity growth)⁽³⁵⁾. This is to be achieved through cooperation between

⁽³⁰⁾ See on Internet: <http://www.nvu.no/> [cited 4.7.2007].

⁽³¹⁾ Since then, 1.3 million learners have enrolled on a total of almost three million courses. More than 60 % of the learners had not done any learning for at least three years before enrolling on their first course.

⁽³²⁾ The University of Chester, the University of Derby, the University of Central Lancashire, the Northumbria University, the University of Northampton, the University of the West of England, Bristol and Staffordshire University also now participate in *learndirect*.

⁽³³⁾ This service was launched in 1998 and has taken more than 6 million calls and 12 million hits on the website since then.

⁽³⁴⁾ See on Internet: <http://www.learndirect-business.co.uk/> [cited 4.7.2007].

⁽³⁵⁾ See on Internet: <http://www.mol.fi/mol/en/index.jsp> [cited 4.7.2007].

workplaces (i.e. management and staff of private and public entities with a focus on SMEs and welfare and health communities), researchers, consultants, public authorities and the social partners (triple helix model). The programme supports workplace development projects (e.g. improvements in employees' opportunities for development by focusing on human resource management), method development projects (e.g. the potential of information and communication technologies in the work organisation), learning networks and the dissemination of information on workplace development and the reinforcement of expertise on workplace development. The learning networks in TYKES (the applicants are typically research and development units) represent a new form of project activity, joining researchers and workplaces, the development of whose operations is supported by cooperation with external experts (e.g. consultancies, development agencies or regional actors). The purpose of the learning networks is to create new knowledge and expertise on qualitative sustainable productivity growth with wide applicability; they also look for learning and the creation and dissemination of new forms of cooperation at several levels. In the previous workplace development programme (1996-2003) 1 300 workplaces with 135 000 employees participated in about 700 projects. The evaluation results of the project (Pitkänen et al., 2003) show, among others, that by focusing on social innovation and with an emphasis on network building and companies' ability in learning and innovation, the programme has followed a broad systemic innovation policy approach in a national context dominated by a technology-oriented view on innovation.

The Irish training networks programme has been run by Skillnets since 1999⁽³⁶⁾. Skillnets was formed by industry stakeholders and is funded through the National Training Fund of the Department of Enterprise, Trade and Employment. It is an enterprise-led approach

to training and development through supporting the development of flexible and effective training delivery methods among enterprises experiencing difficulties in accessing or benefiting from training. In each network (most of them are sector-based), companies come together (also collaborating with experts, trainers, certifying bodies, industry bodies, etc.) and individually decide on the training they need and on how, where and when it will be delivered, instead of having to buy off-the-shelf products not addressing their specific needs. Company groups are enabled to manage their own training programmes which may, furthermore, be undertaken at times and locations that are convenient for them. Skillnets provide facilitation, information and funding to enable companies to deliver the solutions they feel are most appropriate to their size, sector and situation. As a result, this approach is particularly appropriate for SMEs lacking time, expertise and/or money to develop training tailor-made to their specific needs and directly relevant to their size and industry sector. By adopting a dual focus on both businesses and employees, Skillnets also enhances productivity and employability. This new approach has been enthusiastically welcomed by companies, staff, industry bodies, employers and trade unions. In total, since its establishment in 1999, more than 5 000 companies covering different sectors from pharmaceuticals and microelectronics to hotels and retailers have improved business competitiveness by up-skilling more than 30 000 trainees through Skillnets. The networks are provided funding for training purposes; in the second programme period (2002-05) about EUR 15 million were invested in Skillnets. Due to its considerable success, the programme's continuation until 2010 was announced in March 2005, with a budget of EUR 55 million. The funds are made available to the enterprise groups on the basis of competitive calls for proposals in 2005, 2006 and 2007. Funding to engage consultants to assist in developing the proposals is also available.

⁽³⁶⁾ See on Internet: <http://www.skillnets.com/> [cited 4.7.2007].

5.6. Changes in apprenticeship

Training cooperation between companies might be especially valuable for younger people as they not only benefit from enhanced training but gain insight into the processes and procedures of different enterprises; this provides more general experience than being limited to a single business. This seems particularly important if companies are serving niche markets and would be able to familiarise their trainees with only some of the skills needed more generally in the labour market. Therefore, the Austrian *Berufsausbildungsgesetz* (vocational training law) provides the possibility of *Ausbildungsverbünde* (joint training systems) in apprenticeship training. This is targeted at specialised companies wishing to train apprentices but unable to offer the full range of competences foreseen in the joint training curricula (for the obligatory system) and at companies wishing to equip their trainees with additional skills to be gained in partner companies (for the voluntary system). The joint training system might take the form of an exchange/rotation of apprentices among companies, skills development in other companies against payment or participation in courses or seminars at training providers against payment. Potential additional costs (such as seminar costs) are borne by the employer who may, however, apply for public support. A similar system was set up in 1999 in the German region of Wilhelmshaven in the form of the GOLO project focusing on the needs of specialised SMEs. Rotation of apprentices between different companies enriches learning provides a range of experience to help in acquiring a comprehensive occupational profile.

A number of countries (Austria, Belgium, Czech Republic, France, Germany, Hungary, Iceland, Luxembourg, Malta, Poland, Slovenia, Sweden, Turkey) have been working on modularising apprenticeship in recent years (Leney, 2004). As an example, the intention of modularising apprenticeship training has been included in the Austrian government programme of February 2003; an amendment of the *Berufsausbildungsgesetz*

(vocational training law) came into effect in February 2006. In related occupations, identical basic modules (lasting at least two years) aim to provide solid general education as the basis for the main training (at least one year) and specialisation modules (six months to one year).

The German government and the trade organisations DIHK, BDA, ZDH and BDI⁽³⁷⁾ agreed on the *Nationalen Pakt für Ausbildung und Fachkräftenachwuchs* in Deutschland (*Ausbildungspakt*) (national pact for training and prospective qualified personnel in Germany (training pact)) to alter apprenticeship training in 2004. In this, the government promised a reform of the vocational training law; in return, the associations are to offer the required number of apprenticeship training positions. In 2005, the *Gesetz zur Reform der beruflichen Bildung* (*Berufsbildungsreformgesetz*) (law to amend vocational training) came into effect. Part 2 of the law deals with vocational training, including further education and occupational retraining. To reinforce the internationalisation of vocational training, the law now also provides the opportunity to carry out some training abroad (not more than a quarter of the total education period) in an exchange programme. Other changes include the integration of module-based education with degrees for each level, auditing (e.g. possibility of passing parts of the final exams during the training period) or new forms of cooperation between companies and schools, including joint training systems. Further, people can also be admitted to the final apprenticeship exam without having participated in the regular training, if they are able to prove professional experience in the respective field of at least 1.5 times of the regular training period or provide certain certificates indicating the necessary skills and knowledge.

To facilitate the access to higher education for apprenticeship graduates, the City of Vienna financially supports a project dealing with a new education/training form called *Mit Lehre an die Fachhochschule* (with apprenticeship training to colleges of higher education). Since October

⁽³⁷⁾ DIHK, *Deutsche Industrie- und Handelskammer* (German association of industry and trade)

BDA, *Bundesverband der deutschen Arbeitgeberverbände* (federation of German employers' organisations)

ZDH, *Zentralverband des Deutschen Handwerks* (German confederation of skilled crafts)

BDI, *Bundesverband der deutschen Industrie* (federation of German industries)

2005, the Viennese college of higher education FH-Campus Wien (³⁸) together with Philips Austria prepares apprentices for the college of higher education to promote lifelong learning and give trainees better potential in the labour market. During the last part of apprenticeship training the participants take additional exams for the college courses (e.g. in German, mathematics, English or the specific occupational field) entitling them to study at the college after having completed apprenticeship training. Of the preparation work for these exams 50 % takes place during working time and at the premises of Philips Austria. The costs for the exams are born by FH-Campus Wien and the City of Vienna. In total, about EUR 86 000 are spent during the five-year project duration.

5.7. Visibility and measurement of informal learning

Non-formal and informal learning experienced outside of formal training provision is mostly unrecognised and unrewarded by the labour market. Developing and putting in place methodologies and systems to identify, assess and recognise non-formal and informal skills can help support lifelong learning systems by guaranteeing that learning efforts are credited and might contribute to learners' career paths independently of the settings in which the learning takes place. Further, this can also be valuable motivation for individuals as both further education and work position might be based on their actual competences, not only formal education (OECD, 2003). Most European countries have national policies on validating non-formal and informal learning, with legal initiatives, agreements between public authorities and social partners or even initiatives for better coordination of activities within the public sector (e.g. the *bilan de compétences* in France, the national vocational qualifications in the UK or the *realkompetanse* project in Norway) (Cedefop, Straka, 2004). However, individual

country policy formulation and implementation varies from the experimental to permanent systems (Cedefop, Colardyn and Bjørnavold, 2005).

The *dispositivo de evaluación y reconocimiento de la competencia* (device for the assessment and recognition of competence) was introduced in Spain in 2004 to recognise formally competence acquired through professional experience (IKEI, 2005). The measure is provided by the *agencia Vasca para la evaluación de la competencia y la calidad de la formación profesional* (Basque agency for the assessment of competence and quality of vocational training), a dependant body of the Basque Regional Government. The target group are persons aged 18+ with professional experience of at least two years, wishing to obtain a certificate acknowledging their skills and competence and/or being granted the chance of receiving a vocational training degree.

In France in 2002 the *loi de modernisation sociale* (law of social modernisation) introduced the *validation des acquis de l'expérience* (validation of competences acquired through experience), enabling all professionally active persons to benefit from a competences audit to obtain a certificate or title (³⁹). Validation of occupational experience is, therefore, formally equal to other proofs of competences (such as school or university certificates, apprenticeship training or participation in formal VET). All competences gained by paid, unpaid or voluntary work conducted for at least three years and directly related to the certificate to be attained are to be taken into account.

In Portugal, six pilot *Centros de Reconhecimento, Validação e Certificação de Competências* (centres for the recognition, validation and certification of competences) had been established in 2000. The centres work within the national system for accreditation, ratification and certification of competences, covering a system of key competence benchmarks with directives on recognising and validating four key competences, the methodology of assessing competences and a portfolio of personal competences.

⁽³⁸⁾ See on Internet: <http://www.fh-campuswien.ac.at/> [cited 5.7.2007].

⁽³⁹⁾ See on Internet: <http://www.umi.edu/> [cited 5.7.2007].

6. Conclusions for research and policy

The workplace plays a key role in acquiring and developing vocational skills and knowledge. Most vocational competence is learned in work environments and through work experience: this is a growing trend, as the type of knowledge – tacit, holistic, behavioural – required in contemporary work systems, exposed to high competition and constant change, is best or only acquired through experience-based learning and in business settings. At the same time, workforce skills are crucial to competitiveness, economic growth and living standards in Europe and within its companies. It is, therefore, imperative that this form of learning flourishes and meets today's and future challenges and demands. This is the responsibility not only of workers and employers themselves, but also of governments and society in general, as learning processes at the workplace have strong positive external effects. This section discusses some indications for action at these different levels.

6.1. Understanding learning at the workplace

Recent research on workplace learning and related concepts, in particular as far as conceptualisation and definitions are concerned, appears fragmented. A number of analyses of components or forms of work-related learning exist, addressing, for example, apprenticeship or CVT courses or developmental learning or work process knowledge. However, what seems to be missing is an informative overview of what forms of learning and training take place in companies, which could be systemised, for example, by degree of organisation (or explicit and intended versus implicit and non-intended), developmental versus adaptive, and behavioural versus cognitive. In addition, considerations of the statistical measurement of the various learning practices are required. This could form a starting point and reference frame for subsequent (empirical) in-depth analyses. Conceptual confusion is apparent in surveys on company-based training practices, where results are sensitive to definitions and

phrasing, and thus hardly comparable across surveys. This leads to the fact that, from the data at hand, a robust conclusion on the application of specific learning and training practices among European enterprises is difficult. Nevertheless, the following trends appear:

- (a) for all types of practices (formal or informal), activity increases with firm size;
- (b) SMEs have a clear preference for more traditional informal, work-integrated practices, though courses with external trainers are also highly valued;
- (c) non-traditional informal practices (e.g. quality circles) are increasingly common in larger firms but rarely applied in smaller, also the case with different forms of inter-company practices are.

6.2. Raising awareness about implicit learning processes at work

The organisational design of work strongly influences the potential for experience-based learning in a company. However, in many (smaller) enterprises the management is not aware of the fact that such implicit learning happens every day, nor that it can be influenced by how the work is organised. Awareness is prerequisite to encouraging learning in the work process. Policy, which is currently much focused on supporting and promoting course-type learning, could do a lot to raise this awareness and to provide advice (brochures, events, consultancy). The aim is not to suggest a one-size-fits-all model, but to provoke reflection about finding company-specific approaches. Therefore, some practical guideline for businesses, for example based on the factors discussed in this report, could be helpful. Moreover, an awareness raising strategy has to emphasise the business benefits connected to these learning effects (Fuller et al., 2003). This could be supported, among others, by way of case study research on the impact of different forms of work-integrated learning.

6.3. Promoting inter-company learning and training

Company-based training efforts are often intended to strengthen firm-specific skills and knowledge. Several other factors make businesses reluctant to engage in cooperative forms of training and learning (exchange programmes, job rotation across companies, etc.). Nevertheless, research shows that external contacts, new contexts and perspectives induce important learning effects. Policy has started to address this issue, but often the focus is on jointly organising courses, also to reduce costs. Action could be extended to more innovative forms of inter-company learning, for example staff exchange, visits, projects with customers or suppliers, benchmarking.

6.4. Incentive structures for learning and knowledge sharing

Material or immaterial incentives for acquiring skills and knowledge can contribute to learning motivation and learning activities but have to be designed carefully. Career perspectives may be more important than money, and recognition and certification also function as motivating factors. Companies should, however, also take into account incentives to overcome perceived disadvantages in transferring knowledge on the part of more experienced and senior workers, for example through rewarding mentoring or coaching activities.

6.5. Bringing elements of learning into work processes

Although work processes provide opportunities for competence development, this can be enhanced and made more effective by (semi-) structuring these processes or bringing in elements of intentional and organised learning. The latter refers to some modern concepts of

combining work infrastructure and learning infrastructure (e.g. learning islands) some of which are described in this report. Presently SMEs use these concepts rarely, partly because they do not know them and do not know how to implement them. Research and development should be carried out on adapting the models to the framework conditions of smaller firms. To disseminate information about these approaches could be part of the above awareness-raising strategy. However, in many cases, supporting learning effects is done through ad hoc tailor-made practices and structures, as is illustrated by examples in this report. Making such examples known among the business community can initiate reflection, resulting in new ideas tailored to one's own firm. Finally, bringing elements of learning into work processes also calls for a stronger emphasis on pedagogic and teaching skills among managers (not limited to instructors in the dual system). It may be useful to investigate further how to incorporate such competences in business manager education and training (e.g. curricula in business schools).

6.6. Barriers to training in SMEs: scarcity of time and lack of management expertise

Lack of time (on the part of employees) is the most important barrier to training activities for SMEs: training providers and policy designers should take this into account. This is another argument for work-integrated learning where the worker would not leave the workplace. Another barrier is the lack of dedicated expertise in managing competence development. This includes less systematic evaluation of employee performance and competences, of training needs, costs and benefits, and lack of training plans. Although this calls for consultancy and advice offered to SMEs to develop their management and quality systems, care should be taken to not overregulate or overstandardise learning and training processes in SMEs by implementing costly systems with questionable validity

and reliability. Enterprises should be aware that benefits of company-based competence development go beyond improvements in work behaviour, but extend to strengthening motivation, loyalty and commitment.

6.7. Experience-based learning at the workplace: building on initial formal knowledge/education

It is not realistic to regard informal learning at the workplace and experience-based learning as an alternative to explicit and formal knowledge transfer and to expect it to compensate for differences in initial education. Analyses have shown that general educational level and learning effects at the workplace correlate positively. A policy strategy seeing work-based or company-based learning as an alternative path to formal education is dangerous.

Country codes in figures and tables

AT	Austria	LU	Luxembourg	HU	Hungary
BE	Belgium	NL	Netherlands	LV	Latvia
DK	Denmark	PT	Portugal	PL	Poland
DE	Germany	SE	Sweden	SK	Slovakia
GR	Greece	UK	United Kingdom	SI	Slovenia
ES	Spain	NO	Norway	BG	Bulgaria
FR	France	CH	Switzerland	RO	Romania
FI	Finland	CY	Cyprus	LT	Lithuania
IE	Ireland	CZ	Czech Republic	MT	Malta
IT	Italy	EE	Estonia	EU-25	European Union (25 countries)

List of abbreviations

CoP	community of practice
CVT	continuing vocational training
CVTS	continuing vocational training survey
ESF	European Social Fund
EU	European Union
HPWS	high performance work systems
SMEs	small and medium-sized enterprises
VET	vocational education and training

Bibliography

- Appelbaum, E. et al. *Manufacturing advantage – why high-performance work systems pay off.* Ithaca: Cornell University Press, 2000.
- Archer, S. *Modularisierung der Lehrlingsausbildung.* Vienna: Federal Ministry of Economics and Labour/Institute for Research on Qualification and Training of the Austrian Economy, 2005.
- ASTD – American Society for Training and Development. *C-level perceptions of the strategic value of learning – research report.* Alexandria: ASTD, 2006.
- Baaske, W.E.; Lancaster, B. *Evaluierung der oberösterreichischen Implacementstiftungen.* Linz: Studia/Austrian public employment service, 2005.
- Beicht, U. et al. *Kosten und Nutzen der betrieblichen Berufsausbildung in Deutschland.* Bonn: BIBB Bundesinstitut für Berufsbildung, 2004.
- Bellmann, L.; Leber, U. Betriebliche Weiterbildung. Denn wer da hat, dem wird gegeben. *IAB Forum* (2/05). Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit (IAB), 2005, p. 52-55.
- Bergmann, G. Bildungscontrolling: Transfer – Evaluation. In Hofmann, L.M.; Regnet, E. (eds). *Innovative Weiterbildungskonzepte.* Göttingen: Hogrefe, 2003, p. 267-279.
- Beynon, H. et al. *Managing employment change – the new realities of work.* Oxford: Oxford University Press, 2002.
- BIBBforschung. *Zukunft der Berufsausbildung aus Sicht von Experten.* Bonn: BIBB – Bundesinstitut für Berufsbildung, 2005.
- Boreham, N.; Morgan, C. A sociocultural analysis of organisational learning. *Oxford Review of Education*, 2004, Vol. 30, No 3, p. 307-325.
- Boud, D.; Middleton, H. Learning from others at work: communities of practice and informal learning. *Journal of Workplace Learning*, 2003, Vol. 15, No 5, p. 194-202.
- Brussig, M.; Leber, U. Formelle und informelle Weiterbildung im Ost-West-Vergleich. In Bellmann, L.; Sadowski, D. (eds). *Bildungsökonomische Analyse mit Mikrodaten.* Nürnberg: IAB – Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit, 2005, p. 123-143.
- Büchel, F; Pannenberg, M. Berufliche Weiterbildung in West- und Ostdeutschland. *Zeitschrift für ArbeitsmarktForschung (ZAF)*, 2/2004, p. 73-126.
- Cedefop; Colardyn, D.; Bjørnavold, J. *The learning continuity: European inventory on validating non-formal and informal learning. National policies and practices in validating non-formal and informal learning.* Luxembourg: Publications Office, 2005 (Cedefop Panorama series, 117).
- Cedefop; Dehnbostel, P.; Dybowski, G. Company-based learning in the context of new forms of learning and differentiated training paths. In Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training research in Europe 2000: background report, Volume 1.* Luxembourg: Publications Office, 2001, p. 391-429 (Cedefop Reference series).
- Cedefop; Descy, P; Tessaring, M. *Training and learning for competence: second report on vocational training research in Europe: synthesis report.* Luxembourg: Publications Office, 2001 (Cedefop Reference series, 6).
- Cedefop; Descy, P; Tessaring, M. *The value of learning: evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report.* Luxembourg: Publications Office, 2005 (Cedefop Reference series, 61).
- Cedefop; Hansson, B. et al. The impact of human capital and human capital investments on company performance. Evidence from literature and European survey results. In Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report.* Luxembourg: Publications Office, 2004 (Cedefop References series, 54).
- Cedefop; Pukkinen, T. et al. *Funding continuing training in small and medium-sized enterprises: discussion and case studies from across the EU.* Luxembourg: Publications Office, 2001 (Cedefop Panorama series, 17).

- Cedefop; Skule, S.; Reichborn, A. *Learning-conducive work: a survey of learning conditions in Norwegian workplaces*. Luxembourg: Publications Office, 2002 (Cedefop Panorama series, 30).
- Cedefop; Straka, G.A. Measurement and evaluation of competence. In Cedefop; Descy, P.; Tessaring, M. *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop References series, 58).
- Cedefop; Tessaring, M.; Wannan, J. *Vocational education and training – key to the future: Lisbon-Copenhagen-Maastricht: mobilising for 2010*. Luxembourg: Publications Office, 2004 (Cedefop synthesis of the Maastricht Study).
- Colley, H. et al. *Non-formal learning: mapping the conceptual terrain; a consultation report*. Leeds: Lifelong Learning Institute, 2002.
- Cordes, M.; Sauter, W. Blended Learning-integrierte Lernlösungen mit individueller Selbststeuerung der Lernenden. In Hugl, U.; Laske, S. (eds). *Virtuelle Personalentwicklung. Status und Trends luKT-gestützten Lernens*. Wiesbaden: Deutscher Universitätsverlag, 2004, p. 121-142.
- Daelen, M. et al. *E-learning in continuing vocational training, particularly at the workplace, with emphasis on small and medium enterprises*. Brussels: European Commission, 2003.
- Dehnhostel, P. *Informelles Lernen: Arbeitserfahrungen und Kompetenzerwerb aus berufspädagogischer Sicht*. Überarbeiteter Vortrag anlässlich der 4. Fachtagung des Programms 'Schule – Wirtschaft/Arbeitsleben'. Neukirchen/Pleiße, Germany, 18-19 September, 2003.
- Dehnhostel, P.; Pätzold, G. Lernförderliche Arbeitsgestaltung und die Neuorientierung betrieblicher Bildungsarbeit. In Dehnhostel, P.; Pätzold, G. (eds). *Innovationen und Tendenzen der betrieblichen Berufsbildung*. Stuttgart: Franz Steiner, 2004, p. 19-30.
- Ellström, P.E. Integrating learning and work: problems and prospects. *Human Resource Development Quarterly*, 2001, Vol. 12, No 4, p. 421-435.
- Engeström, Y. Expansive learning at work: toward an activity theoretical reconceptualization. *Journal of Education and Work*, 2001, Vol. 14, No 1, p.133-156.
- Eraut, M. et al. *Learning in the professional workplace: relationships between learning factors and contextual factors*. San Diego: AERA 2004 Conference, 2004.
- European Commission. *Communication from the Commission: making an European area of lifelong learning a reality*. Brussels: European Commission, 2001 (COM(2001) 678 final).
- European Commission. *The European observatory for SMEs, 2003/1: competence Development in SMEs*. Luxembourg: Publications Office/KPMG Consulting/EIM Business and Policy Resarch/ENSR – European Network for Social and Economic Research, 2003a.
- European Commission. *The European observatory for SMEs, 2003/7: SMEs in Europe 2003*. Luxembourg: Publications Office/KPMG Consulting/EIM Business and Policy Resarch/ENSR – European Network for Social and Economic Research, 2003b.
- European Commission. *Eurobarometer on vocational training*. Luxembourg: Publications Office, 2005 (Special Eurobarometer, 216).
- European Commission. *Classification for learning activities: manual*. Luxembourg: European Commission, Eurostat Unit F4, 2006.
- Eurofound. *Third European survey on working conditions 2000*. Dublin: European Foundation for the Improvement of Living and Working Conditions, 2001.
- Felstead, A. et al. *Better learning, better performance: evidence from the 2004 learning at work survey*. Leicester: National Institute of Adult Continuing Education (England and Wales), 2004.
- Fietz, G. et al. eLearning in Europe: needs, experiences and instruments: the GreTel project. In Fietz, G. et al. (eds). *eLearning for international markets*. Bielefeld: Bertelsmann, 2004, p. 15-37.
- Flixeder, R. *Hintergründe, Trends und zukunftsweisende Perspektiven des dualen Systems*. Linz: Johannes Kepler Universität Linz, 2000.
- Frank, I. et al. *Instrumente zur Erfassung informellen Lernens im Prozess der Erwerbsarbeit: Pilotstudie*. Bonn: BIBB, 2004.
- Fuller, A. *The impact of informal learning at work on business productivity*. Leicester: The University of Leicester, 2003.

- Gielen, P.M. et al. Learning entrepreneurs: learning and innovation in small companies. *European Educational Research Journal*, 2003, Vol. 2, No 1, p. 90-106.
- Griffiths, T.; Guile, D. A connective model of learning: the implications for work process knowledge. *European Educational Research Journal*, 2003, Vol. 2, No 1, p. 56-73.
- Grünewald, U.; Moraal, D. Moderne Weiterbildungsformen in der Arbeit und Probleme ihrer Erfassung und Bewertung in Europa. *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 2004, Vol. 18, p. 174-186.
- Grünewald, U. et al. *Formen arbeitsintegrierten Lernens: Möglichkeiten und Grenzen der Erfassbarkeit*. Berlin: Arbeitsgemeinschaft Qualifikations-Entwicklungs-Management, 1998.
- Hasebrook, J. Vom Informations- zum Kompetenzmanagement am Beispiel der betrieblichen Weiterbildung. In Hugl, U.; Laske, S. (eds). *Virtualle Personalentwicklung: Status und Trends luKT-gestützten Lernens*. Wiesbaden: Deutscher Universitäts, 2004, p. 331-341.
- Heinicke-Renner, A. Distance learning: zwischen e-(learning)-hype und nutzenorientierter Weiterbildung. In Hofmann, L.M.; Regnet, E. (eds). *Innovative Weiterbildungskonzepte: Trends, Inhalte und Methoden der Personalentwicklung in Unternehmen (3rd edition)*. Göttingen: Hogrefe, 2003, p. 237-250.
- Heitger, B.; Baudisch, C. Neue Perspektiven. In Hofmann, L.M.; Regnet, E. (eds). *Innovative Weiterbildungskonzepte: Trends, Inhalte und Methoden der Personalentwicklung in Unternehmen (3rd edition)*. Göttingen: Hogrefe, 2003, p. 27-46.
- IKEI. *Competence development in SMEs: practices and methods for learning and capacity building*. San Sebastián: IKEI, 2005.
- Jansen, S. *Tax treatment: comparison of tax expenditure and tax treatment of post-initial learning activities in Austria, Finland and the Netherlands*. Hertogenbosch: Cinop, 2003.
- Kailer, N. *Betriebliches Kompetenzmanagement: Problemfelder und Entwicklungsperspektiven*. Ibw-Mitteilungen, 1/2006, p. 1-7.
- Lang, M.; Pätzold, G. Neue Wege zum Erwerb von Arbeitsprozesswissen in hochautomatisierten Produktionsprozessen der Chemischen Industrie: Die Eignung netzbasierter Lernumgebungen zur Verknüpfung von formellem und informellem Lernen im Arbeitsprozess. In Dehnboestel, P.; Pätzold, G. (eds). *Innovationen und Tendenzen der betrieblichen Berufsbildung*. Stuttgart: Franz Steiner, 2004, p. 97-106.
- Lans, T. et al. *Quality indicators for assisting VET in new learning arrangements*. Paper presented to the European Conference on Educational Research, Crete, September 2004.
- Lee, T. et al. *Learning as work: teaching and learning processes in the contemporary work organisation. Workplace learning: main themes and perspectives*. Leicester: University of Leicester, 2004 (Learning as work research paper No 2).
- Leney, T. *Achieving the Lisbon goal: the contribution of VET*. London: QCA, 2004.
- Malhotra, Y. *Organizational learning and learning organizations: an overview*. New York: Brint Institute, 1996.
- Mandl, H.; Winkler, K. E-learning in der Weiterbildung. In Hofmann, L.M.; Regnet, E. (eds). *Innovative Weiterbildungskonzepte: Trends, Inhalte und Methoden der Personalentwicklung in Unternehmen (3rd edition)*. Göttingen: Hogrefe, 2003, p. 229-236.
- Mandl, I. et al. *Age and employment in the new Member States*. Dublin: European Foundation for the Improvement of Living and Working Conditions, 2006.
- Marsick, V.J.; Watkins, K.E. Informal and incidental learning. *New Directions for Adult and Continuing Education*, 2001, Vol. 89, p. 25-34.
- Meier, A. Bewertung von Kompetenzen und Kompetenzentwicklung. In Staudt et al. *Kompetenzentwicklung und Innovation. Die Rolle der Kompetenz bei Organisations-, Unternehmens- und Regionalentwicklung*. Berlin: Waxmann, 2002, p. 437-492.
- Meyer, R. Arbeitsprozessorientierte Weiterbildung in Klein- und Mittelbetrieben. Möglichkeiten und Grenzen der Umsetzung am Beispiel der IT-Weiterbildung. In Dehnboestel, P.; Pätzold, G. (eds). *Innovationen und Tendenzen der betrieblichen Berufsbildung*. Stuttgart: Franz Steiner, 2004, p. 212-221.
- Ministério da Educação; Ministério da Segurança Social, da Família e da Criança. *The role of national qualification systems in promoting*

- lifelong earning*. Paris/Lisbon: OECD, 2004.
- Neumann, R. Corporate University – Alter Wein in neuen Schläuchen? In Hofmann, L.M.; Regnet, E. (eds). *Innovative Weiterbildungskonzepte: Trends, Inhalte und Methoden der Personalentwicklung in Unternehmen (3rd edition)*. Göttingen: Hogrefe, 2003, p. 55-64.
- Nonaka, I.; Takeuchi, H. *The knowledge-creating company. How Japanese companies create the dynamics of innovation*. New York: Oxford University Press, 1995.
- Nyhan, B. Förderung des informellen Lernens im Prozess der Arbeit. In Markowitsch, J.; Strobl, P. (eds). *Betriebliche Weiterbildung in Österreich – Konzepte, Anbieter, Trends*. Wien: 3s, 2005, p. 75-80.
- OECD. *Beyond rhetorik: adult learning policies and practices*. Paris: OECD, 2003.
- Pitkänen, S. et al. *Työelämän kehittämisohjeelman kokonaisarvointi*. Helsinki, 2003.
- Punie, Y; Cabrera, M. *The future of ICT and learning in the knowledge society*. Seville: European Commission, DG Joint Research Centre, 2006.
- Reuter, W. *The world of work is moving faster! Quo vadis, learning?* Contribution to the 'Professional Training Facts 2005' conference. Stuttgart, Germany, 7 December 2005.
- Riekhof, H.C.; Schüle, H. E-learning und Wissensmanagement in deutschen Großunternehmen. Ergebnisse einer Befragung der Top-350 Unternehmen der deutschen Wirtschaft. In Riekhof, H.C.; Schüle, H. (eds). *E-learning in der Praxis. Strategien, Konzepte, Fallstudien*. Wiesbaden: Gabler, 2002, p. 113-132.
- Sack, C.; Reglin, T. Blended learning as a combination of learning and working: the pilot scheme 'monkey'. In Fietz, G. et al. (eds). *eLearning for international markets*. Bielefeld: Bertelsmann, 2004, p. 123-131.
- Sauter, E. Neustrukturierung und Verfestigung betrieblicher Weiterbildung: Modelle und Beispiele. In Dehnbostel, P.; Pätzold, G. (eds). *Innovationen und Tendenzen der betrieblichen Berufsbildung*. Stuttgart: Franz Steiner, 2004, p. 151-161.
- Schneeberger, A.; Mayr, T. *Berufliche Weiterbildung in Österreich und im europäischen Vergleich*. Vienna: Federal Ministry of Economics and Labour/Institute for Research on Qualification and Training of the Austrian Economy, 2004.
- Schneeberger, A.; Petanovitsch, A. *Anerkennung non-formalen und informellen Lernens in Aus- und Weiterbildung und im Hinblick auf die Hochschulzulassung*. Vienna: ibw, 2005 (ibw-research brief, 17).
- Scholz, C. *Personalmanagement: informationsorientierte und verhaltenstheoretische Grundlagen (5th edition)*. München: Vahlen, 2000.
- Schüle, H. E-learning: wichtiger Baustein im strategischen Wissensmanagement. In Riekhof, H.C.; Schüle, H. (eds). *E-learning in der Praxis: Strategien, Konzepte, Fallstudien*. Wiesbaden: Gabler, 2002, p. 37-53.
- Schulz, P. Lehrer und Schüler zugleich. *Unternehmensberater*, 3/2005, p. 31-32.
- Skinner, J. et al. Is HRD practised in micro-SMEs? *Human Resource Development International*, 2003, Vol. 6, No 4, p. 475-489.
- Skule, S. Learning conditions at work: a framework to understand and assess informal learning in the workplace. *International Journal of Training and Development*, 2004, Vol. 8, Issue 1, p. 8-20.
- Sonntag, K.; Schaper, N. Wissensorientierte Verfahren der Personalentwicklung. In Schuler, H. (ed.). *Lehrbuch der Personalpsychologie*. Göttingen: Hogrefe, 2006, p. 255-280.
- Sonntag, K.; Stegmaier, R. Verhaltensorientierte Verfahren der Personalentwicklung. In Schuler, H. (ed.). *Lehrbuch der Personalpsychologie*. Göttingen: Hogrefe, 2006, p. 281-304.
- Staudt, E.; Kriegesmann, B. Zusammenhang von Kompetenz, Kompetenzentwicklung und Innovation – Objekt, Maßnahmen und Bewertungsansätze der Kompetenzentwicklung. In Staudt, E. et al. (eds). *Kompetenzentwicklung und Innovation: die Rolle der Kompetenz bei Organisations-, Unternehmens- und Regionalentwicklung*. Münster: Waxmann, 2002, p. 15-63.
- Stone, I. et al. *Insights from studying the 2004 Sunday Times' 50 best SMEs to work for*. Durham: Durham Business School, 2006
- Strasser, M. KNOWLEDGE Staatspreis zur Förderung und Entwicklung des Lebensbegleitenden Lernens im beruflichen Kontext. In Markowitsch, J.; Strobl, P. *Betriebliche Weiterbildung in Österreich. Konzepte, Anbieter*,

- Trends.* Vienna: 3s Unternehmensberatung, 2005, p. 233-237.
- Unwin, L. et al. *Learning as work: teaching and learning processes in the contemporary work organisation: worlds within worlds: the relationship between context and pedagogy in the workplace.* Leicester: Centre for Labour Market Studies, 2005 (Learning as Work Research Paper, 4).
- Vejvodová, J.; Hán, J. Online tutors: different roles, difficult tasks. In Fietz, G. et al. (eds). *eLearning for international markets.* Bielefeld: Bertelsmann, 2004, p. 115-122.
- Weinert, A. *Organisations- und Personalpsychologie.* Weinheim: Beltz, 2004.

The learning society as a greying society: perspectives for older workers and lifelong learning

Tarja Tikkanen

Abstract

This paper suggests that there is a need to expand the concept of both 'learning in adulthood', and the concept of 'work' and 'career'. The purpose is to find a better match with the extended human lifespan (longer lives) and the prevailing thinking on lifelong development and continuous change in working life and society. The goal of this paper is two-fold. First, it aims to describe the situation of, and discussion on, lifelong learning among older (45+) workers. Second, it seeks to expand this discussion both within VET and in working life. The approach is limited to work-related learning, acknowledging the increasingly blurred line between work-related and non-work-related learning. Both the resource and deficit perspectives for older workers are covered and a complementary approach is suggested, as they often appear together. The paper is divided into three main parts. In the light of the two lines of discussions, on older workers and lifelong learning, the first part describes how recent historical development has started to challenge the old-age based social institutions and their formation as the traditional basis of old age construction. The combination of lifelong learning and extended careers seems to promote a more ageless or age-irrelevant society than our current one. The second part covers the discussion on the knowledge society and changing competence needs. The review older workers' learning participation shows that lifelong learning is not yet a reality for most older workers. However, the situation varies widely between the European countries and recent years have marked a rapid change in some countries. The third part reviews human resources development and learning in the workplaces as essential for lifelong learning to become a reality for older workers. The discussion relates to the apparent contradiction between high-value informal, experiential learning and the low value ascribed to older workers. It also points out how the structures and organisation of work and workplace often lie behind decreased performance flexibility in long careers, and how these can reduce options for learning and development or the apparent sense in it for mature minds. Finally, the paper characterises existing research in this area and makes some recommendations for research, policy and practice.

Table of contents

1. Introduction	198
1.1. Purpose	198
1.2. Thematic focus within the broad discussions on older workers and lifelong learning	200
1.3. Literature basis and structure of the paper	203
2. Lifelong learning to promote active ageing: development of the discussion	205
2.1. Work good, retirement bad: learning for alleviation of the retirement crisis	205
2.2. Early exit from labour: lifelong learning not an issue	206
2.3. Exit from retirement: the rhetoric of lifelong learning emerges	207
2.4. Towards an active ageing and an ageless society with lifelong learning?	208
3. Participation of older workers in lifelong learning	211
3.1. Participation rates in lifelong learning	212
3.1.1. Overall learning participation	212
3.1.2. Participation in informal learning	214
3.2. Gender differences	215
3.3. Differences between countries	215
3.4. Participation among people aged 65+	216
3.5. Trends in participation rates among older workers	216
4. Workplaces and HRD promoting lifelong learning for older workers	219
4.1. Workplaces as learning arenas for older workers?	219
4.1.1. The challenge of creating learning-conducive workplaces for older workers	219
4.1.2. Combating discriminatory attitudes and practices in the workplace	220
4.1.3. Areas where further attention and measures are needed	221
4.1.3.1. Missing voice of older workers: from an object to a subject of their own (working) lives	221
4.1.3.2. Providing access and opportunity for career development	221
4.1.3.3. A need for ageing-appropriate job design	221
4.1.3.4. Maintaining change competences and flexibility	222
4.1.3.5. Age-management	222
4.1.3.6. Promoting diversity as a competitive edge	222
4.2. The job-competence of older workers: what do we know?	222
4.3. HRD: making lifelong learning a reality for older workers	225
4.4. Career guidance and the role of trade unions	225
5. A summary of characteristics of the research on older workers and lifelong learning	227
6. Recommendations	228
List of abbreviations	229
Bibliography	230
Annex 1: Additional literature relevant to the theme older workers and lifelong learning	236
Annex 2: Additional tables	237

List of tables, figures and boxes

Tables

1. Older workers' participation in education and training. Trends 2000-05 (%)	217
2. Employees' (aged 45-64 years) and employers' rating of actions which can be important for older workers for continuing in working life	219
3. Strengths in older workers' competence. Employers' views on older workers in the US	223
1A. Percentage of the adult population (25 to 64) participating in lifelong learning (excluding self-learning) in 2000 and 2005 and the five-year change.	237
2A. Participation trends in lifelong learning (25-64 years) by education level	238

Figures

1. The theme of older workers and lifelong learning at the intersection of lifelong learning, life-course and work careers	201
2. Distribution of participation in lifelong learning by age groups, 2003, EU-25	213
3. Comparison of the age-education (% low/high) interaction effect on participation in job-related learning activities in 1990 and in 2000 in Finland	217

Boxes

1. Who is an older worker?	198
2. What is lifelong learning?	199
3. On defining job-competence	202
4. Towards coherent and comprehensive lifelong learning strategies: six essential elements defined by the European Commission	209
5. Four million more adults would participate in lifelong learning within any four week period in 2010 if the EU benchmark of 12.5 % participation rate was achieved.	211
6. The rationale for self-directed learning among adults	214
7. ETUC: framework of actions for the lifelong learning development of competencies and qualifications	226

1. Introduction

1.1. Purpose

The purpose of this paper is two-fold. It aims to describe the situation of, and discussion on, lifelong learning among older workers (45+) (more on older worker definitions in Box 1). It also aims to advance and expand this discussion regarding working life and VET. Older workers and their situation have been widely discussed in the context of the labour market and working life. It has been argued that older workers are faced with a situated necessity to continue learning to maintain their employability and increase their flexibility in the labour market (Cedefop, Hake, 2006). However, they have so far not played any significant role in VET or CVET provision. Training

provision particularly targeted to or addressing the needs of older adults is rare at the moment (Findsen, 2006). Similarly, researchers have only showed limited interest in older workers' learning. However, political interest in the theme has rapidly increased since the 1990s, along with the arrival of lifelong learning discussion and fuelled by the goals set for 2010 in the Lisbon strategy.

This paper suggests that there is a need to expand our narrow thinking of learning and/in adulthood as these became understood under the adult education theories and practice in the 1980s, in particular in the working life context. However, this paper calls for rethinking the conceptualisation of working and careers, in particular in the context of extended lifespan. At the same time as the

Box 1. Who is an older worker?

In the European discussion, particularly in the Nordic countries, an age limit of 45 years has often been used for defining an older worker (Cedefop, Tikkannen and Nyhan, 2006). Statisticians also tend to take the age of 45 as the demarcation between being a younger (24-44 years) or an older worker (45-64 years) (Cedefop, Descy, 2006). Sociologists have pointed out how age is socially constructed – implying an imposition of false generalisations, distorting stereotypes, and the suppression of differences (Manheimer, 2005) – and that age-definitions (Marin, 1996; Phillipson and Walker, 1986) are always positioned to the particular historical context (Featherstone and Hepworth, 1990; Julkunen, 1996). While early pension policies and the consequent age-discrimination in the 1990s defined 'older' as younger (45+), the increased attention and reforms targeted to the ageing of population in the new millennium seem to be turning the definition again to higher ages, as suggested by the use of age 50 years by the OECD (2006) in a recent report. In promoting employment, the EU has set a benchmark of achieving an employment rate of 50 % in 2010 for older workers (defined as 55-64 years old) (Council of the EU, 2005).

Chronology-based age-definitions can be misleading and dangerous criteria as there are large individual and cultural variations in the social construction of age (Findsen, 2006). In a European perspective, being an older worker today seems on average somewhat younger than in the US, where working into higher ages, up to 65 years and beyond, is more common (European Commission, 2004). In a literature review from the US, Rocco et al. (2003) found that the use of the concept 'older worker' varied within the age-range of 40-75 years. The review showed that defining an older worker as young as 40, was related to retirement decisions, the decline in training opportunities, dispelling of myths about age and the ability to learn, and the need for older workers to stay at work to mentor younger workers. Use of age-categories of 70 and 75 years were associated with pre-retirement, being in demand because of their experience and gradual work reduction and training for alternative careers, suggesting that workers feel they should not still be working. Rocco et al. (2003) conclude that in defining an older worker, more important than biological or chronological age are life-history and concerns faced at different points in the lifespan, and that there is a movement to more subjective definitions of age across the lifespan (Buchmann, 1989).

The ILO, however, in its *Older workers recommendation* (No 162) from 1980 (quoted in ILO, 2002, p. 1), which is still valid today, defined older workers without any particular age reference, as 'those who are liable to encounter difficulties in employment and occupation because of advancement of age'. Finally, due to sociocultural factors and the double discrimination of ageism and sexism, the age to consider women as old is different from men in some countries (e.g. Baltic States) (Fortuny et al., 2003; ILO, 2002).

paper seeks to expand our traditional mind-sets about these two concepts, it also encourages more integrated and comprehensive thinking about them. Recently a good deal of work has been initiated to make working life more inclusive, but there is still a long way to go when it comes to older workers. A prerequisite for success in this line of thinking is that, unlike the case so far (Cedefop, Tikkanen and Nyhan, 2006, p. 9-16), the voice of older workers be heard both in the workplace and in society more generally.

There is some ambiguity when it comes to discussion of older workers and their contribution to working life. The deficit approach emphasises physiological decline and other limitations (Findsen, 2006). From this perspective the knowledge, skills, and attitudes (from here on generally referred to as job-competence) of older workers are typically seen as obsolete and lacking. This view is common among employers (Walker, 1997a; 1997b), regardless of the fact that job-competence is rarely systematically monitored in workplaces, for any group of employees. Given the prevalence of this view, there has also been surprisingly little interest among employers in the learning and development needs of older workers or in investing in them (van der Heijden, 1998). However the other perspective, which we could

call a resource (asset) approach, has tried to point out the particular strengths in older workers' job-competence, their added value in working life.

This paper suggests that from a lifelong learning perspective (Box 2), the two approaches should be understood as complementary, as two ends of the one continuum, rather than viewing them as contradictory. It is implicit in the lifelong learning perspective that learning and development needs do appear – or disappear – throughout the lifetime and in the context of one's work history and career. 'Older adults' learning can be seen as part of the larger framework of opportunity open to individuals across the life course' (Findsen, 2006, p. 68). Career theories tend to be optimistic about late career as a period of personal growth (Lahn, 2003). The results of the project *Working life changes and training of older workers* (Worktow) (Tikkanen et al., 2002) suggested that there is a need to be open towards a multitude of trajectories, where work performance (strengths and weaknesses) can vary not only between different (for example age-) groups of individuals, but also within the course of the career at any age or point of time. In line with Ellström (1996), job performance and competence are viewed here as what people show, or put into use, in the context of the workplace and their individual life situation, rather than an

Box 2. What is lifelong learning?

The European Commission Communication on lifelong learning defines it as 'all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective' (European Commission, 2001, p. 33).

Lifelong learning is, therefore, about:

- acquiring and updating all kinds of abilities, interests, knowledge and qualifications from pre-school years to post-retirement. It promotes the development of knowledge and competences that will enable each citizen to adapt to the knowledge-based society and actively participate in all spheres of social and economic life, taking more control of his or her future;
- valuing all forms of learning, including: formal learning, such as a degree course followed at university; non-formal learning, such as vocational skills acquired at the workplace; and informal learning, such as inter-generational learning, for example where parents learn to use ICT through their children, or learning how to play an instrument together with friends.

Cedefop's definition of lifelong learning is 'all learning activity undertaken throughout life, with the aim of improving knowledge, skills/competences and/or qualifications for personal, social and/or professional reasons' (Cedefop, Tissot, 2004, p. 102).

A recent book on older workers and lifelong learning from Cedefop shows that even if lifelong learning is generally a concept widely agreed upon across countries and various cultures, some cross-cultural variation in understanding it does exist (Cedefop, Tikkanen, 2006). For example, in Japan the concept is understood widely, and as a broader one than in Europe (Cedefop, Ohsako and Sawano, 2006) and the same holds for China.

objectively measurable entity, and therefore as drawing from, but not necessarily equal to, one's potential.

Overall the presentation here supports the message of a recent major Cedefop publication in this area, *Promoting lifelong learning for older workers: an international overview* (Cedefop, Tikkanen and Nyhan, 2006). The book called for age-friendly working and lifelong learning practices through more holistic and active perspectives on how people can manage and negotiate their working life: [...] society, work organisations and individuals must think of the ageing process as a lifelong developmental and learning process in which one can continuously learn to take on new life challenges taking one's interests, opportunities and constraints into account. This means adopting a lifelong learning mindset, understanding learning as a broad, holistic concept encompassing individual education and training, but equally and perhaps more importantly also collective community and workplace learning. The adoption of "age-friendly" working and lifelong learning practices is required in the interest of economic and social sustainability and personal well-being for all' (Cedefop, Tikkanen and Nyhan, 2006, p. 10).

In this paper older workers are defined as those aged 45 years and above. This demarcation is commonly used in the European discussion (Cedefop, Tikkanen and Nyhan, 2006, p 9-16), as it tends to mark the starting point for age-discriminative practices in the labour market. However, depending on the source or country, the definition (e.g. age limit) of the group of older workers may differ.

1.2. Thematic focus within the broad discussions on older workers and lifelong learning

The title of this paper is a broad one, so here the scope is specified. Figure 1 illustrates how the focus is at the intersection of the broad fields of lifelong learning and a life-course perspective to working life and careers. Within the lifelong learning

discourse, the main interest is in adult education and, primarily, in work-related learning. In other words, from the various contexts of lifelong learning, VET/CVET, work-related learning and professional development are covered here, while the two other contexts, general initial education and personal development (liberal adult education, *education permanente*) (Colardyn, 2001), fall outside the range of this paper. The lifelong learning agenda has been criticised – and for good reasons – for being dominated by economic and vocational concerns and for focusing on competitive workforce (Findsen, 2006, p. 67). Further, it tends to be oriented to employer or consumer interests with little real interest in learning for democracy and community (Smith, 2001). Due to the context and the nature of this paper, it has been necessary to narrow the focus here.

However, the borderline between work-related and non-work-related lifelong learning and competence needs has become more blurred, for workers of all ages. This is because of the broader competence needs in working life and the demands for multi-skilling, including such areas as for example languages, information and communication technology (ICT) skills and various soft-skills related to service work and human interaction, among others. Basic ICT skills, required at work and viewed also essential for learning to learn (European Commission, 2005), are increasingly overlapping with key citizenship competences more generally as recently defined by OECD (see DeSeCo: Rychen, 2003; Rychen and Salganic, 2003). The rapidly changing competence requirements in working life and, related to that, the changes in knowledge creation and valuation (Box 3) call for attention to the theme of older workers and lifelong learning. Other factors blurring the work versus non-work competence divide relate to changes taking place in the world of work. Examples are the changing nature of work and employment contracts, as well as of career patterns (e.g. using the increasing opportunities for telework, variable and ever-changing careers) (European Commission, 2004; Hall and Mirvis, 1995; Maurer, 2001). The skills (work and life skills) and attitudes of older workers in particular are challenged by these changes. In his review of the history of retirement in Britain, Parker (1987) concluded that older workers –

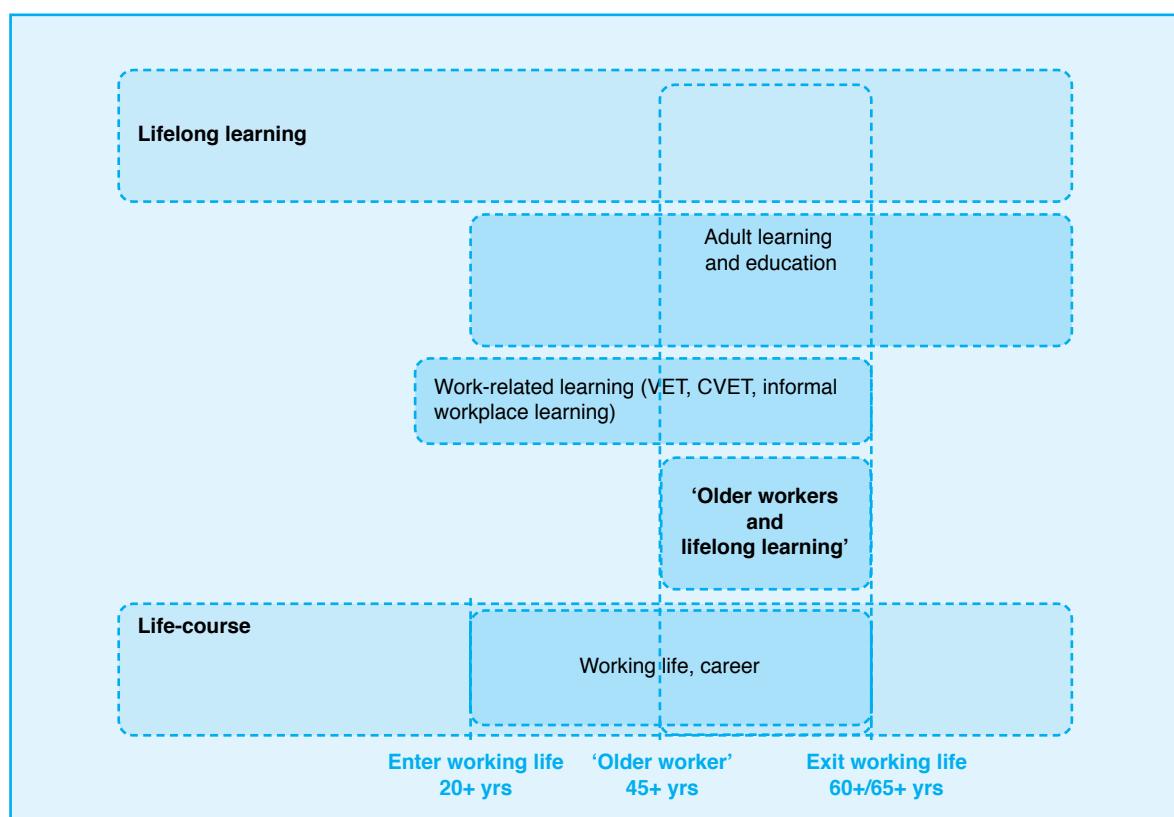
especially working class older people – have always been treated as a reserve of labour. It is not difficult still to agree with his conclusions today. To some extent, however, their status in the labour force is a matter of how we define older age (Box 1) and an older worker (Findsen, 2006).

As Figure 1 roughly illustrates, however, taking the 45+ perspective to older workers poses a challenge to the marginality view, proportionally (relative to the lifespan and total population) and in absolute numbers. Indeed, their volume is significant and expected still to grow for a few decades as the baby boomers are ageing. In terms of time-perspective we are talking here of around a 20-year period within the total working life period (career). Within the next decade industrialised societies will experience a major demographic shift, which is bound to make older workers more visible in the workplaces as younger generations are simultaneously diminishing. A comprehensive recent review of the statistics concerning the demographic change and older workers is provided in Cedefop, Descy (2006).

The figures below show a rough characterisation of the situation:

- (a) older workers aged 45-64 years represent 25 % of the total working population, both in EU-25 and EU-15, as well as in the US, while in Japan the proportion is even higher at 28 % (Cedefop, Descy, 2006);
- (b) in the US, the workers aged 40+ currently represent 48 % of all workers, and their proportion is anticipated to increase further to 51.8 % in 2010 (Mosner et al., 2003), while the proportion of the 55+ workers will increase from 12.9 % to 16.9 % (Ford and Orel, 2005);
- (c) the ageing workforce (40+) of information workers (workplace computing and Internet users in comparison to workers who rely only on standard desktop computers) account for nearly one-third of the entire US workforce (44 million workers) (Mosner et al., 2003);
- (d) the average exit age from the labour market was 60.7 years in EU-25, 61 years in EU-15 and 58.8 years (60.3 among men and 57.6

Figure 1. The theme of older workers and lifelong learning at the intersection of lifelong learning, life-course and work careers



- among women) in the new Member States in 2004 (European Commission, 2006c);
- (e) the population aged 65+ represents 16.4 % of the total population in EU-25, 17 % in the EU-15, and 13.6 % in the new Member States in 2004 (Eurostat, 2007);
 - (f) on average men aged 60 years can expect to live for another 14-15 years in the US and EU-25, close to 17 in developed industrialised countries and to 18 in Japan, while these figures for women are even higher, 20-24 years (Ilmarinen, 2006).
- There will be significant changes in these figures in the coming decades. By 2050:
- (a) the EU-25 working age population is expected to decrease by 52 million (Eurostat, 2005) while the population aged 65+ is expected to double (compared to 1995) (European Commission, 2006b);
 - (b) the population aged 65+ is estimated to increase to 29.9 % of the total population in EU-25, to 30 % in the EU-15, and 29.1 % in the new Member States in 2004 (Eurostat, 2007);
 - (c) United Nations estimates show the population over 60 years of age will account for 33 % of the entire population in developed regions (such as the EU, Japan and the US) against 20 % in less developed countries (Ilmarinen, 2006);
 - (d) life expectancy will further increase, in the EU-25 to 80.5 years for men and 85.6 years for women (European Commission, 2006b). This trend is generally considered as an achievement, but it poses both significant opportunities and challenges for EU Member States. The focus in the discussion so far has been on the challenges and threats, while thoughts of opportunities have only recently started to emerge.
- It has been estimated that, as a result of these trends, in the next 15 to 20 years, one out of four workers hired will be older than 55 (against one every five workers hired presently) (Goldberg, 2000 quoted in Ford and Orel, 2005).
- In 2006 the employment rate averages for EU-27, EU-25 and EU-15 were respectively 43.5 %, 43.6 % and 45.3 % in the age group

Box 3. On defining job-competence

The term 'competence' should be used cautiously as it can create confusion. It has been used with somewhat different meanings, sometimes even as the equivalent of learning, although always more broadly than qualifications (Clematide, 2002; Høyrup and Pedersen, 2002). Compared to the broad northern European meaning and use, it has a much narrower sense in some countries, especially the UK and Australia. The term is to be understood in accordance with the former meaning in this paper. The European Commission uses a definition of 'a combination of knowledge, skills and attitudes appropriate to a particular situation' (European Commission, 2005, p. 3).

The results of the Worktow study (Tikkanen et al., 2002) showed that while employers value certain aspects of older workers' job-competence, at the same time they tend to point to shortcomings, even if competence is rarely measured systematically but rather judged by intuition. In SMEs in Finland the workers themselves found it easier to define the competence of their colleagues than their own and that, besides managing their own job tasks, employees used various environmental clues, such as feedback from supervisors and management as well as from colleagues. 'Competence was viewed as complex, dynamic, and temporal in terms of capability and external demand for it. This complexity extended beyond one's own job tasks and areas of responsibility and acknowledged various levels of competence: individual, social or collective, job tasks and company level activity involving a company's external relations. Thus, being aware of one's own competence and its strengths and limitations, was only one aspect of a broad view of competence. [...] it was just as important to be aware of the competence of one's co-workers. An important part of one's broad, total competence was knowledge of the workplace and work organisation in the sense of what kind of material, social and cultural resources were available there. Temporality in competence was mainly related to project type of work among engineers. Thus a person could be defined "competent" at one time, but "not competent" at another, for example, when there is no demand for one's competence ^(a)' (Tikkanen, 2002, p. 70).

^(a) On a larger scale, this is what happened to older workers towards the end of the 1990s. Whereas they had been highly valued competent workers just a while ago, change of skill demands in working resulted in defining them as less competent than the IT-skilled younger workers.

55-64 years (women 34.8 %, 34.9 % and 36.8 %; men 52.6 %, 52.8 % and 54.1 % correspondingly), varying between 69.6 % in Sweden to a low 28.1 % in Poland (Eurostat, 2007). In the age groups 60-64 years and 65-69 years the rates were respectively 26.7 % and 8.2 % in 2005 for the EU25, varying from 12.7 % and 2.4 % in Slovakia to 56.8 % and 14.6 % in Sweden (Eurostat, 2006). In comparison, older workers tend to work longer on average in the US and Japan. In the former, seven out of 10 and in the latter less than six out of 10 are still in the labour force in the age group 60-64 years (Rix, 2005).

There is a need to find measures to increase, in particular, older women's employment, as the employment gender gap is largest among the lower educated, often older workers (European Commission, 2006c). Increasing the level of education through lifelong learning is considered one of the most important measures in this respect, as the higher educated have significantly higher employment rates than those with low education. EU-25 employment statistics from 2004 show that in the age group 55-64 years employment levels were double among the higher educated (62.4 %) those with only an elementary level of education (31.7 %) and that education can have a strong effect in particular on older women's employment levels (55.9 % versus 23.4 % respectively in the same age group) (Ilmarinen, 2006).

1.3. Literature basis and structure of the paper

This paper builds on a review of existing literature within on older workers and lifelong learning. In general, research with this particular perspective is still embryonic and there is little systematic knowledge available. A recent literature review

from the US showed that most publications in this area come from professional journals rather than research literature (Rocco et al., 2003). Some relatively recent surveys offer perspectives on participation in formal learning opportunities. Beyond these, however, we know little about this type of training provision. While formal learning opportunities within VET and CVET are discussed to the extent available literature allows, this account of lifelong learning among older workers is largely drawing from informal (¹) learning in the workplace context. Some surveys have been carried out on informal learning and human resources development in Europe. However, reports from these tend to give limited information about older workers' perspectives. Further, when age-related results have been reported, differences in methodological choices (e.g. use of different age-categories and definitions of participation ⁽²⁾) hinder coherence.

However, some literature has started to emerge. Three European and international, learning-focused studies on older workers provide the main background for this presentation: the Cedefop report *Promoting lifelong learning for older workers: an international overview* (Cedefop, Tikkannen and Nyhan, 2006), TSER (3)/EU-project *Working life changes and training of older workers* (Tikkannen et al., 2002) and a thesis *Learning and education of older workers: lifelong learning at the margin* (Tikkannen, 1998). Other major sources used are some recent general overviews of the situation of older workers in working life and labour markets (e.g. Buck and Dworschak, 2003a; Ilmarinen, 2006; ILO, 2002; 2003; OECD, 2006). Finally, some main sources have been also used from outside Europe, such as the comprehensive literature-based study by Rocco et al. (2003) on HRD and older workers in the US, a statistics-based review of older workers in Australia (Karmel and Woods, 2004), and a HRD-study on older

(¹) The survey (2003 ad hoc module on LLL in the LFS) identified four non-exclusive forms of informal learning:

- (a) self studying by making use of printed material (e.g. professional books, magazines, etc.);
- (b) computer based learning/training; online internet-based web education;
- (c) studying by making use of educational broadcasting or offline computer-based material (audio or videotapes);
- (d) visiting facilities aimed at transmitting educational content (library, learning centres etc.)

(Kailis and Pilos, 2005).

(²) Referring to Courtney (1989, p. 15), Smith (1998) has pointed out that adult education, continuing education, lifelong learning, independent learning projects, community education, community development, adult learning, andragogy, adult basic education, facilitation, conscientisation are concepts which have been used with more or less in the same meaning.

(³) TSER = Targeted socioeconomic research.

workers in New Zealand (Gray and McGregor, 2003). There is some research focused on older workers also in areas which fall under the broad umbrella of lifelong learning, although with different disciplinary backgrounds. Drawing from management sciences and economics, the review also includes the perspective of late professional and career development (e.g. Boerlijst, 1994; van der Heijden, 1998).

By necessity, the approach to the theme of older workers and lifelong learning is a cross-disciplinary one. Older workers and lifelong learning is discussed on organisational and societal levels, and on an individual level to the extent literature available allows it. Some attention is paid to the borderlines between working life and other life spheres, and how these may have had an impact on older workers and their lifelong learning. The paper will also address trends in this area.

The rest of this paper is divided into four sections. Section 2 takes a brief overview of the socioeconomic and pedagogic background of the discussion on older workers and lifelong learning, with some remarks also on how it has developed over the last decades. Promoting active ageing and other perspectives are highlighted. Section 3 describes learning participation among older workers, mainly in the light of existing surveys. Section 4 covers formal and informal learning activities as well as the HRD perspective. This presentation is followed by a brief assessment of the research on, and discussion of, older workers and lifelong learning. The practice of lifelong learning is also touched on from the point of view of older learners (Section 5). The final section draws some conclusions and makes recommendations regarding the research, policy and practice of lifelong learning of and for older workers.

2. Lifelong learning to promote active ageing: development of the discussion

There are two separate, but parallel developed discourses, which form the background to the theme of older workers and lifelong learning; one is on older workers and the other on lifelong learning (Cedefop, Tikkannen, 2006). While older workers have been widely discussed in research and policy, this discussion has not dealt with learning-related aspects. Various policy documents have tended to highlight the importance lifelong learning, including its rapid growth as a topic of education policy (⁴). In this area – including the research areas previously defined as adult education and HRD – there is literature in abundance, as indicated by the *Lifelong learning bibliography* (Cedefop, 2004). However, the discussion has paid little attention specifically to older workers (⁵), or older people more generally. This is particularly true for work-related learning.

This section briefly describes these two lines of discussion by reviewing perspectives on active ageing, an ultimate goal in promoting lifelong learning. A more comprehensive account is available in Tikkannen (Cedefop, Tikkannen, 2006). The sections below cover the policy discussion, the organisational or workplace perspective, and the learning and training perspective. The development of these two lines of discussion is also reviewed.

If we look at the situation of older workers in working life in a historical perspective, the following four different periods can be separated:

- (a) work as the option, retirement as a crisis;
- (b) early exit from labour;
- (c) exit from early retirement;
- (d) towards active ageing and an ageless society.

This development provides the background against which to understand the lifelong learning discussion, whether focused on older workers themselves and their attitudes, or employers/

workplaces and the training providers. Each of the four phases is briefly described below.

2.1. Work good, retirement bad: learning for alleviation of the retirement crisis

The status of the segment of the workforce defined as older workers, have been affected by major political decisions of a socioeconomic nature and also by education development. During the last couple of decades a great deal of attention has been paid to older workers by policy-makers and researchers. Historically, there are both similarities and differences compared with the situation of older workers today, including in terms of their job-competence. Parker (1987) draws our attention to a historical study by Stearns (1977) who stated that 'between 1890-1919, older workers were being threatened by the obsolescence of their skills and by work speed-up. British metal workers claimed that the latter caused premature ageing, and found that many of their employers judged them "too old at 40"' (Parker, 1987, p. 79). In terms of their social status and value of their contribution to working life, at least for the older workers in non-managerial positions, the description matches only too well to their situation still today (Cedefop, Tikkannen and Nyhan, 2006, p. 9-16).

Until the 1980s, education level generally was significantly lower and adult education policy and practice much less developed than today. The same holds for social policy and pension systems. The extent of professionalism in working life was less developed than today. The job-competence of older workers was less open to question; instead

(⁴) See Cedefop's list of selected milestones in the evolution of the European area of lifelong learning. Available from Internet: http://www.trainingvillage.gr/etv/Projects_Networks/LLL/ [cited 1.8.2007].

(⁵) The Cedefop VET-Bib database, launched in 1985, provides comprehensive coverage of European literature on developing VET including mainly monographs, journal articles and some grey literature (updated monthly). This database included five references of high relevance to older workers (Annex 1).

they were generally considered as mature in a positive sense of the term. Although there is no comparative research on the topic, looking at the discussion today and that of a couple of decades ago, one cannot avoid the impression that being an older worker was also to be respected to a greater extent than seems the case today.

Not surprisingly, early discussion within sociological research from the 1950s until the beginning of the 1980s was largely focused on the crisis and shock of adjusting to retirement (Phillipson, 1987). There was little education provision targeted at older workers. Also the research on HRD was focused on preretirement and retirement issues (Rocco et al., 2003). Further, as pointed out by Manheimer (2005), the educational programmes that existed for older learners, emphasised the crisis of adjustment to retirement (Peterson, 1983) and represented the social service model of older adult education (Moody, 1985). Researchers showed less interest in this segment of the workforce, presumably due to the positive or taken-for-granted approach of the time. That, however, changed with the long- and short-term unintended and unforeseen effects of early retirement schemes, and there was an awakening regarding the short-sightedness and non-sustainability of these schemes.

2.2. Early exit from labour: lifelong learning not an issue

The 1980s were characterised by finding ways for older workers out of working life and early pension policies (Sheppard, 1990). Both push and pull were used: pull was created by attractive private pension systems and public welfare provisions and push came about as employers quickly adopted these options to shed older employees (Ebbinghaus, 2006). The latter was particularly welcomed in the economic recession years of the early 1990s in many countries in Europe. Behind the early pension policies was a kind of inter-generational deal to make room for younger workers at a time of high unemployment. It failed, however, as employers made a good many older workers redundant but did not replace them with younger workers. The consequences

of this are to be seen in workplaces today in the special camel-curved personnel age-profiles (many older and younger workers but fewer in between).

Retirement became both a new social institution and a historically new period in an individual life-course. Manheimer (2005) has described this period by referring to Lashlett's (1991) definition of the four ages of a man. The core of Lashlett's thinking – 'a fresh map of life' – was that the new period of retirement represented an addition, a fourth age to the earlier tri-partite conceptualisation of a human life-span. The conceptualisation of this new third age naturally also meant a postponement and a new definition of old age, now the fourth age. The new life-stage marked the evolution of a new concept of a mature adult, which was at the same time free and compelled to develop a new identity and new personal role. Some were thrilled by the new freedom, many depressed by the involuntary exclusion. Consequently, new meanings and functions were also attached to learning activities, on the side of expanding training provision. The following description by Manheimer (2005) illustrates how this development evolved in a complex societal fabrication and interplay of various perspectives, preparing, by necessity, for an increasingly interdisciplinary discourse and cross-administrative concern for mature adults in the 1990s and onwards.

'Although these relationships between changing attitudes, rationales for older learner programmes, and parallel changes in legislation were occurring, so were the health and economic conditions of older persons. The 1980s ushered in the concept of the third age [...], a term meant to capture the fact that for the first time in history there was a large group of adults whose existence was defined neither by work nor illness but by opportunity to use discretionary time and money [...]. In postindustrial societies across the world, people were living longer, healthier, and economically more secure lives, usually thanks to public provision of social welfare programmes such as private and state-funded pensions plans and national health care insurance (Medicare and Medicaid, in the United States). Yet this amazing achievement eventually led to a debate over the roles and entitlements of mature

adults. This dispute surfaced in a new set of relationships between ageing theory, education rationales, and social policies' (Manheimer, 2005, p. 205-206).

From this time onwards, besides health and job competence, changes in retirement pathways, in the image of retirement and of retirees and, consequently, in retirement life-styles, became factors influencing older workers' negotiations of their individual life-projects, and, indeed, their willingness to learn and continue in working life. The trend has markedly strengthened since. Studies from the US show that learning approaches for older workers in the 1970s were narrow, focusing on training techniques that managers could apply with their older workers (Rocco et al., 2003). Yet, it seems that interest in this area was more pronounced in the US than in Europe at that time.

It was against this background that the discussion on older workers took a new turn in the 1990s. On the policy agenda the challenge has been how to keep older workers in working life until the statutory retirement age. On the individual agenda, the new pathways opened new options and possibilities, but also new threats for older workers. Parallel to these developments, the pace of change in working life was picking up and the need for continuous learning was becoming increasingly obvious.

2.3. Exit from retirement: the rhetoric of lifelong learning emerges

Since the early 1990s the concern for the socioeconomic consequences of population trends and workforce ageing, as well as that of early labour exit (Ebbinghaus, 2006), has made older workers one of the key issues in social and employment policy discussion in Europe and other parts of the industrialised world. The goal has been to increase the actual age of retirement, which in several countries decreased to below 60 years towards the end of the 1990s. The

measures adopted have varied between and within countries, as well as from one workplace to another. Some countries have initiated major measures, including pension reforms. Besides changes in pension and employment policies, the early measures largely took the issue of occupational health as a starting point, although some training programmes were also offered (Crown, 1991) to increase older workers' ability and willingness to work longer. The rationale was that older workers in good health and capable of working were also willing to work longer. While this was often the case, work ability did not always guarantee motivation; it had even less to do with opportunities for continuing in working life.

Examples of countries, which have initiated major governmental measures, are Australia, Austria, Denmark, Finland, Germany, Ireland, Japan, Korea, Luxembourg, the Netherlands, Norway, the UK and the US (OECD, 2006) (6). However, launching reforms has not been plain sailing, as Ebbinghaus (2006) has shown in his review of developments in Europe, Japan and the US. The multiple early exit pathways quickly became entrenched, putting the social partners in 'status quo defence', particularly as benefits came to be viewed as acquired rights (Ebbinghaus, 2006). A review of these reforms by the OECD (2006) has recognised the actions taken and progress made, but also pointed out their shortcomings and the need for intensified structural and organisational measures.

The 1990s brought some concern for older workers' attention capacity as one factor in the complex total picture and also underlined the importance of the organisational perspective (Ilmarinen, 2006). Policies towards older workers in the 1990s, however, reflected an instrumental-objective concern for older workers, with a top-down approach to finding measures and solutions to how to retain older workers by changing the regulative framework and by investing in health. Learning and competence development were part of the rhetoric but rarely the practice. Increased older worker motivation to work was assumed to follow from these measures.

(6) For interested readers, there are extensive European and international reviews available to these (e.g. Buck and Dworschak 2003a; Ilmarinen, 2006; ILO, 2002; 2003; von Nordheim, 2003; OECD, 2006).

2.4. Towards an active ageing and an ageless society with lifelong learning?

More recent policy developments and approaches to ageing in working life show signs of a more holistic approach to the concern for older workers (Ilmarinen, 2006). The key message is the promotion of active ageing in working life and beyond, which supports the more general goal of active citizenship. Measures are now sought to extend older workers' contribution to working life in line with increased life-expectancy. Lifelong learning is seen as a crucial response. The more comprehensive approach seeks to integrate the three perspectives of having the ability (health, competence), the opportunity and being willing (motivated) to work longer and remain an active citizen throughout one's lifespan. Besides pension reforms, in the new millennium attention has in particular turned to workplaces and to initiatives and measures there to provide real options and conditions for extended careers.

'The policy of active ageing in the European Union is about tightening early retirement systems and improving work benefits. The right and necessity of lifelong learning, good work conditions, flexible working life, and accessibility to health and social services are also emphasised. Work incentives must be developed so that they offer true options for people to continue work' (Ilmarinen, 2006, p. 50).

For the EU-25, active ageing and reaching the goals for 2010 as defined in the Lisbon strategy, still pose a significant challenge. Ilmarinen has recently pointed out how for 'approximately half of the new Member States and about 80 % of the new workforce, active ageing is an unknown concept and a very distant goal' (Ilmarinen, 2006, p. 51).

In the Nordic countries, a more comprehensive concern for the older workers has been developing under a more general concern for workplace wellbeing (Ilmarinen, 2006; Cedefop, Tikkanen, 2006). However, there is some variation between countries in the wellbeing sought for older workers. For example, Finland has been working under the conceptualisation of work ability and promoting age-management as a part of it, while Norway

has promoted the framework of an inclusive working life to find win-win solutions in a dialogue between employers and employees: the need for this has been accentuated by the high, and still increasing, sick-leave rates and labour shortage. The focus of the discussion has also broadened significantly through the policy and practice of lifelong learning, which is reflected in the generally high participation rates in learning activities in northern Europe (Section 3). Job-competence, competence development and the learning needs of older workers are increasingly receiving attention within the overall concern for older workers. As more generally in Europe, the latter development is taking place alongside the diminishing trend of younger age cohorts and their different competence, interests and preferences regarding working life compared to older generations. It seems that a more 'organic', bottom-up concern for older workers is emerging in the instrumental approach characterising the phase described above.

The pressing demographic development and due concerns in working life have marked the new millennium with a paradigm shift in ageing policies and practice in workplaces and in society. The failure model seems to be losing ground, as the more optimistic, successful or productive outlook on ageing is emerging (Manheimer, 2005). For older workers, the new mindsets and realities of increasing flexibility regarding work, retirement and learning (Cedefop, Nyhan, 2006) could mean the gradual disappearance of the work-retirement divide. The workplace can become a dynamic space for older workers rather than 'a unidirectional journey leading to retirement' with multiple exits and entries and increased individual choice (Rocco et al., 2003). Rocco et al. (2003, p. 155) have conceptualised the emerging 'workspace as a field of interacting forces in which the older workers' decisions to remain, return, retire, or renew the work contract is moderated by organisational decisions to retain, retrain, recruit or redesign the work contract for older workers'. To resourceful older people, lifelong learning has the potential to add to their life-choices and to empowerment, allowing them to face up to an increasing range of biographical options (Cedefop, Olesen, 2006). This development is marking the evolution of a new, more resourceful type of older

people, neo-elderly (7), suggesting that an age-irrelevant (Neugarten, 1982) or an ageless society (Manheimer, 2005) is emerging as still another dimension in discussing the knowledge society as a greying society (Cedefop, Hake, 2006).

However, these visions are not without their critics. It has been pointed out how the future of lifelong learning opportunities could increasingly become a function of the marketplace, which can only be utilised by those older workers in sufficiently good health and motivated by their prior positive experiences in and from their prior education (Manheimer, 2005). Although this perspective is supportive when it comes to older learners' options for learning, the differences in material and social conditions cause inequality in learning opportunities for different subgroups of older learners (Findsen, 2006). Indeed, there are some internal contradictions and tensions in the discussion of lifelong learning (Edwards et al., 1995), perhaps particularly pronounced in the case of (low-educated) older workers and other

marginal groups. The notion of lifelong learning as such, and as a basic human activity and as facilitating development, is generally accepted and agreed upon. It has potential to opening up and promoting new learning freedom, visions, options and outcomes for individual choices in working life and beyond. However, at the same time it has created new and powerful inequalities with strong issues around access to knowledge and individualisation (Smith, 2001).

Generally speaking, from the perspective of older workers, the development of education policies and systems and the work done to promote the practice of lifelong learning, have been slow in reacting to their situation and learning needs. Indeed, the challenge is still fully to recognise them as a new group of learners. The new millennium, however, has marked significant progress in the lifelong learning policy formulations of the EU (Cedefop, Descy, 2006; Cedefop, Nyhan, 2006). Policy guidelines have also been formulated by the OECD, EU, ILO, and Unesco. The G8 countries

Box 4. Towards coherent and comprehensive lifelong learning strategies: six essential elements defined by the European Commission

- partnership working, not only between decision-making levels but also between public authorities and education service providers, the business sector and the social partners, local associations, vocational guidance services, research centres, etc.;
- insight into the demand for learning in the knowledge-based society – which will entail redefining basic skills, to include for instance the new ICT. Analyses should take into account foreseeable labour market trends;
- adequate resourcing, involving a substantial increase in public and private investment in learning. This does not only imply substantially increasing public budgets, but also ensuring the effective allocation of existing resources and encouraging new forms of investment. Investment in human capital is important at all points in the economic cycle; skills gaps and shortages can certainly co-exist with unemployment;
- facilitating access to learning opportunities by making them more visible, introducing new provision and removing obstacles to access, for example through the creation of more local learning centres. Special efforts are necessary in this context for different groups such as ethnic minorities, people with disabilities or people living in rural areas;
- creating a learning culture by giving learning a higher profile, both in terms of image and by providing incentives for the people most reluctant to opt for learning;
- striving for excellence through the introduction of quality control and indicators to measure progress. In concrete terms, provision must be made for standards, guidelines and mechanisms whereby achievements can be recognised and rewarded.

Source: European Commission, 2001.

(7) With this concept Manheimer refers to 'a new stereotype of the robust, engaged, thriving senior adult' which has 'eclipsed the earlier stereotype of the despondent, dependent, disengaged older person' (Manheimer, 2005, p. 206).

have stressed the importance of lifelong learning for everyone in the new economies of the knowledge age; it is also seen as one of the main strategies to combat unemployment. The EU Lisbon goals set in 2000 shifted the development of the EU policies and practice to a new gear. However, the degree to which the Member States have formulated their education policies and practice to realise these goals varies considerably as shown by the survey *National actions to implement lifelong learning in Europe* (Cedefop and Eurydice, 2001). By 2006 the

Member States are expected to have developed and implemented coherent and comprehensive lifelong learning strategies as specified in the *Education and training 2010 report*. To this end the European Commission (2001) has defined six key elements, which are shown in Box 4. This task is supported by Cedefop (2004).

However, bringing lifelong learning in the workplaces, to the benefit of older workers, is a slow process or even no process in many workplaces; this will be discussed later in this paper.

3. Participation of older workers in lifelong learning

Development of abilities and skills through continuing vocational training at work has become an essential part of lifelong learning, reflecting the emphasis enterprises place on qualifications staff of (Eurostat, 2007). The Commission follow-up report to the Lisbon strategy comments how the process towards the European benchmark of 12.5 % participation rate is slow (Box 5) and how increasing participation rates among adults still is a challenge (European Commission, 2006a). One of the recent main messages on participation of adults in lifelong learning by the European Commission's progress report towards the Lisbon goals (European Commission, 2006a) was how the efforts to increase participation should especially focus on the lower educated, the participation of older age groups in education and training, and on the regional dimension. This would also mean genuinely extending participation in lifelong learning, which has been a challenge since the 1980s. Older workers, representing low-educated and hard-to-reach groups (Uden, 1996), are central to this discussion. Both the current situation and development trends vary considerably between the EU-25 countries (Table A1 in Annex 2).

The following is a summary of the major issues concerning older workers and learners' participation in lifelong learning:

(a) participation rates decline by age and older workers participate less than their younger counterparts. This finding has been consistent across various surveys. The findings show there is unequal access to education (Findsen,

2006) and that lifelong learning is not a reality for older workers (Cedefop, Descy, 2006). Besides differences in initial education, poor health and inconsistent work opportunities in the labour market mean inequality in access to learning in- and outside workplaces (Findsen, 2006). These findings, however, are based on cross-sectional surveys and there is little knowledge of the same persons over time; (b) older workers still have a relatively low level of education in comparison with younger groups. While roughly one in four in the 30-34 age group has a low level of education (according to the Unesco international standard classification of education: at highest lower secondary education), in the 45-49 age group this is the situation for a third, and in the 60-64 age group for half of the persons belonging to this group (Cedefop, Descy, 2006); (c) participation in lifelong learning accumulates (Tuckett and Sargent 1996; Tuijnman, 1989), meaning that participation rates are higher among higher educated older workers. The finding is consistent throughout industrialised societies (Colardyn, 2001). However, critics have been pointed to the methodological problems in producing statistical detail such as the age-participation relationship, which is based on bivariate methods (Tikkanen, 1998). Multivariate approaches give a more realistic picture, showing that education and age interact. Among the higher-educated,

Box 5. Four million more adults would participate in lifelong learning within any four week period in 2010 if the EU benchmark of 12.5 % participation rate was achieved

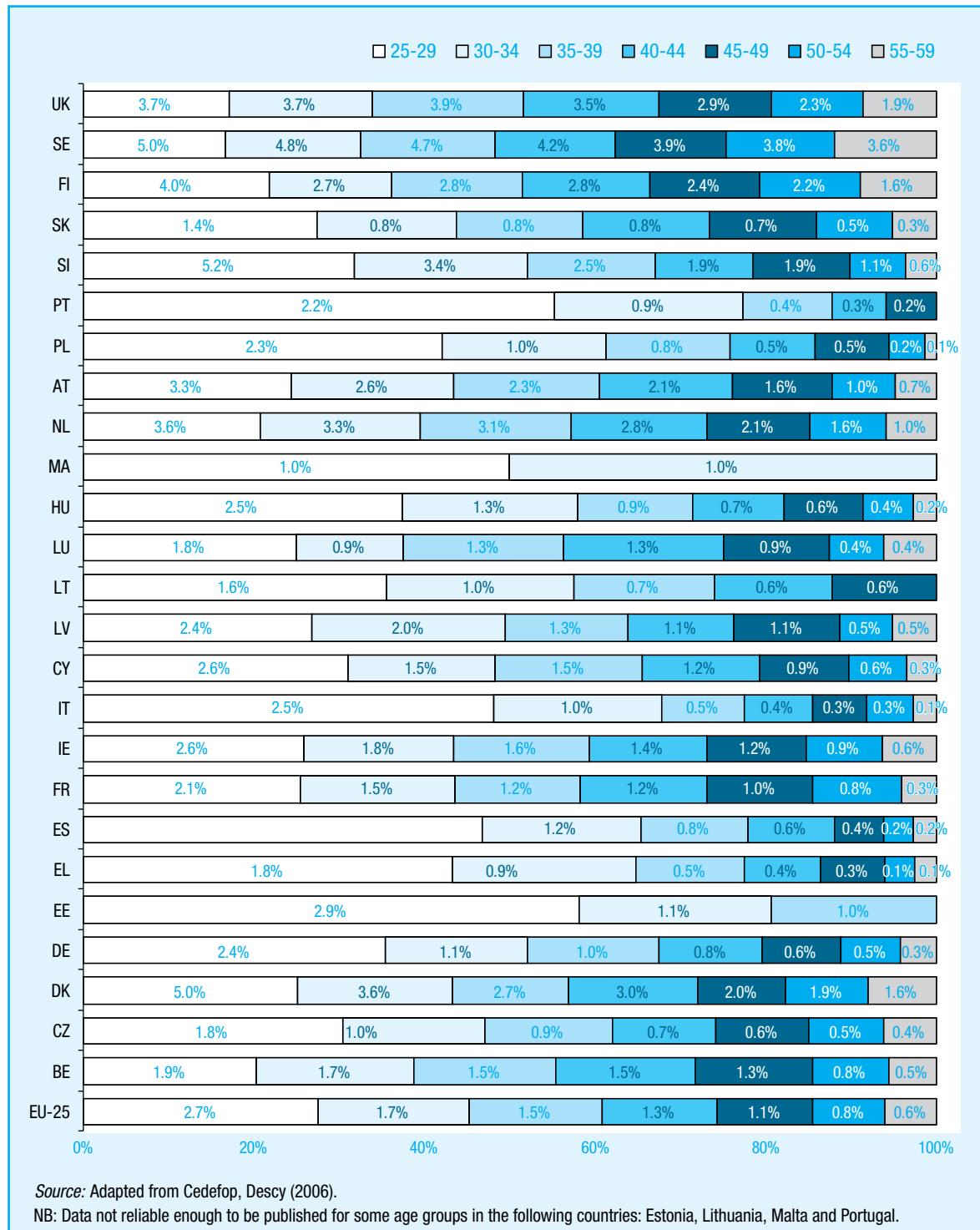
'Individuals must update and complement their knowledge, competences and skills throughout life through participation in lifelong learning. The rate of adult participation in education and training in 2005 reached 10.8 % in the EU, i.e. 2.9 percentage points higher than in 2000. A part of the increase was, however, due to breaks in time series, mainly in 2003. After and before 2003 progress was only slow. The objective set by the Council of achieving a 12.5 % rate of adult participation requires Member States to step up efforts and to develop an integrated, coherent and inclusive lifelong learning strategy. Best performing EU countries are: Sweden (34.7 %), the United Kingdom (29.1 %) and Denmark (27.6 %)' (European Commission, 2006a, p. 5-6). In fact, all of these three countries were already well above the benchmark in 2000, together with Finland and the Netherlands.

- participation rates have been found to be high regardless of age (until close to 60 years), while the rates for the low-educated are low also in younger age groups (Tikkanen, 1998). The European statistics show that high educated people participate seven times more in lifelong learning than low educated, and participation decreases after age 34 (European Commission, 2006a, p. 36). The recent increase in participation in Europe, drawing largely from the Lisbon strategy, seems persistently to confirm this bias (Table A2 in Annex 2). So, rather than age, the issues behind the low participation rates among low educated older adults are, in Bourdieu's terms, their lack of sociocultural capital (Findsen, 2006) and/or that their conditions in working life and beyond do not support participation in continuing education and training (Gallenberger, 2002 quoted in Reday-Mulvey, 2005);
- (d) there is also evidence of cumulative disadvantages (Dannefer, 2003) faced by some groups of older workers with low levels of education, low participation rates and low interest in learning (Cedefop, Descy, 2006). Besides disadvantages, the accumulation of negative experiences – related to training or beliefs about one's learning ability or trainability – may lead to the erosion of power and loss of trust (self-efficacy, Maurer, 2001), and also to non-participation, as life-history studies have shown (Antikainen, 2005);
 - (e) there is little difference in the participation patterns of older adults in formal education from younger cohorts. Studies from across the globe have demonstrated differential opportunity for groups of adults according to socioeconomic status, class, gender, ethnicity, and geographical location (Findsen, 2006, p. 70);
 - (f) older people prefer learning in informal and non-formal settings over formal settings (Cedefop, Descy, 2006). This holds for lifelong learning more generally (Kailis and Pilos, 2005). However, Descy (*ibid*) has concluded that even if older workers prefer learning in informal settings, there is still a great need for learning and competence development within the formal education system;
 - (g) in most countries the provision of formal learning still largely reflects the world of youth and higher education. It is structured around opportunities for younger generations and, as typical in youth education, assumes a paternalistic stance of 'we know what's best for you' (Findsen, 2006). Findsen argues that although existing research has expanded the meaning of adult learning participation, the conceptualisation of learning has been too rigid, adult education still has 'Cinderella status' in most countries, and lifelong learning is emerging as the dominant concept – 'arguably a positive step'. Against this view, the acknowledgement of informal learning and workplaces as sites for learning is expanding our horizons into a more holistic perspective to the world of learning. Further, while younger adults tend to take for granted the provision of learning opportunities, older learners appear as critical, ('no-nonsense') consumers of these services. This is so for the personal meaning of learning, learning contents, methods, and to learning outcomes. Consequently, older workers can pose a challenge to the needs of adult educators to 'justify themselves as experts' (Findsen, 2006), particularly against their long-established experiential knowledge;
 - (h) old workers' participation in learning activities varies widely across countries (Kailis and Pilos, 2005). Participation rates are highest in the northern European countries (Eurostat, 2007; Tuijnman and Hellström, 2001).
- The rest of this section describes some of these perspectives further in the light of existing research and discussion.
- ### 3.1. Participation rates in lifelong learning
- #### 3.1.1. Overall learning participation
- Participation in organised learning activities among older learners is generally low and below that of younger workers. However, participation in formal learning activities overall has a very low priority among the adult population, even if four out of ten has participated in some form of

learning (Kailis and Pilos, 2005). The results from the Eurobarometer survey on lifelong learning 2003 showed a decline in participation rates by age. While half of the youngest age group (25-34 years) had participated, the rates for the

age groups 45-54 years, and 55-64 years were 40 % and 30 %, respectively (Kailis and Pilos, 2005). This is in strong contrast to the needs for competence building in working life (Cedefop, Descy, 2006). This point is further accentuated by

Figure 2. Distribution of participation in lifelong learning by age groups, 2003, EU-25



most EU-25 citizens (58 %) not having participated in any learning activity during the 12-months period prior to the survey (Kailis and Pilos, 2005).

Participation rates among older learners (Figure 2) tend to be highest in countries where participation generally is higher (Table A1 in Annex 2). Table A1 (in Annex 2) shows the overall participation rates in Europe in lifelong learning, while Figure 2 is a detailed presentation of the participation rates by age groups in 2003 in EU-25.

In Descy's overview of older workers' participation in lifelong learning shows that, first and overall, the statistics confirm that the two main themes of this article – ageing workforce and lifelong learning – are still separated. The increase in the absolute and proportional number of people in the age-group 45+ is not matched by an equivalent increase in participation in learning. The various surveys consistently point out how older adults' participation in education is not in proportion to the population (Cedefop, Descy, 2006; Findsen, 2006; Tuckett and McAuley, 2005). Descy's main message is that lifelong learning is not a reality for most older workers.

3.1.2. Participation in informal learning

Various studies indicate that a substantial amount of learning takes place outside formal education provision (Smith, 1998). There are various perspectives and rationale to informal learning (for definitions of various forms of learning; see footnote 7). One perspective relates informal

learning activities to learning culture: to promote and recognise learning in everyday contexts, in workplaces and elsewhere, one needs to promote the creation of learning culture, the development of a learning society (Antikainen, 2001). From a human development perspective participation in this kind of self-teaching (Tough, 1967 quoted in Smith, 1998 and Findsen, 2006) or self-directed learning (Knowles, 1975) indicates that adults have a sound range of abilities for planning and guiding their learning (Smith, 1998) and that learning can occur outside of education contexts and without experts to frame it (Findsen, 2006, p. 71-72). Generally speaking, this line of work has broadened the ideas of what constitutes participation for adults (Findsen, 2006). Informal and non-formal learning have been equated with greater autonomy, self-directedness, and learner control of knowledge construction (Jarvis, 2001). Box 6 shows how one of the pioneers of this line of thinking, Knowles (1975), has rationalised for self-directed learning by increasing maturity. Findsen (2006) has argued that although this perspective is supportive when it comes to older learners' options for learning, the differences in material and social conditions cause inequality in non-formal and informal learning opportunities for different subgroups of older learners, not least between men and women.

Quantifying learning activities outside formal training settings is not an easy task. There is substantial variation in the definitions for informal and non-formal learning, as there can be for formal

Box 6. The rationale for self-directed learning among adults

Knowles puts forward three immediate reasons for self-directed learning:

- there is convincing evidence that people who take the initiative in learning (proactive learners) learn more things, and learn better, than do people who sit at the feet of teachers passively waiting to be taught (reactive learners). 'They enter into learning more purposefully and with greater motivation. They also tend to retain and make use of what they learn better and longer than do the reactive learners';
- self-directed learning is more in tune with our natural processes of psychological development. 'An essential aspect of maturing is developing the ability to take increasing responsibility for our own lives – to become increasingly self-directed';
- many new developments in education put a heavy responsibility on learners to take much of the initiative in their own learning. 'Students entering into these programmes without having learned the skills of self-directed inquiry will experience anxiety, frustration, and often failure, and so will their teachers'.

Source: Knowles, 1975, p. 14-15, quoted in Smith, 2005.

participation (European Commission, 2006a). There is particularly little knowledge available of older workers' participation in informal learning. However, older learners – like adult learners in general – have preference for informal learning contexts (Tikkanen et al., 2002; Cedefop, Paloniemi, 2006). From this starting point, this section will review some studies on adult population in general.

Further, participation in informal learning is particularly high in countries where participation in formal learning is also high (the Nordic countries, Austria, Slovenia and the UK): this indicates differences in learning attitudes and culture at national level. It could also be an indication of the various degrees or extent of the development of learning societies within Europe. There is no systematic, cross-national comparative data available regarding older workers, but there are indications that older learners also benefit from a strong learning culture. Research has shown, first, the high participation rates reported for older workers in strong learning societies (Figure 2), the Nordic countries (Eurostat, 2007) and in Austria (Kailis and Pilos, 2005 and Section 3.2). Second, the large increase in the participation in the 1990s among lower-educated, but not highly-educated, older workers in Finland (Tikkanen and Paloniemi, 2005 and Section 3.5) speak for the same. Finally, a corresponding observation has been reported from an organisational level (Cedefop, Fuller and Unwin, 2006; Cedefop, Stuart and Perrett, 2006) of the positive effect of a strong learning culture on learning motivation and participation of older workers.

While participation in formal training accumulates as a function of a person's initial education level (Section 3 [b] above), the Eurostat study showed that the difference in participation between highly-educated and lower-educated people in non-formal education is even higher, the magnitude of the difference varying between countries. In some countries the proportion of the population participating in non-formal education was more than 10 times higher for higher-educated than the lower-educated (European Commission, 2006a). Knowing that older workers generally have lower education levels, these findings indirectly demonstrate the huge differences in learning benefits between young and old workers, and the

foreign world of learning for older adults in many countries. To some extent the results naturally also indicate the differences in learning needs between young and older workers. However, it is hard to say what that is exactly: both of these groups have learning needs, but different. Overall, the discussion about the link between learning needs and learning participation is a highly complex issue related to the discussion of age of the employees.

According to Livingstone (1999), whatever degree of informal learning becomes documented, is only the tip of the iceberg: most remains unrecognised and unknown. The results of Livingstone's study showed that people reported participation in organised forms of learning more often if their learning in the everyday context was recognised and acknowledged.

3.2. Gender differences

On average the results from the Eurobarometer survey in the EU-25 showed no significant difference between female (41 %) and male (43 %) participation rates, but the figures vary in some Member States (Kailis and Pilos, 2005). Females participated more in Ireland, Latvia and Lithuania (eight to nine percentage points above males), while male participation rates were higher in France (eight percentage points more than females). A more detailed analysis in different subgroups reveals nuances and the enormous variation in participation in learning activities in Europe. For example, in their analysis Kailis and Pilos (2005) point to the difference between older females aged 55-64 in Austria (94 %) and Hungary (only 4 %).

3.3. Differences between countries

Overall, there is a great variation from one country to another with regard to the practice of lifelong learning and the development of policies for older workers. The Nomad report (Tuijnman and Hellström, 2001) based on OECD data, shows that for the 55-65 age group, participation in adult

education in the Nordic countries is higher (30 % on average) than other OECD countries (below 20 % on average). Eurostat (⁸) data also shows great differences between countries in the level of participation in lifelong learning in 2002/03. The group of countries that are clearly differentiated from the rest are the Nordic countries, the UK and the Netherlands, and from outside the EU, Iceland, Norway and Switzerland. In these countries the participation rates are nearly 20 percentage units above the EU average, which is less than 10 % (both EU-15 and EU-25) (see also Cedefop, Descy, 2006).

Large differences have been also found between EU countries (Figure 2 and Table A1 in Annex 2) (Cedefop, Descy, 2006; Kailis and Pilos, 2005). According to the lifelong learning module of the Eurostat labour force survey (Kailis and Pilos, 2005), the participation rates (in any kind of learning) are highest in Austria (89 %), Luxembourg and Slovenia (both 82 %), Denmark (80 %) and Finland (77 %), and the lowest in Hungary (12 %), Greece (17 %), Spain (25 %), Lithuania (28 %) and the Czech Republic (29 %). Gender differences between countries were discussed above (Section 3.2).

Sociologists have pointed out more broadly that the same factors that explain active participation also explain voluntary participation in education and training (Antikainen, 2001). Together with high activity in the traditional civic organisations (e.g. in the OECD's international adult literature survey (IALS), this finding has been used to explain the generally high participation rates in adult education in the Nordic countries, in particular among the lower-educated and those working in lower status occupations (Antikainen, 2001). According to Antikainen (2001) civic society is the historical cradle of lifelong learning and education, a fact particularly visible in the high participation rates in the Nordic countries. Based on his life-course studies of different training generations, Antikainen concludes that both age-related and socio-historical normative – institutional and cultural –

factors have a strong influence on participation in learning and education in a life-course perspective. However, he points out that non-normative events and factors (e.g. unemployment, divorce) can nevertheless have an even stronger effect. His conclusion is that the big issue for lifelong learning is to develop work organisations to become less selective and more open to learning.

3.4. Participation among people aged 65+

There is little information available on participation in training of people above 65 years of age. According to the OECD's international adult literature survey (1995) among people aged 66-75 the participation rates were 7 % in Canada, 10 % in the Netherlands and 10 % in Sweden (van der Kamp and Scheeren, 1997). Recent data from the UK shows that 19 % of those aged 65 to 74 have recent experience of learning, whereas the rate for over-75s is 10 % (Harrop et al., 2006).

3.5. Trends in participation rates among older workers

Because of the relatively recent interest in older workers as well as varying practice in measuring participation in education and training (e.g. use of different age categorisations and definitions of participation, various definitions of informal learning (⁹)), we know little of the trends in participation among older workers. However, very recently some European statistics have become available. Table 1 shows participation rates among older workers in 2005 as well as trends from the year 2000 in the EU-25, EU-15 and the new Member States. In the EU-15 almost 1 in 10 older workers had participated in training in 2005, while this rate was somewhat lower for the EU-25 (8.5 %) and significantly lower (2.9 %) for the new Member

⁽⁸⁾ Available from Internet: <http://europa.eu.int/comm/eurostat/> [cited 31.7.2007].

⁽⁹⁾ [...] lifelong learning encompasses all purposeful learning activities, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence. Participation in formal education (i.e. the regular education system of each country), non-formal education (i.e. organised and sustained educational activities that do not correspond exactly to the definition of formal education) and informal learning (i.e. activities outside formal or non-formal education, of a low-level of organisation, such as self-study) is distinguished.' (European Commission, 2006, p. 38).

States. Table 1 shows also that up to 2002 there was hardly any change in the participation rates for any of these three groups, but that since 2003 the increase has been rapid in relative terms in EU-25 and EU-15.

A detailed country overview of lifelong learning participation is shown in Table A1 (in Annex 2). The table shows the situation for the working age population (25-64) in 2000 and 2005, as well as the 5-year change. Countries with high participation rates in 2000 (Denmark, Sweden, the UK) not only had high rates five years later

but also tended to increase their participation rates most (as percentage points) during that period. However, due to their lower rates in 2000, the relative increase in participation in countries such as Spain, France, Luxembourg and Austria was even larger.

Some national data is also available, making it possible to trace trends in older worker participation rates. The national adult education survey from Finland is a solid database collected every five years since the 1980s (the first interval was 10 years). It allows also for comparisons of

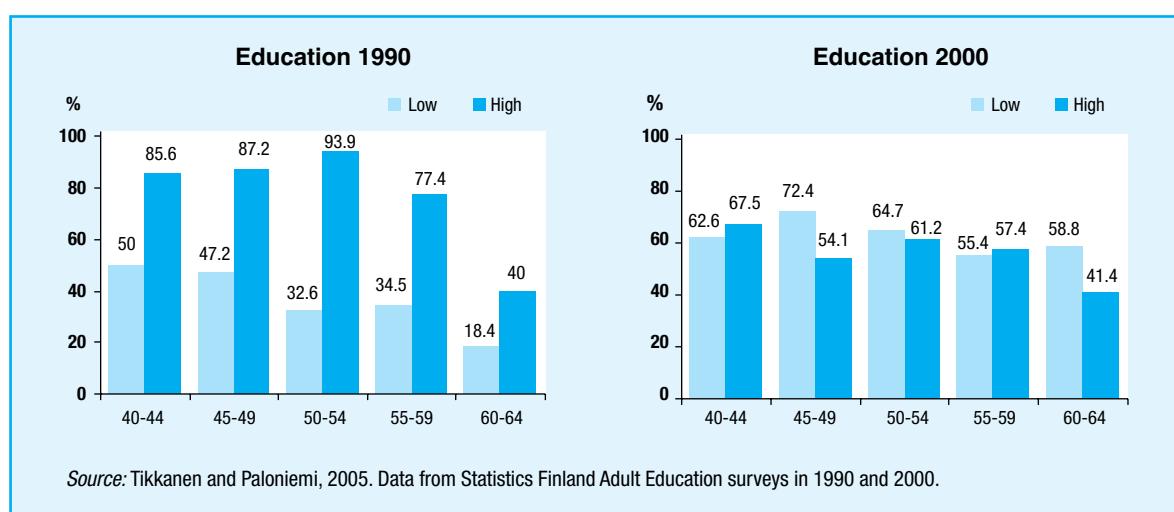
Table 1. Older workers' participation in education and training. Trends 2000-05 (%)

	2000	2001	2002	2003	2004	2005
45-54 years						
EU-25	5.7	5.7	5.6	7.1	8.1	8.5
EU-15	6.3	6.3	6.3	8.0	9.2	9.8
NMS-10	3.0	3.0	2.7	3.0	3.3	2.9
55-64 years						
EU-25	2.8	2.8	3.1	3.9	4.8	5.1
EU-15	3.0	3.0	3.3	5.4	5.4	5.9
NMS-10	-	-	-	-	-	-

NMS = new Member States.

Source: European Commission, 2006c.

Figure 3. Comparison of the age-education (% low/high) interaction effect on participation in job-related learning activities in 1990 and in 2000 in Finland



older workers' (aged 40-64) participation rates in work-related learning activities over time. Figure 3 shows the results in the years 1990 and 2000, with a particular focus on lower- and higher-educated workers.

The results show that during the 1990s, lower-educated 40-64 year old adults increased their participation to such an extent that the long-prevailing difference with higher-educated people has disappeared (Tikkanen and Paloniemi, 2005). This runs contrary to the common education accumulation effect (see (c) in Section 3 introduction) and the trends seen at European level more generally. A recent review of the indicators for monitoring the EU employment guidelines (European Commission, 2006c) shows that the increase in participation rates (in absolute terms) in lifelong learning (among 25-64 years old) is clearly related to educational background, and has been most pronounced among the higher-educated (Table A2 in Annex 2).

There is even less data available for adults aged over 60. However, the recent NIACE data from

the UK shows that while until the early 2000s their participation rate was increasing, since 2003 it has fallen rapidly. It seems this 'at least in part' due to the changes in policy priorities in the UK. In 2005 there was a 24 % fall in the number of over-60s participating in publicly funded further education in England (Harrop et al., 2006, p. 5).

To conclude, there is a strong and well-founded belief that education and training will improve the situation of older workers in workplaces and labour markets by improving their employability (OECD, 2006). The effects are also expected to be visible in extended careers and higher employment rates in the oldest age-groups (60+/65+). However, various studies of training participation among older workers have shown that education and training alone, even when added to better recognition, acknowledgment and reward for competence, based on experience and informal learning, will not be sufficient alone to solve the complex issue of increasing the economic activity of older people (Cedefop, Descy, 2006), or meet the challenges that ageing populations face (Karmel and Woods, 2004).

4. Workplaces and HRD promoting lifelong learning for older workers

HRD typically includes the components of training, career development and organisational development (Rocco et al., 2003). This section discusses these aspects from the point of view of older workers. Despite the importance of this area, the description here is bound to be relatively brief. This is because, first, job-training programmes specifically targeted at older workers either do not exist or are uncommon, in Europe as well as in the US or Japan (Rix, 2005). Second, there is little systematic research available on older workers at organisation level, particularly from the learning perspective (Cedefop, Tikkanen, 2006). During the last few years, reports on various company-based case-studies and measures, however, have started to emerge. Nevertheless, while information on innovative workplace practices is in great demand (von Nordheim, 2003), there has not been much progress on how to implement age-aware human resource policies (Buck and Dworschak, 2003b). While literature about implementation of change in workplaces is in abundance, research on the involvement and participation of older employees in this change is scarce (Cedefop, Tikkanen, 2006). It has been pointed out that various changes that have taken place in work (e.g. increasing flexi-work arrangements) should be favourable to older workers and their employment (OECD, 2006), but this is not always the case.

When ageing has been addressed at an organisational level, the voice and views of

employers and management has been dominant (Cedefop, Tikkanen, 2006). When older workers' perspective has been addressed, it has most often been done separately from the employer or company perspective. Based on a large organisational literature review in the US, Rocco et al. (2003) conclude that it seems that employers and older workers react independently to changing workplace conditions.

This section looks at the central organisational issues of importance for older worker learning and learning promotion. The second part reviews the human resources aspect and discussion to the extent it has been addressed from the older workers' perspective. Also the question of older workers' competence will be discussed. This section closes with a career perspective, in which the role of labour unions will be briefly touched upon.

4.1. Workplaces as learning arenas for older workers?

4.1.1. The challenge of creating learning-conducive workplaces for older workers

For most of today's older workers, workplace learning has been their vocational learning.

Table 2. Employees' (aged 45-64 years) and employers rating of actions which can be important for older workers for continuing in working life

Action	Employees	Employers
Improving possibilities for rehabilitation	37	34
Increasing wages	35	22
Reducing workloads and tight schedules and increasing options to affect work	32	56
Improving the work environment	28	71
More flexible working hours	27	32
Improving management skills and good supervisory action	21	68
Increasing educational possibilities and training that promotes occupational skills	13	40

Employees: Work conditions 2003 study, Statistics Finland.

Employers: Services for the workforce and job vacancies study 2004 (Ilmarinen, 2006, p. 83).

Success stories in bringing lifelong learning to older workers relate to what is happening in ordinary workplaces (Cedefop, Tikkanen, 2006). As a part of the recently-emerged comprehensive approach to the challenge of older workers, the need for cooperation between all working life parties has been called for. While the importance of supportive European and national policy frameworks and agreements is acknowledged, several authors (Buck and Dworschak, 2003b; Ilmarinen, 2006; Linkola, 2003; Rocco et al., 2003) have pointed out that, at the end of the day, the changes that can truly make a difference to older workers have to take place in workplaces and be firmly supported by the employers.

To bring lifelong learning into the workplace to promote the change in the situation of older workers seems a slow process, and the structural development has in many cases been deteriorating (Auer and Speckesser, 1997). This has to do both with the slow transformation of the rhetoric of lifelong learning into viable practice and with the ways that older workers in workplaces are addressed has progressed. In the first country to draft guidelines on improving the status of older workers (Rix, 2005), Finland, the discussion on older workers started with the sole concern for rehabilitation and health. The approach was later broadened to include individual factors (e.g. skills and competence) and various work-related and organisational issues, currently underlining the crucial need for management to intervene more broadly (Ilmarinen, 2006; Linkola, 2003).

The following is a summary of the discussion and central issues concerning older workers and lifelong learning from an organisational perspective.

4.1.2. Combating discriminatory attitudes and practices in the workplace

Discriminatory attitudes and practices in the workplace are part of the challenges concerning retaining, retraining and recruitment of older workers. The research literature shows that employers discourage the recruitment of older workers because they are not seen to be flexible enough for modern working life (Cedefop, Tikkanen and Nyhan, 2006, p. 9-16). Studies at the end of the 1990s showed that, soon after reaching 40 years of age, many employees were no longer

wanted by employers in particular in recruitment situations (Walker, 1997a; Nordic Council of Ministers, 2004).

Various surveys have shown that employers hold rather stereotypical views about the strengths and weaknesses of older workers. There are four primary negative stereotypes related to age and HRD: older workers do not want to learn, older workers cannot learn, older workers have problems with new technology, and investment in training of older workers gives a poor return (Gray and McGregor, 2003). In 2001 half of employers in Sweden considered older workers to have less relevant skills than younger workers and to be more rigid and inflexible with respect to the workplace (OECD, 2006). Similar findings exist for other countries in Europe and the US (OECD, 2006). Further, the *Third European survey on working conditions 2000* (Paoli and Merlliè, 2001) showed that, on average, around 4 % of workers aged 50 years and over reported having personally experienced age-discrimination or witnessed it in their workplaces. The figure varied considerably between countries from a low of 1 % in Denmark to as high as 14 % in Austria. In comparison, two-thirds of US workers aged 45-74 reported discrimination in 2002 (OECD, 2006). The negative attitudes of employers may have an adverse effect on the official efforts to promote the employment of older workers (Rix, 2005). These attitudes may also undermine motivation of older individuals who wish to adopt new attitudes to their work.

A recent survey by global online careers site Monster (2006) sought European workers' views on ageism in their workplaces. A total of 8 277 persons answered the question: do you feel your company is ageist when it comes to employing new recruits? The answers were divided as follows:

- (a) 46 %: yes, they discriminate mainly against older;
- (b) 14 %: yes, they discriminate mainly against younger;
- (c) 16 %: yes, they discriminate against both older and younger;
- (d) 24 %: no, the company seems to have a balanced view on age.

There were large differences between countries in these views. The highest rate of old age discrimination in recruitment was found in Germany

(59 %) and Spain (54 %), while the rate was only 22 % in Belgium and 35 % in France. The most balanced view on age and most inclusive approach to recruiting across wide range of age groups was found among the Norwegians (40 % reported on a balanced view on age); this situation reflects very low unemployment and the government's initiative towards an inclusive working life in the country. The results were similar in Denmark (40 % correspondingly) and Belgium (33 %).

While it is vital that workers of all ages have good access to vocational training and lifelong learning activities (OECD, 2006), a common claim among employers is that older workers are not interested in training and development. However, as suggested by the Worktow study (Tikkanen et al., 2002), older workers tend to be highly critical consumers in the training market, due to their long-established, experience-based, highly developed judgement-type skills. They are also very pragmatic when considering training options, their own and their organisations' overall situation, the task-related relevance of the training and training benefits. In SMEs in particular, training options can be turned down for reasons related to time and other resources as well as content and training methods (Cedefop, Tikkanen, 2006). Further, training tends to be reactive, ad hoc, tailor-made and narrow-based and not relevant outside one particular company. Learning results from this kind of training can run short in assisting older workers to deal with career changes (Cedefop, Stuart and Perrett, 2006). A further aspect of low interest in training among older workers relates to the CVET practitioners who are often younger workers themselves as well as business consultants. Their interest in the target group of older workers has been growing very slowly, and, in most cases, is completely absent (Cedefop, Tikkanen, 2006).

Training-related age-discrimination is common throughout the industrialised world. Gray and McGregor (2003) report on a study in New Zealand, which compared the results of two HRD-surveys, one targeted at employers and the other at workers aged 55+. The study also showed clear differences between the views of employers and employees regarding training older workers. A total of 11.6 % of the workers reported discrimination regarding training. Skilled older

workers also considered provision of training from their employer as indicative of their attitudes and appreciation, 'a signal by employers that they were taken as serious contributors' (Gray and McGregor, 2003, p. 338). Overall, employers' views were more positive than employees'. Over 90 % of employers reported that they support training and skill updating irrespective of age. Nevertheless, 32.5 % agreed that older workers are less willing to train and 27.4 % that they are difficult to train; employee agreement with these statements was 23.6 % and 19.7 % respectively (see also Table 3).

4.1.3. Areas where further attention and measures are needed

4.1.3.1. Missing voice of older workers: from an object to a subject of their own (working) lives

The literature shows that, to date, issues such as employment, training and advocacy are being done 'on behalf of the older worker' (Rocco et al., 2003, p. 169). This calls for efforts to create environments where 'workers have voice in determining their own capacity for work engagement and disengagement' (Cedefop; Billett and van Woerkom, 2006; Cedefop, Olesen, 2006; Rocco, et al., 2003, p. 169).

4.1.3.2. Providing access and opportunity for career development

It is important to extend and balance the examination of retirement incentives against the need to recruit and retrain older adults in the workforce. Encouragement, help and guidance are needed for older workers to consider second or even third careers.

4.1.3.3. A need for ageing-appropriate job design

Dworschak et al. (Cedefop, Dworschak et al., 2006) have called for ageing-appropriate job design, for continuing training, as well as measures to address the management of occupational biographies at company level. In line with Ilmarinen (2006) they point out that the reasons for older workers' premature exit from the workplace are as much the non-age-friendly design of workplaces as the

individual choice of the older workers themselves. In particular, German and Finnish approaches to older workers have called for workplaces where it is possible to grow old (Cedefop, Dworschak et al., 2006), and stress that overall working conditions, work organisation and task assignments are key elements in addressing the issue of an ageing workforce (Ilmarinen, 2006).

4.1.3.4. Maintaining change competences and flexibility

Stuart and Perrett have examined factors that contribute to the employability, or the lack of employability, of redundant steelworkers. They highlight the importance of developing change competences throughout the whole of one's working life (Cedefop, Stuart and Perrett, 2006). Like other researchers (Cedefop, Dworschak et al., 2006), Stuart and Perrett suggest that these can be promoted through organising work in ways that continuously foster workers' flexible skills and attitudes. It can be argued that trade unions can play a significant role in helping older workers to reconstruct their lives through proactive interventions. Olesen has approached older workers from a life-history perspective – an approach which can help generate new and more open life trajectories for people as they grow older – and proposed a learning way to master change (Cedefop, Olesen, 2006).

4.1.3.5. Age-management

With the increase in knowledge-work forcing more attention on the human factor in workplaces, a new human resource management (HRM) and HRD concept of age-management (Juuti, 2001) or age-aware management (Walker, 1999) has come into play, marking a positive interest in the situation of older workers in the workplace (e.g. Ilmarinen, 1999, 2003; Rhebergen and Wognum, 1996; Tikkanen et al., 1996; Walker, 1997a, 1999). This is related to the development of a senior policy or a 'life-phase oriented personnel policy' as a specific element of an organisation's overall HRM policy. HRM age-management and senior policy strategies are organisational measures to retain older workers longer in working life. Some organisations claim to have adopted

age-aware personnel policies, although a gap between intention and implementation has been noted (Rhebergen and Wognum, 1996; Walker, 1997a). There is also evidence of a lot of hidden age discriminating beliefs among managers, supervisors and professionals in workplaces (Juuti, 2001). The Dublin Foundation's work on barriers to, and opportunities for, age management in companies highlights good practice in relation to such issues as recruitment, training and development, flexible working, health and ergonomics (Eurofound, 2002).

4.1.3.6. Promoting diversity as a competitive edge

It has also been suggested that instead of focusing on age-specific measures, HRM should take diversity as a starting point (see Köchling, 2003). Examples of this line of thinking are the diversity management strategy (Karazman et al., 2003) and the approach of the top Employers' forum on age (EFA network in the UK) which claims to be 'the first ever employer-led initiative to promote the benefits of a mixed-age workforce and to pledge to make age discrimination in the workplace a thing of the past' (¹⁰). Also, combating age-discrimination calls for more age-diverse, multi-cultural workplaces, where opportunities for training and advancement would be based on levels of performance appropriate to the demands of job-positions and that only (Rocco et al., 2003). In this context there is a need for future research on the productivity of inter-generational work teams (Rocco et al., 2003).

4.2. The job-competence of older workers: what do we know?

During the last two decades changes in work organisation, work (the concept and practice) and workplace – including the tools for working and the ways to organise work (also time and place) – have gone through a transformation, in many cases quite dramatic (Ford and Orel, 2005). Besides new demands on job competence

(¹⁰) Available from Internet: www.efa.org.uk [cited 31.7.2007].

and its development, the consequences for older workers' relative position in workplaces and their employability in labour markets more generally have been significant. Further, the demographic trends continue to change the constitution of the social communities in workplaces. This aspect has also been further influenced by organisational changes, particularly the coming of network- and virtual organisations. The consequences of these for the means, patterns and forms of communication inside workplaces, in the networks and out of these two (towards clients and customers), pose a challenge in particular to the competence (knowledge, skills, attitudes) of older workers.

There is a stereotype of the difference of job-competence between older and younger workers. According to this view, job performance among older workers is viewed in terms of obsolescence and shortcomings, while that of younger workers is discussed under the frame of 'developmental potential'. However, other than ICT skills and, in some cases, foreign languages, we do not have

a comprehensive picture of the competence shortcomings and needs among older workers. Since the 1990s several studies and research overviews (e.g. Sterns and McDaniel, 1994; Warr, 1998) have concluded that age is a poor predictor of performance, but still the stereotypes persist – and little has been done to address the competence development perspective of older workers.

Investments in developing basic literacy and ICT skills have been widely discussed in recent years (European Commission, 2000; 2005). However, the recent Norwegian basic skills survey (Vox-Barometer, 2006) on literacy and ICT showed that all adults were highly satisfied with their basic skills in the context of work and did not think further education in these would be useful; the same was true of the 60 % who were not completely satisfied with their basic skills. Those aged 30-40 years and with highest education were most satisfied (90 % of those holding university degree against 80 % of those having only secondary education). Older workers

Table 3. Strengths in older workers' competence. Employers views on older workers in the US

<p>A survey by the Society for Human Resource Management (SHRM) and the American Association of Retired Persons (AARP) directed to nearly 400 HR-professionals (SHRM, 1998 quoted in McIntosh, 2001):</p> <ul style="list-style-type: none"> • 77 % agreed that older workers have a higher level of commitment to the organisation than younger workers (only 5 % disagreed); • 68 % concluded training older workers costs less or the same as training their younger counterparts (6 % disagreed); • 57 % reported that age does not affect the amount of time required to train an employee (14 % disagreed); • 49 % determined that older workers grasped new concepts as well as younger workers (18 % disagreed). 	<p>A study by the National Council on the Ageing (NCOA) and the McDonald's Corporation (Additional Resources, 1998 quoted in McIntosh, 2001)</p>
	<p>Despite myths circulated when companies were trying to justify trimming older adults from their payrolls, employers affirmed that, in general, older workers:</p> <ul style="list-style-type: none"> • had low turnover rates; • were flexible and open to change; • possessed up-to-date skills; • were interested in learning new tasks; • did not experience transportation problems; • were willing to take on challenging tasks; • had low absentee rates; • had few on-the-job accidents.

aged 50-65 years generally experienced the least developmental needs regarding their basic skills, but they most often experienced problems in their job tasks related to the use of ICT (finding information or using ICT-systems). Apart from ICT, age differences in skills and learning needs were very small. Specially targeted measures were recommended for lower-educated young people (aged below 30 years) and older ones (aged 50+). The results from the same survey in 2005 also showed that employers are highly satisfied with the basic skills among their employees.

Existing surveys indicate that employers are somewhat ambivalent when it comes to their views on the competence of older workers. While older workers' skills and knowledge are regarded as obsolete, they are also viewed as loyal and reliable, more so than younger workers (Walker, 1997b). Table 3 illustrates how employers view the strengths in older workers' competence and job contribution. The findings come from the US, but they tend to be common among European employers.

Experience-based knowledge has gained value as an aspect of the broadened view of work-competence (Cedefop, Paloniemi, 2006). Paradoxically, however, parallel to this development, the value of employees with the longest experience has decreased (Tikkanen, 1998). There seems to be confusion concerning experience-based competence as it is hard to define. It seems clear that views of knowledge and skills in many companies continue to be narrow due to the excessive emphasis on technological skills as such, instead of viewing them as instrumental aspects of broader competence and new knowledge.

An overemphasis on skills in ICT has been a feature of recent debates on work competence although many researchers argue for a more balanced approach. The OECD DeSeCo project has proposed a holistic view of competence (Rychen and Salganik, 2003). The OECD's latest report on ageing and employment (2006) outlines a multidimensional and comprehensive approach to lifelong learning to extend the careers of older workers.

Billett and van Woerkom (Cedefop, Billett and van Woerkom, 2006) suggest that older workers are caught up in contradictory discourses about

work and competence development. They argue that older workers need workplace support to maintain their competence, but that this is often not available, given the preference for recruiting young people. To address this difficult environment, Billett and van Woerkom argue that older people need to take up a more active role and adopt a critical, personal engagement stand with regard to working life and competence development. However, older workers are often caught in a vicious circle. Their peripheral status in workplaces and the labour market often reduces their power to influence decisions affecting their paid employment (Findsen, 2006). Besides age, gender, social class, race and ethnicity, and geographical location are all variables with the potential to shape possibilities and agency (Phillipson, 1998).

When it comes to the work-competence of older workers, four major issues have been highlighted (Cedefop, Tikkanen, 2006). First, older workers have shortcomings concerning ICT. The central challenge to older workers is how they manage to adjust their competence to the demands of new forms of work and changing working environments (Tikkanen et al., 2002). Second, older workers are prone to suffer from the erosion of metacognitive skills, i.e. skills concerning one's own learning, which often relate to learning motivation and self-efficacy (see also Cedefop, Dworschak et al., 2006). Third, there are stereotypes about the competence and productivity of older workers, especially concerning their learning attitudes and skills. It has been pointed out that it is these attitudes that are the main obstacle to opening up employment opportunities for older workers (ILO, 2003). It is perhaps surprising how little the discussion on retaining older workers has brought up the motivation factor which relates to an older worker's perception of himself/herself as a respected worker whose competence is appreciated and needed. To empower older workers, a change of attitudes should also come from society at large and from work colleagues. Media can play a key role here (ILO, 2003) as shown for example by the 'positive age-talk' of the Finnish national programme for ageing workers (Linkola, 2003). Fourth, the discussion related to older workers' competence has typically been based on the deficit-approach, focusing on what they are lacking rather than their strengths.

Negative attitudes are reinforced because of difficulties in being precise about the competences required in various jobs, and the excessive focus on technology-skills. In specialised professions in particular, however, the departure of older workers has been found to mean losses of valuable know-how from the companies (Root and Zarrugh, 1987). Notwithstanding the above, some mentoring models have been developed to permit the transfer of older workers' experience-based competence to younger workers. With such contradictory messages concerning the value of older workers and their work competence, the challenge posed to their learning is to be at the same time both adaptive – 'to adjust themselves to a possible adverse reality' (Cedefop, Ellström, 2004, p. 23) in workplaces – and trying to tackle the demand for developmental learning.

Clearly, we need more knowledge about the competence-in-demand and how this is affected by age and various experience. Workplace competence is very context-specific and an overview of it is typically carried in the heads of management as tacit knowledge. The challenge for research is to find more systematic ways to understand this.

4.3. HRD: making lifelong learning a reality for older workers

Participation in formal education and training is the most commonly used indicator for lifelong learning. However, the indicators of investment in human capital are becoming increasingly important (Eurostat, 2005).

It has been suggested that the 'extent to which older workers will elect to remain or to return to the workplace is related to an understanding of how organisations manage the social, economic, political, and technological trends regarding the employment and productivity of older workers' (Rocco et al., 2003, p. 156).

While there are some differences between the countries, the similarities in the situation of older workers in workplaces, at least in the industrialised world, are more striking. Ohsako and Sawano (2006), suggest that the changes from

a seniority-based promotion and wage system to a competence and qualification based system in working life, may necessitate a more active role for employers in promoting lifelong learning in workplaces.

Workplaces can make a difference in providing opportunities for lifelong learning for older workers with effects feeding into mitigating anticipated labour shortages and rising dependency ratios (Fredriksen, 2006). The study by Fredriksen (2006) showed that those older workers, who feel that their workplaces address the values important to them – economic security, informal learning (for personal development), and continuous formal development of knowledge and skills for use in the workplace (ability utilisation) – are more committed to their work and willing to postpone their retirement. Fredriksen concluded that workplaces which organise and value peoples' contributions and provide opportunities for learning and personal development could offset the trend towards early retirement.

4.4. Career guidance and the role of trade unions

While there are some studies addressing older workers' careers (e.g. Cahill and Salomone, 1987) or their training and development (e.g. Sterns and Doverspike, 1988), research in HRM and HRD has mainly focused on promoting high performance and productivity in companies (Whitfield and Poole, 1997); these topics naturally relate to younger, rather than older, workers. However, the provision of career guidance and the development of career-management skills have been put forward as key areas for the empowerment of older workers (Cedefop, Sultana, 2004; OECD, 2004).

The role trade unions play in promoting lifelong learning and career development among their oldest members varies from union to union and from one country to another, although the importance assigned to lifelong learning among unions appear to be on rise (ILO, 2000). However, until recently, expanding the working careers of older workers has not been on their agenda (Cedefop, Tikkanen, 2006). Towards the end of the 1990s, Walker concluded his European

study by stating that there was no evidence of 'partnership between the social partners on the way forward with regards to age and employment' (Walker, 1997a, p. 40). About 10 years later there are signs that trade unions have started to adopt a more proactive role towards the training needs of older workers. In the UK, trade unions are viewed as important conduits for advice on learning for older workers in particular, as approaching their employer in this regard is something they may wish to avoid (Cedefop, Stuart and Perrett, 2006). Tito Boeri, a professor of economics at the Bocconi University, wrote in the Financial Times (12.11.2003) that, while being outspoken on many topics, trade unions tend to be 'coy' when

it comes to the age of their members. According to Boeri, labour unions need to be supported by governments to solve the vicious circle related to the intergenerational conflict, pursuing policies on issues such as lifelong learning. It is also argued that lifelong learning has become the new employment security objective on the agenda of trade unions, as 'lifelong learning is becoming as important an entitlement for today's employee as the right for a pension became in the past' (ILO, 2003, p. 11). Box 7 shows how the European Trade Union Confederation (ETUC) has defined the framework of actions towards lifelong learning, relating it to the challenge of an ageing population.

Box 7. ETUC: framework of actions for the lifelong learning development of competences and qualifications

A challenge

The ageing population and the social expectations, which have resulted from higher levels of education of younger generations require a new way of approaching learning systems, ensuring that there are opportunities for all age groups – women and men, skilled and unskilled – if significant increases in competences and qualifications levels are to be achieved. Lifelong learning contributes to the development of an inclusive society and the promotion of equal opportunities.

Four priorities

The social partners assert the principle of shared responsibility of players with regard to four priorities and call for the intensification of dialogue and partnership at the appropriate levels. The social partners believe that the lifelong development of competences depends on the implementation of the following four priorities:

- identification and anticipation of competences and qualifications needs;
- recognition and validation of competences and qualifications;
- information, support and guidance;
- resources.

Source: ETUC, available from Internet: <http://www.etuc.org/a/580> [cited 1.8.2007].

5. A summary of characteristics of the research on older workers and lifelong learning

What picture has research conveyed us about older workers and lifelong learning? Have the theoretical and methodological choices possibly influenced to the picture we have and, if yes, in which ways and to what extent? This section summarises these issues, characterising the research relevant to the theme of older workers and lifelong learning.

Older workers and their learning is an insufficiently researched topic (Rocco et al., 2003). An extensive literature review by Rocco et al. (2003) from the US showed that most of the existing articles on the theme have been written for popular or professional publications.

Most research on ageing and older workers in working life has been targeted to groups other than older workers, most commonly to employers and management and to HRD personnel in larger companies (Paloniemi and Tikkanen, 2001). As a result we know a good deal about management attitudes to older workers and their competence, as well as their views concerning older workers' learning skills, attitudes and motivation. However, such a methodological choice has left the voice of older workers themselves unheard (Rocco et al., 2003; Cedefop, Tikkanen, 2006).

Our picture of older workers is predominantly produced through research with a narrow methodology: mostly surveys, typically focusing on training participation or aspects related to it. When these have also covered the views of older workers, age is typically reduced to a single background variable. Thus, with some exceptions, existing studies can tell us little about older workers' perspective on work and learning, and how they perceive their work, job-competence and learning, or construe the meaning of these and their situation regarding their work, workplaces, and working life in general.

There has been a trend towards a comprehensive perspective and interdisciplinary and cross-disciplinary research frameworks in general since the 1990s, in particularly in gerontology (to which this theme is linked). Research on older workers, however, has been narrow, carried out mostly by sociologists and economists. Their interests have been in social (health, welfare) and economic issues. Research including individual or organisation learning or training

perspectives (e.g. in adult education, HRD, lifelong learning) has been rare, but interest in the theme seems to be picking up.

Focus has been largely at macro level, although there have been case-studies on enterprises (e.g. the Dublin Foundation's project on combating age barriers in employment, see Walker, 1997b). However, since the 1990s various training and development projects on an organisational level with an older worker perspective have been carried out, particularly supported by the European Social Fund. Unfortunately, there is no systematic documentation of this line of activity as the competence actors in these projects – consultants and training providers – typically do not report from or document their work.

Theoretically, existing research almost all draws on the deficit-approach as opposed to resource or assets perspective on older workers and their competence. In this line of thinking, obsolescence and shortcomings, as well as negative learning motivation and inflexibility, have been emphasised. Some texts with a more critical perspective have recently been produced (Cedefop, Billett and vanWoerkom, 2006; Cedefop, Olesen, 2006), but empirical research in this line is still lacking.

If we compare the available literature from about the last 10 years with that from before the latter part of the 1990s, a more active view of older workers, also as learners, is emerging, albeit very slowly. Moving beyond the institutionally structured life-course (Buchmann, 1989; Kohli and Meyer 1986) suggests that retirement could in the future become 'a self-imposed status determined by the worker rather than an institutional norm' (Rocco et al., 2003, p. 168), and that lifelong learning has the potential to play a vital role in this trend. The last few years have marked a change of pace towards more interest in older workers and in increasing their activity in working life and in lifelong learning participation. These are signs that, at least in some countries, both working life and the world of lifelong learning have become more inclusive for the long-discouraged group of older workers. Undoubtedly, this is at least partly an indication of the effectiveness of political intervention through the Lisbon strategy.

6. Recommendations

On the basis of the review above, several recommendations can be made to promote lifelong learning to older workers:

- (a) most important, the search for new solutions for lifelong learning of and for older workers should be essentially based on including older workers themselves in the dialogue (Cedefop, Tikkanen and Nyhan, 2006, p. 9-16). This principle should be followed in learning promotion in the context of workplace and in training institutions;
- (b) creating partnerships for learning. Continued and more creative efforts and experimenting are needed to reach the hard-to-reach older learners. The challenge here is primarily to bring the world of learning closer to the older workers, not vice versa. While this poses a challenge to training institutions and employers, trade unions have also more potential to play a much more visible role to this end, with a stronger focus on supporting career development among their oldest members;
- (c) the dialogue between training institutions and employers should be further enhanced. Continued efforts are needed to find sustainable solutions to bring the worlds of work and learning closer to each other. While this principle is valid for all employees, it is particularly important for older workers with low educational backgrounds. Taken that adults prefer informal over formal learning settings, when possible, workplaces should also be used as sites for more theoretical learning alongside formal learning settings;
- (d) alongside inclusive workplaces we need inclusive settings for learning. Training institutions should increase the ecological validity of their learning provision for older workers. To this end they should seek to take the experiential world of older learners as a starting point for their learning dialogue. They can do this either by making it a principle that their own older teachers are included in teams planning learning provision for older workers, or by consulting older workers themselves in their planning work;
- (e) there is a need to develop systematic evaluation of the various measures developed to address the issues of workplace learning and competence development of older workers. Further, dissemination of 'best-practice' should place more focus on critical self-reflection and on how to reach wider audiences, in particular workplaces. In other words, there should be more focus on how their messages are received rather than solely on how best to send them;
- (f) there is a need for research to cover the older workers' perspective lifelong learning and extended careers. This kind of research should build on interdisciplinary frameworks and apply multiple methodologies to cover the complexity, and to some extent novelty, of the topic of lifelong learning and older workers;
- (g) surveys on working life and lifelong learning activities should be expanded to later than up to 60 or 65 years. Further, surveys on lifelong learning and participation should seek to develop a more unified practice for reporting their findings for older age groups.

List of abbreviations

CVET	Continuing vocational education and training
EC	European Commission
EU	European Union
HRD	Human resources development
HRM	Human resources management
ICT	Information and communication technology
ILO	International Labour Organisation
OECD	Organisation for Economic Cooperation and Development
VET	Vocational education and training
Worktow	Working life changes and older workers

Bibliography

- ABS – Australia Bureau of Statistics. *Population by age and sex, Australian states and territories*. Canberra: ABS, 2005.
- Antikainen, A. Kansainvälinen vertailu elinikäisestä optimisesta [an international comparison on lifelong learning]. In Heikkilä, E.; Tuomi, J. (eds). *Suomalainen elämänkulku [the Finnish life course]*. 2001, p. 99-125 [in Finnish].
- Antikainen, A. *Participation, culture and life course: elements for a socio-cultural theory of participation/non-participation in adult education*. Paper presented in the 5th ERDI expert seminar, 21-23 January 2005, Gustav Stresemann Institute, Bonn, 2005.
- Auer, P.; Speckesser, S. Labour markets and organisational change: future working structures for an ageing work force. *Journal of Management and Governance*, 1997, Vol. 1, No 2, p. 177-206.
- Boerlijst, J.G. The neglect of growth and development of employees over 40 in organizations: a managerial and training problem. In Snel, J.; Cremer, R. (eds). *Work and ageing*. London: Taylor and Francis, 1994, p. 251-271.
- Buchmann, M. *The script of life in modern society*. Chicago: University of Chicago Press, 1989.
- Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Fraunhofer IRB, 2003a (Booklet series: demography and employment).
- Buck, H.; Dworschak, B. Ageing and work in Germany – challenges and solutions. In Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Fraunhofer IRB, 2003b, p. 27-46 (Booklet series: demography and employment).
- Cahill, M.; Salomone, P.R. Career counselling for work life extension: integrating the older worker into the labour. *Career Development Quarterly*, 1987, Vol. 35, No 3, p. 187-196.
- Cedefop. *Lifelong learning bibliography: a European VET perspective*. No 5-6: January-December 2003. Luxembourg: Publications Office, 2004 (Cedefop Dossier series; 6).
- Cedefop; Billett, S.; van Woerkom, M. Older workers and learning through work: the need for agency and critical reflection. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 177-189. (Cedefop Reference series, 65).
- Cedefop; Chisholm, L. (ed.). *Getting to work on lifelong learning: policy, practice and partnerships: summary conference report*. Cedefop. Luxembourg: Publications Office, 2004.
- Cedefop; Descy, P. Review of European and international statistics. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 68-89 (Cedefop Reference series; 65).
- Cedefop; Dworschak, B. et al. Building workplaces in line with the ageing process. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 208-223 (Cedefop Reference series; 65).
- Cedefop; Ellström, P.E. Developmental learning – a condition for organisational learning. In Cedefop; Nyhan, B. et al. (eds). *Facing up to the learning organisation challenge: selected European writings: volume II*. Luxembourg: Publications Office, 2004 (Cedefop Reference series; 41-II).
- Cedefop; Eurydice. *National actions to implement lifelong learning in Europe*. Brussels: Eurydice, 2001 (Eurydice Survey 3).
- Cedefop; Fredericksen, R.S. Work attitudes and values of older US public service employees. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers: an international overview*. Luxembourg: Publications Office, 2006, p. 123-139 (Cedefop Reference series; 65).
- Cedefop; Fuller, A.; Unwin, L. Older workers' learning in changing workplace contexts: barriers and opportunities. In Cedefop; Tikkanen, T.;

- Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 257-270 (Cedefop Reference series; 65).
- Cedefop; Hake, B. Lifelong learning funding policies for older workers in the Netherlands: a critical review. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 190-207 (Cedefop Reference series; 65).
- Cedefop; Nyhan, B. New policy thinking on the relationship between age, work and learning. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 48-67 (Cedefop Reference series; 65).
- Cedefop; Ohsako, T.; Sawano, Y. The situation in Japan. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 90-106 (Cedefop Reference series; 65).
- Cedefop; Olesen, H.S. Identification with work: inhibition or resource for learning? In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 164-176 (Cedefop Reference series; 65).
- Cedefop; Paloniemi, S. Employees' conceptions of age, experience and competence. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 108-122 (Cedefop Reference series; 65).
- Cedefop; Stuart, M.; Perrett, R. Learning in a restructured industrial environment: older workers 'displaced' from the British steel sector. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 224-239 (Cedefop Reference series; 65).
- Cedefop; Sultana, R.G. *Guidance policies in the knowledge society: trends, challenges and responses across Europe: a Cedefop synthesis report*. Luxembourg: Publications Office, 2004 (Cedefop Panorama series; 85).
- Cedefop; Tikkanen, T. The lifelong learning debate and older workers. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 18-47 (Cedefop Reference series; 65).
- Cedefop; Tikkanen, T.; Nyhan, B. (eds). Introduction: promoting age-friendly work and learning policies. In Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006, p. 9-16 (Cedefop Reference series; 65).
- Cedefop; Tikkanen, T.; Nyhan, B. (eds). *Promoting lifelong learning for older workers – an international overview*. Luxembourg: Publications Office, 2006 (Cedefop Reference series; 65).
- Cedefop, Tissot, P. *Terminology of vocational training policy: a multilingual glossary for an enlarged Europe*. Luxembourg: Publications Office, 2004 (Cedefop publication, 4030).
- Clematide, B. Samtaler om kvalifikationer, kompetencer og læring. In Illeris, K. (ed.). *Udspil om læring i arbejdslivet*. 2002, p. 187-515 [in Danish].
- Colardyn, D. From formal education and training to lifelong learning: what is new? Will it work better? In Colardyn, D. (ed.). *Lifelong learning: which way forward?* Brussels: College of Europe, 2001, p. 7-19.
- Council of the EU. Council Decision of 12 July 2005 on guidelines for the employment policies of the Member States: 2005/600/EC. *Official Journal of the European Union*, 2005, L205, p. 21-27.
- Courtney, S. Defining adult and continuing education. In Merriam, S.P.; Cunningham, P.M. (eds). *Handbook of adult and continuing education*. San Francisco: Jossey-Bass, 1989, p. 11-32.
- Crown, W.H. Economic trends, politics, and employment policy for older workers. *Journal of Ageing and Social Policy*, 1991, Vol. 2, No 3/4, p. 131-151.
- Dannefer, D. Cumulative advantage/disadvantage and the life course: cross-fertilizing age and social science theory. *Journals of Gerontology: Social Sciences*, 2003, Vol. 58B, No 6, p. 327-337.
- Ebbinghaus, B. *Reforming early retirement in*

- Europe, Japan and the USA.* Oxford: Oxford University Press, 2006.
- European Commission. *A memorandum on lifelong learning.* Brussels: European Commission, 2000 (Commission staff working paper SEC(2000)1832).
- European Commission. *Communication from the Commission: making a European Area of lifelong learning a reality.* Luxembourg: Publications Office, 2001 (COM(2001)678 final).
- European Commission. *Employment in Europe 2004.* Brussels: European Commission, Employment and Social Affairs and Equal Opportunities, 2004.
- European Commission. *Proposal for a recommendation of the European Parliament and of the Council on key competences for lifelong learning.* Luxembourg: Publications Office, 2005 (COM(2005)548 final).
- European Commission. *Progress towards the Lisbon objectives in education and training. Report based on indicators and benchmarks.* Brussels: European Commission, 2006a (Commission staff working document SEC(2006)639).
- European Commission. *The demographic future of Europe: from challenge to opportunity.* Brussels: European Commission, 2006b (Commission communication COM(2006)571 final).
- European Commission. *Indicators for monitoring the employment guidelines. 2005 compendium. Update 19.5.2006.* Brussels: European Commission, 2006c.
- Edwards, R. et al. *The learning society: challenges and trends.* London: Routledge, 1995.
- Ellström, P.E. *The many meanings of occupational competence and qualification.* Paper presented at Workshop 1 within the project New forms of basic and further education of professionals for vocational education and training (Europ prof), Hydra, Greece, 25-27 April 1996.
- Eurofound – European Foundation for Improvement of Living and Working Conditions. *Quality of work and employment in Europe.* Luxembourg: Publications Office, 2002 (Foundation paper No 1, February 2002).
- Eurostat. *Europe in figures. Eurostat yearbook 2005.* Luxembourg: Publications Office, 2005.
- Eurostat. International day of older persons: EU25 population aged 65 and over expected to double between 1995 and 2050. *Eurostat News Release*, 29 September 2006, No 129.
- Eurostat. *Europe in figures. Eurostat yearbook 2006-07.* Luxembourg: Publications Office, 2007.
- Featherstone, M.; Hepworth, M. Images of ageing. In Bond, J.; Coleman, P. (eds). *Ageing in society.* London: Sage. 1990, p. 205-275.
- Findsen, B. Social institutions as sites of learning for older adults. Differential opportunities. *Journal of Transformative Education*, 2006, Vol. 4, No 1, p. 65-81.
- Ford, R.; Orel, L. Older adult learners in the workforce. *Journal of Career Development*, 2005, Vol. 32, No 2, p. 139-152.
- Fortuny, M. et al. *Employment promotion policies for older workers in the EU accession countries, the Russian Federation and Ukraine.* Geneva: ILO, 2003 (ILO Employment paper 2003/50
- Gray, L.; McGregor, J. Human resource development and older workers: stereotypes in New Zealand. *Asia Pacific Journal of Human Resources*, 2003, Vol. 41, No 3, p. 338-353.
- Hall, D.T.; Mirvis, P.H. The new career contract: developing the whole person at midlife and beyond. *Journal of Vocational Behaviour*, 1995, Vol. 47, p. 269-289.
- Harrop, A. et al. *Learning in later life: a public spending challenge.* A summary document. Leicester: NIACE, 2006.
- Høyrup, S.; Pedersen, K. Lærings- og kompetencebegreberne i arbeidslivsforskningen [Concepts of learning and competence in working life research]. In Illeris, K. (ed.). *Udspil om læring i arbejdslivet*, 2002, p. 86-103 [in Danish].
- Hudson, R.B. The history and place of age-based public policy. In Hudson, R.B. (ed.). *The future of age-based public policy.* Baltimore: Johns Hopkins University Press, 1997, p. 1-22.
- Ilmarinen, J. *Ageing workers in the European Union status and promotion of work ability, employability and employment.* Helsinki: Finnish Institute of Occupational Health, Ministry of Social Affairs and Health, Ministry of Labour, 1999.
- Ilmarinen, J. Ikääntyvä työvoiman työkyvyn ylläpitäminen [Maintaining workability among ageing workers]. In Heikkinen, E.; Rantanen, T. (eds). *Gerontologia.* Helsinki: Duodecim, 2003, p. 395-407 [in Finnish].

- Ilmarinen, J. *Towards a longer worklife! Ageing and the quality of worklife in the European Union*. Helsinki: Finnish Institute of Occupational Health, 2006.
- ILO. *Lifelong learning in the twenty-first century: the changing roles of educational personnel*. Geneva: International Labour Organisation, 2000.
- ILO. *An inclusive society for an ageing population; the employment and social protection challenge*. Paper contributed by the ILO to the second world assembly on ageing, Madrid, 8-12 April 2002. Geneva: International Labour Organisation, 2002.
- ILO. *Promoting decent work for an ageing population: actors, partners and corporate social responsibility*. Background paper contributed by the ILO to the G8 high-level meeting on employment. Paris, 12 and 13 May 2003. Geneva: International Labour Organisation, 2003.
- Jarvis, P. *Learning in later life: an introduction to educators and carers*. London: Kogan Page, 2001.
- Julkunen, R. Aika ajan tasalle [Updating time]. In Aittola, T. et al. (eds). *Minkä ikäinen olettekaan, rouva? [How old are you, Madame?]*. Jyväskylä: University of Jyväskylä, 1996, p. 121-131 (SoPhi 5/1996) [in Finnish].
- Juuti, P. Implications from research in age management. In *NES 2001 33rd annual congress: Proceedings*. Congress on promotion of health through ergonomic working and living conditions, 2-5 September 2001, Tampere, Finland.
- Kailis, E.; Pilos, S. *Lifelong learning in Europe*. Luxembourg: Publications Office, 2005 (Statistics in Focus: population and social conditions, 8/2005).
- Karazman, R. et al. Balancing generations and managing human sustainability at work. In Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Öffentlichkeits- und Marketingstrategie demographischer Wandel, 2003, p. 89-98 (Booklet series: Demography and Employment).
- Karmel, T.; Woods, D. *Lifelong learning and older workers*. Adelaide: National Centre for Vocational Education Research, 2004.
- Knowles, M. *Self-directed learning: a guide for learners and teachers*. Englewood Cliffs: Prentice Hall/Cambridge, 1975.
- Köchling, A. Human resources management under conditions of demographic change. In Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Fraunhofer IRB, 2003, p. 99-106. (Booklet series: demography and employment)
- Kohli, M.; Meyer, J.W. Social structure and social construction of life stages. *Human Development*, 1986, Vol. 29, No 3, p. 145-180.
- Lahn, L.C. Competence and learning in late career. *European Educational Research Journal*, 2003, Vol. 2, No 1, p. 126-140.
- Lashlett, P. *The fresh map of life: the emergence of the third age*. Cambridge, MA: Harvard University Press, 1991.
- Linkola, P. The national programme on ageing workers 1998-2002: from national strategy to a company strategy. In Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Fraunhofer IRB, 2003, p. 48-55 (Booklet series: demography and employment).
- Livingstone, D.W. Exploring the icebergs of adult learning: findings of the first Canadian survey of informal learning practices. *Canadian Journal for the Study of Adult Education*, 1999, Vol. 13, No 2, p. 49-72.
- Manheimer, R.J. The older learner's journey to an ageless society. Lifelong learning on the brink of a crisis. *Journal of Transformative Education*, 2005, Vol. 3, No 3, p. 198-220.
- Marin, M. *Minkä ikäinen olettekaan, rouva? [How old are you, Madame?]*. In Aittola, T. et al. (eds). *Minkä ikäinen olettekaan, rouva? [How old are you, Madame?]*. Jyväskylä: University of Jyväskylä, 1996, p. 3-12 (SoPhi 5/1996) [in Finnish].
- Maurer, T.J. Career-relevant learning and development, worker age, and beliefs about self-efficacy for development. *Journal of Management*, 2001, Vol. 27, p. 123-140.
- McIntosh, B. *An employer's guide to older workers: how to win them back and convince them to*

- stay. National Council on the Aging and the McDonald's Corporation. Washington, DC: US Department of Labor Employment and Training Administration, 2001.
- Monster. Almost half of European workers believe their organisations discriminate against older workers. *Press release*, 13.11.2006.
- Moody, H.R. Philosophy of education for older adults. In Lumsden, D.B. (ed.). *The older adult as a learner*. New York: Hemisphere, 1985, p. 25-49.
- Mosner, E. et al. *The convergence of the aging workforce and accessible technology*. Reading: Microsoft Corporation and AgeLight Marketing Consultancy, 2003.
- Neugarten, B. *Age or need?* Beverly Hills, CA: Sage, 1982.
- Nordic Council of Ministers. *The ageing and the labour market in the Nordic countries: a literature review*. Copenhagen: Nordic Council of Ministers, 2004 (TemaNord series, 2004: 538).
- OECD. *Career guidance and public policy: bridging the gap. Highlights*. Paris: OECD, 2004.
- OECD. *Live longer, work longer: a thematic review*. Paris: OECD, 2006.
- Paloniemi, S.; Tikkanen, T. Victims of ageist attitudes – but how do the older workers themselves view their competence? In Broncano, M.C. et al. (eds). *Educación y formación de personas adultas y trabajo [Adult education and the labour market]*. Xàtiva: ESREA and Dialogos, 2001, p. 189-197.
- Paoli, P.; Merlliè, D. *Third European survey on working conditions 2000*. Dublin: Eurofound, 2001.
- Parker, S.R. Retirement in Britain. In Markides, K.S.; Cooper, C.L. (eds). *Retirement in industrialized societies*. Chichester: John Wiley and Sons, 1987, p. 77-102.
- Peterson, D. *Facilitation education for older learners*. San Francisco: Jossey-Bass, 1983.
- Phillipson, C. *Reconstructing old age: new agendas in social theory and practice*. London: Sage, 1998.
- Phillipson, C. The transition to retirement. In Cohen, G. (ed.). *Social change and the life course*. London: Tavistock, 1987, p. 156-183.
- Phillipson, C.; Walker, A. *Ageing and social policy*. Aldershot: Gower, 1986.
- Reday-Mulvey, G. *Working beyond 60: key policies and practices in Europe*. Hampshire: Palgrave Macmillan, 2005.
- Rhebergen, B.; Wognum, I. Supporting the career development of older employees: an HRD point of view. In Holton, E.F. (ed.). *Academy of human resources development*. Conference Proceedings. Austin: Academy of Human Resource Development, 1996, p. 544-551.
- Rix, S.E. *Rethinking the role of older workers: promoting older workers employment in Europe and Japan*. Washington, DC: AARP Public Policy Institute, 2005 (Issue Brief No 77).
- Rocco, T.S. et al. An exploratory examination of the literature on age and HRD policy development. *Human Resource Development Review*, 2003, Vol. 2, No 2, p. 155-180.
- Root, L.S.; Zarrugh, L.H. Private sector employment practices for older workers. In Sandell, S.H. (ed.). *The problem isn't age*. New York: Praeger, 1987, p. 177-191.
- Rychen, D.S. Key competences: meeting important challenges in life. In Rychen, D.S.; Salganik, L.H. (eds). *Key competencies – for a successful life and a well-functioning society*. Göttingen: Hogrefe and Huber, 2003, p. 63-108.
- Rychen, D.S.; Salganik, L.H. A holistic model of competence. In Rychen, D.S.; Salganik L.H. (eds). *Key competencies – for a successful life and a well-functioning society*. Göttingen: Hogrefe and Huber, 2003, p. 41-62.
- Sheppard, H.L. (ed.). *The future of older workers*. Tampa, Florida: International Exchange Center on Gerontology. Florida: University of South Florida, 1990.
- Smith, K.M. *Participation in learning projects and programmes*. Web-source: Infed – Informal Education Homepage, 1998.
- Smith, K.M. *Lifelong learning*. Web-source: Informal Education Homepage – Infed, 2001.
- Smith, K.M. *Self-direction*. Web-source: Informal Education Homepage – Infed, 2005.
- Sterns, H.L.; Doverspike, D. Training and developing the older worker: implications for human resource management. In Dennis, H. *Fourteen steps in managing an ageing workforce*. Toronto: Lexington Books, 1988, p. 97-112.
- Sterns, H.L.; McDaniel, M.A. Job performance and the older worker. In Rix, S.E. (ed.). *Older workers: how do they measure up?* Washington, DC: AARP, 1994, p. 27-51.

- Tikkanen, T. et al. Ageing work force and life-long learning: an organizational perspective. *Education and Ageing*, 1996, Vol. 11, No 2, p. 100-114.
- Tikkanen, T. et al. *Working life changes and training of older workers*. Final report to the Worktow project. TSER, DGXII/EU. Trondheim: VOX and European Commission, 2002.
- Tikkanen, T. *Learning and education of older workers: lifelong learning at the margin*. Jyväskylä: Jyväskylä University, 1998 (Jyväskylä Studies in Education, Psychology and Social Research, 137).
- Tikkanen, T. Learning interventions as action research with a broad developmental assessment. In Tikkanen, T. et al. *Working life changes and training of older workers*. Final report to the Worktow project. TSER, DGXII/EU. Trondheim: VOX and European Commission, 2002, p. 63-82.
- Tikkanen, T.; Paloniemi, S. *Participation in work-related adult education among older workers in 1990 and 2000: widening of participation?* Paper presented at the Nordic Conference on adult education, 13-14 May 2005, Turku, Finland.
- Tuckett, A.; McAuley, A. *Demography and older learners: approaches to a new policy challenge*. Leicester: National Institute of Adult Continuing Education, 2005.
- Tuckett, A.; Sargent, N. Headline findings on lifelong learning from the NIACE/Gallup Survey 1996. *Adults Learning*, 1996, Vol. 7, No 9, p. 219-223.
- Tuijnman, A. *Recurrent education, earnings and well-being*. Stockholm: Almqvist and Wiksell International, 1989.
- Tuijnman, A.; Hellström, Z. *Nyfikna sinnen. Nordisk voksenutbildning i jämförelse*. Copenhagen: the Nordic Council of Ministers, 2001 (TemaNord 2000:20).
- Uden, T. *Widening participation: routes to a learning society*. A policy discussion paper. Leicester: NIACE, 1996.
- van der Heijden, B.I.J.M. *The measurement and development of professional expertise throughout the career*. Enschede: University of Twente, 1998.
- van der Kamp, M.; Scheeren, J. New trajectories across the lifespan. In Belanger, P.; Tuijnman, A. (eds). *New patterns of adult learning: a six country comparative study*. Oxford: Pergamon Press and Unesco, 1997, p. 131-154.
- von Nordheim, F. EU policies in support of Member State efforts to retain, reinforce and re-integrate older workers in employment. In Buck, H.; Dworschak, B. (eds). *Ageing and work in Europe. Strategies at company level and public policies in selected European countries*. Stuttgart: Fraunhofer IRB, 2003, p. 9-26 (Booklet series: demography and employment).
- Vox-Barometer. *Grunnleggende ferdigheter i den norske voksenbefolkingen. Resultater fra våren 2006*. Oslo: Vox, 2006 [in Norwegian].
- Walker, A. *Managing an ageing workforce – a guide to good practice*. Dublin: Eurofound, 1999.
- Walker, A. *Combating age barriers in employment: European research report*. Eurofound. Luxembourg: Publications Office, 1997a.
- Walker, A. Work after 45: a sociological perspective. Conference proceedings from a scientific conference held in Stockholm 22-25 September 1996. *Arbete og hälsa [Work after 45?]*, 1997b, Vol. 1, No 29, p. 29-48.
- Warr, P. Age, competence and learning at work. In Kilbom, Å. (ed.). *Ageing of workforce*. Solna: National Institute for Working Life, 1998 (Arbetslivsrapport 1998:24).
- Whitfield K.; Poole M. Organizing employment for high performance: theories, evidence and policy. *Organization Studies*, 1997, Vol. 18, No 5, p. 745–764.

Annex 1: Additional literature relevant to the theme older workers and lifelong learning (¹¹)

Behrend, C. et al. *Chancen für die Erwerbsarbeit im Alter: betriebliche Personalpolitik und ältere Erwerbstätige* [Employment opportunities for older workers: in company personnel management and older workers]. Opladen: Leske und Budrich, 2002. **Key words:** older worker; human resources management; equal opportunities; personnel management; demography; continuing vocational training; in company training; technological change; Germany; report.

Cedefop; Loos, R. *Innovations for the integration of low-skilled workers into lifelong learning and the labour market: case studies from six European countries*. Luxembourg: Publications Office, 2002. (Cedefop Reference series; 33). **Key words:** unskilled worker; training innovation; lifelong learning; labour mobility; EU countries; Spain; Greece; Austria.

Jepsen, M. et al. (eds). *A lifelong strategy for active ageing*. Brussels: European Trade Union Institute, 2003 (ETUI report). **Key words:** lifelong

learning; older worker; employment monitoring system; social partners; EU countries; report.

McGivney, V. *Staying or leaving the course: non-completion and retention of mature students in further and higher education*. Leicester: NIACE, 2003. **Key words:** educational dropout; adult learning; course attendance; further.

Wilke, J.; Schnitzler, W. *Organisationsentwicklung und Personalentwicklung in der zweiten Hälfte des Erwerbslebens: Erfahrungen aus einem Modellversuch zur Organisations- und Personalentwicklung mit älteren Mitarbeitern* [Organisational development and personnel development during the second half of working life: experiences from a pilot project on organisational and personnel development with older workers]. In *Personalführung*, 2002, Vol. 34, No 6, p. 58-66. **Key words:** older worker; learning organisation; lifelong learning; small medium enterprise; qualification; training evaluation; personnel management; working age population; Germany; report.

(¹¹) Source: Cedefop, 2004.

Annex 2: Additional tables

Table 1A. Percentage of the adult population (25 to 64) participating in lifelong learning (excluding self-learning) in 2000 and 2005 and the five-year change.

Country	2000	2005	Change
Belgium	6.8	10.0	+3.2
Czech Republic	n.a.	5.9	
Denmark	20.8	27.6	+7.2
Germany	5.2	7.4	+2.2
Estonia	6.0	5.9	-0.1
Ireland	n.a.	8.0	
Greece	1.2	3.7	+2.5(*)
Spain	5.0	12.1	+7.1
France	2.8	7.6	+4.8
Italy	5.5	6.2	+0.7
Cyprus	3.1	5.6	+2.5
Latvia	n.a.	7.6	
Lithuania	2.8	6.3	+3.5
Luxembourg	4.8	9.4	+4.6
Hungary	3.1	4.2	+1.1
Malta	4.5	5.8	+1.3
Netherlands	15.6	16.6	+1.0
Austria	8.3	13.9	+5.6
Poland	n.a.	5.0	
Portugal	3.4	4.6	+1.2
Slovenia	n.a.	17.8	
Slovakia	n.a.	5.0	
Finland	19.6	24.8	+5.2
Sweden	21.6	34.7	+13.1
UK	21.0	29.7	+8.7
Iceland	23.5	26.6	+3.1
Norway	13.3	19.4	+6.1
EU-25	7.9	10.8	
Euro area	5.6	8.7	

* For Greece figure taken from Europe in figures 2005, reporting years 1999 and 2004.

Source: Eurostat, Europe in figures, 2006.

Table 2A. Participation trends in lifelong learning (25-64 years) by education level

	2000	2001	2002	2003	2004	2005	%
Low education							
EU-25	2.3	2.2	2.1	2.7	2.9	3.4	
EU-15	2.5	2.4	2.3	2.9	3.1	4.6	
NMS-10	–	–	–	–	–	–	
Medium education							
EU-25	8.5	8.4	8.5	9.5	10.4	10.6	
EU-15	9.8	9.7	9.8	11.0	12.2	12.5	
NMS-10	4.4	4.4	4.2	4.7	4.9	4.4	
High education							
EU-25	15.8	15.4	15.4	18.2	20.2	21.1	
EU-15	15.9	15.4	15.6	18.6	20.8	22.1	
NMS-10	14.9	15.7	14.4	15.4	16.0	14.2	

NMS = new Member States

Source: European Commission, 2006c.



Through the looking-glass Diversification and differentiation in vocational education and training and higher education

Torsten Dunkel, Isabelle Le Moullour
in cooperation with Ulrich Teichler

Abstract

This contribution deals with recent developments in diversification and differentiation of degrees, curricula and institutions in vocational education and training (VET) and in the higher education (HE) sectors. It identifies and discusses their drift dimensions. Increasing zones of overlap between both education subsystems, with resulting permeability, lead to a *rapprochement* or possible convergence, complementarity or take-over between them. Permeability has also become an issue in VET attractiveness. Learners' choices of education and training routes often depend on the opportunity to pursue learning at a further stage, making the labour market a strong contextual aspect to VET and HE. Scenarios on the development within and between the education systems conclude the line of reasoning.

Table of contents

Introduction	242
1. Two systems in drift	244
1.1. Structural developments in education systems	244
1.2. Increasing skill demand	248
1.3. An increased diversity of learners' background	249
1.4. First synthesis: what drifts?	250
2. Overlap and permeability	251
2.1. Facilitating access and admission	252
2.1.1. Role of qualifications frameworks	252
2.2. Redefining the core missions	254
2.3. Degrees and didactics	255
2.4. Institutional changes and diversification strategies	258
2.5. Second synthesis: core mission or portfolio of activities?	259
3. Summary and outlook	261
3.1. Complementary multiversity	261
3.2. Competitive diversity	262
3.3. Conclusions, policy implications and further research	263
List of abbreviations	265
Bibliography	266

List of tables, figures and boxes

Tables

1. Rate of 25-64 years old having attained tertiary education (1992 and 2003)	247
2. Employed persons aged 15 and more by occupation (2005, total employed persons: 197 477 000, EU-25)	248
3. Employed persons aged 15 and more by economic activity (2005, total employed persons: 197 477 000, EU-25)	248

Figures

1. Education expectancy, by level of education (2003)	245
2. Distribution of students within the HE sector	246
3. Institutional tectonics movements	251

Boxes

1. Dimensions of employability	243
2. International standard classification of education	245
3. European qualifications framework (EQF) for lifelong learning	253
4. Mobility between VET and HE in Australia	253
5. Licences professionnelles in France	255
6. Foundation degree in the UK	256
7. The IFTS model in Italy	257
8. Policy implications	263

Introduction

Both vocational education and training (VET) (') and higher education (HE) are embedded in a commonly decided policy to modernise and boost innovation in the education system. The 1999 Bologna declaration set common actions for the European Union Member States, with the aim of developing a common framework for HE. It is relevant as context to consider the introduction of a system based on two cycles (a first cycle of three years geared to the employment market and a second cycle conditional upon the completion of the first cycle) as well as the system of academic degrees (bachelor, master and doctorate) which are easy to compare. This can also include the introduction of the diploma supplement (designed to improve international transparency and facilitate academic and professional recognition of qualifications) (European Commission, 2006b).

In 2001 the 33 States, participants at the Prague conference, stressed as follow-up to Bologna the need to embed HE into lifelong learning. One year later, in 2002, the ministers for education from 31 European countries and the European Commission signed the Copenhagen declaration, focusing on quality assurance, transparency and recognition of qualifications as well as enhancing VET collaboration. The Copenhagen process was initiated by the Commission and is jointly led by the ministries in charge of VET, where as the Bologna process is led by the national ministers for education with a significant participation by autonomous universities throughout Europe. Though partially parallel and similar in their declarations, they did not affect each other until the Maastricht communiqué (Dunkel and Jones, 2006). This communiqué (December 2004) reviewed the VET priorities as defined in Copenhagen and mentioned explicitly the need to:

- (a) ‘increase attractiveness of VET in Europe;
- (b) facilitate the recognition and transferability of qualifications covering both VET and general (secondary and higher) education, based on

competences and learning outcomes;
(c) [...] improve permeability within education and training systems, provide a reference for the validation of informally acquired competences and support the smooth and effective functioning of the European, national and sectoral labour markets’ (European Commission, 2004).

In particular, ‘improving permeability’ calls for changes: how can the VET and HE subsystems move closer to support the overarching goal of lifelong learning? This question is at the core of this contribution. The European policy developments in HE and in VET – from Lisbon via Copenhagen to Maastricht and from Bologna to Bergen – try to reconcile these two worlds and overcome the particularities of their respective governance *modi* within one ambitious strategic programme. Decided in March 2000 by the Lisbon European Council, this aims at making Europe ‘the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’ by 2010.

European policy veils the dynamics of lifelong learning at individual and institutional levels in national education systems: an ad hoc module on lifelong learning revealed that 42 % of the European Union (EU) population aged 25-64 years old participated in some form of education, training or learning activity. The most important variations are seen when comparing participation rates by age: at 25-34 years old the rate is 50 % while at 55-64 years it is 30 %. The variation by education attainment shows training and low education attainment at 23 % but at high education attainment it is 69 % (based on community labour force survey 2003, Kailis and Pilos, 2005). The institutional settings of each education and training sector are changing. National initiatives include permeability between VET and HE (e.g. Austria, Finland, Sweden, the UK), the increase

(') We use VET in this report in an extended sense ranging from EQF levels 3-8, which is of importance when we refer to the upper segment of VET in our line of reasoning.

of general education in vocational education (e.g. Belgium) or the creation of occupational-oriented study programmes at tertiary level (e.g. Bulgaria, Germany, France, Latvia) (Leney et al. 2005).

Meanwhile the Member States are engaged in developing links, and it appears that HE and VET systems are coming closer to one another. There is a diversity of concepts and structures in HE, resulting in academically or vocationally orientated HE, as well as different traditions and forms of VET. Further, educational pathways are diversifying due to the development at post-secondary level of programmes smoothing the transition between secondary and tertiary education. This is in parallel with the development of different types of tertiary education institutions and the development of short-term tertiary programmes since the 1960s in Europe. The learning pathway perspective brings to the forefront issues such as access to HE and motivation for further education and training activities. The possibility of access to tertiary education is recognised as a major motivational factor for the learner to engage in VET and this is being developed in many countries (e.g. Austria, Finland, Germany, Liechtenstein, Portugal, Spain, Sweden) (Leney et al. 2005).

An additional main driver in the extension of education attainment is the search for employability (European Commission, 2003). It is argued that one – if not the main – reason for undertaking study at HE institutions is the acquisition of appropriate qualifications, certified by appropriate degrees or diplomas, which can in turn facilitate the search for appropriate employment.

To meet the challenge of employability, as summarised in Box 1, and the correlated issue of lifelong learning, most European countries have developed approaches to improving vocational education and its parity of esteem with general education. These policy options include vocational enhancement (especially via vocational content in HE curricula and new relationships between VET providers and employers), mutual enrichment (especially via closer cooperation between all education types in respect of specificities) and links (especially via common structures of recognition, certification and qualification) (Cedefop, Desy and Tessaring, 2001) as well as unified approaches requiring students to study

certain common general subjects. However, for the description of post-secondary and tertiary programmes at university and non-university institutions, it seems more appropriate to use the term of professional relevance, with its focus on the appropriateness of graduates' profiles to future professional activity. These aspects will be addressed further in the discussion on overlaps and permeability.

Box 1. Dimensions of employability

1. The search process for placement and the access to a workplace.
2. The match between individual competences and the workplace requirements.
3. The adaptation between individual competences and the future workplace requirements.
4. The duty of firms or civil society to secure access to workplace for specific learner groups.
5. The ability of single persons to be flexible.
6. The development of individual attributes such as self-promotion and career management skills and the willingness to learn and reflect on learning.

Rapidly changing labour-market conditions, the growing complexity of professional tasks and the need to provide such professional knowledge and skills to a greater number of students, now make the design of meaningful links between VET and HE a issue of major relevance for policy-making in many areas: education funding, the organisation of studies, institutionalisation of dialogues and relations between VET and HE and their stakeholders. The first part of the contribution identifies and discusses the drift dimensions for both education subsystems, suggesting the main quantitative and qualitative changes. The central concepts of overlap and permeability, presented in the second section, are leading to possible convergence, complementarities or take-overs between VET and HE. Permeability has also become an issue in context of the attractiveness of VET as learners' choices of education and training routes often depend on the opportunity to pursue learning at a further stage; this makes the labour market a strong contextual aspect to VET and HE. We conclude – in the third part – with a forward look at the development within and between the education systems.

1. Two systems in drift

In the Member States and the candidate countries, VET and HE are essential parts of the political, economic and social dimensions of the Lisbon strategy. Both sectors are embedded in European political processes, namely the Bologna and Copenhagen processes which mirror different approaches to the common Lisbon goals. These processes emphasise the links between education and training, between formal and informal learning and between HE and VET. It becomes increasingly obvious that the borderlines between VET and HE are partially blurring. One can observe convergence in the goals (human resource development, support to individual lifelong learning), the curricula and learning/teaching methods. Nevertheless, development paths and paces remain different (Le Moullour and Teichler, 2005).

In this section we will discuss the quantitative and qualitative developments in VET and HE, bringing evidence of the non-monolithic character of both education sectors and of new concerns among the VET and HE learners.

1.1. Structural developments in education systems

In most OECD countries, individuals are expected to participate in formal education for 16 to 21 years (formal enrolment in education during lifetime). Most of the variation in education expectancy among OECD countries comes from differences in enrolment rates in upper secondary education (Figure 1). At upper secondary level, on average in Europe, more students are attending vocational or apprenticeship programmes than general education programmes. This is not the case, however, in 13 countries. In Estonia, Greece, Spain, Italy, Cyprus, Latvia, Hungary,

Malta, Portugal and Iceland, a higher proportion of students are enrolled in general education. In Ireland, all students are in general education as no separate vocational stream exists, whereas in Sweden, and to a lesser extent Denmark, the respective proportion of students enrolled in the two streams is almost equal. Exceptionally high participation rates in vocational upper secondary education (more than two-thirds of all students) are found in Belgium, the Czech Republic, the Netherlands, Austria, Slovenia, Slovakia and the UK (European Commission et al., 2005, p. 134).

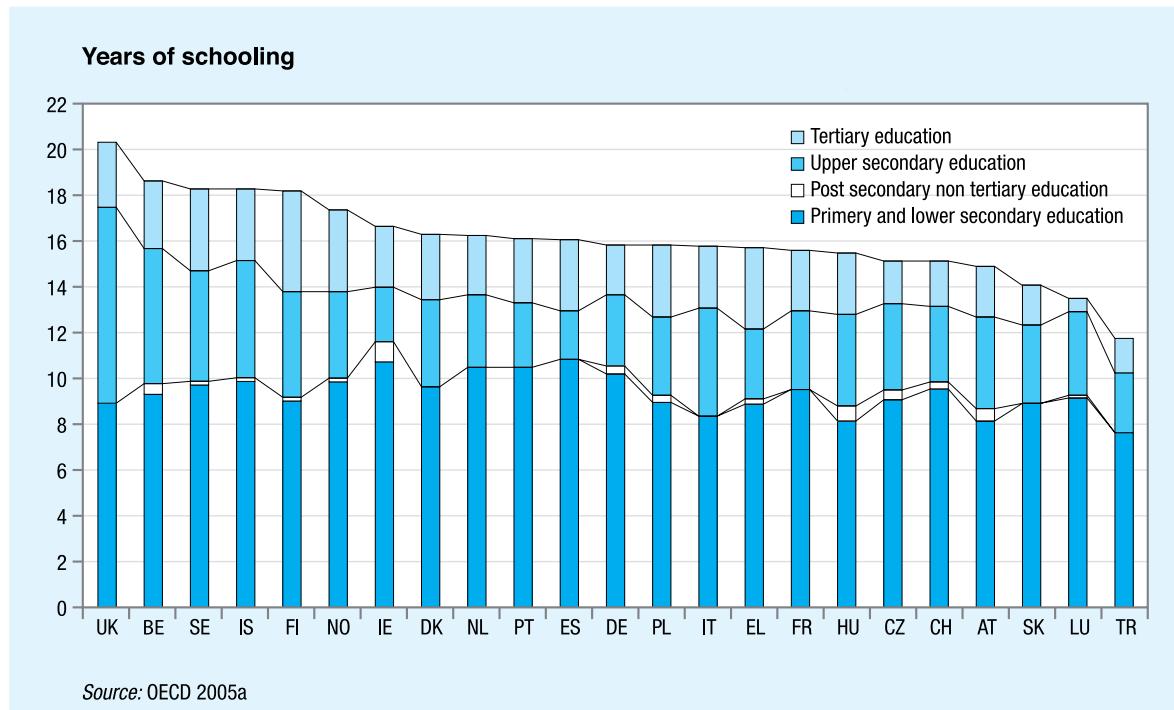
Relative differences in participation are large at tertiary level, but apply to a smaller proportion of the cohort and, therefore, have less of an effect on education expectancy⁽²⁾ (OECD, 2005a). The following figure indicates education expectancy in OECD countries and gives an overview of the education pathways.

Whereas at upper secondary level, in most countries, students will follow a vocational track (Eurydice, 2005), at tertiary level, enrolment in tertiary academic oriented programmes is more widespread (type A programmes according to the ISCED classification, see Box 2): 53 % of today's young people in OECD countries will enter tertiary-type A programmes during their lifetime (Figure 1). Notwithstanding the importance of this phenomenon, this suggests individual mixed pathways through the education sectors. On average, 16 % of young people will enter tertiary-type B programmes (Box 2). The transition between secondary and tertiary education follows different patterns:

- (a) some new entrants into tertiary education join immediately after having completed upper secondary education. In Belgium, Ireland, Spain, France and Slovakia, for example, more than 80 % of all first-time entrants to tertiary-type academically oriented programmes are under 23 years of age;

⁽²⁾ The OECD concept of education expectancy implies 'school expectancy (in years) under current conditions excludes all education for children younger than five years. It includes adult persons of all ages who are enrolled in formal education. School expectancy is calculated by adding the net enrolment rates for each single year of age' (OECD, 2005a, p. 3-4).

Figure 1. Education expectancy, by level of education (2003)



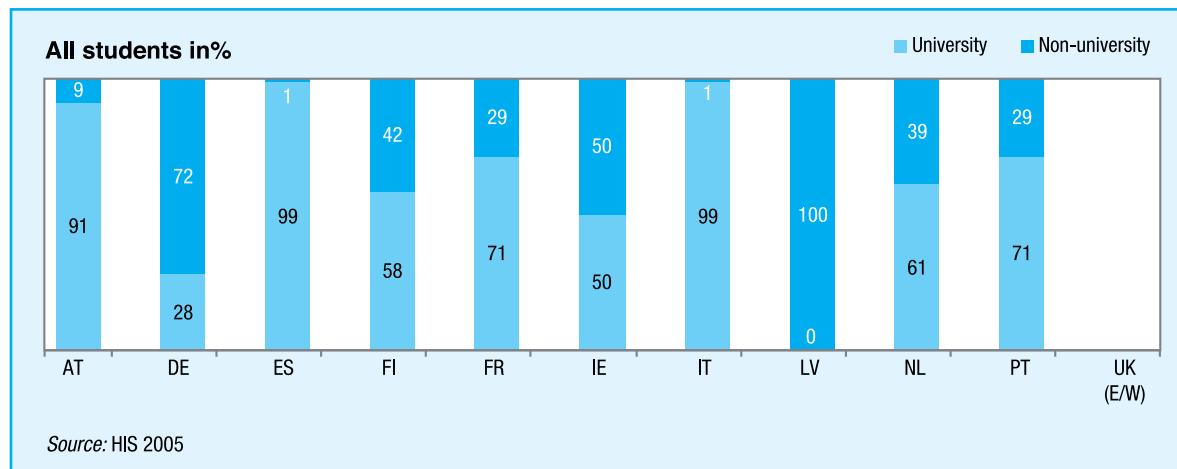
(b) in other OECD countries (Denmark, New Zealand, Sweden), the transition to the tertiary level is often delayed. This is because young people tend first to gain work experience and then join tertiary education. This indicates a flexibility of tertiary education institutions which offer programmes for learners out of the modal age cohort but may also reflect a specific view of the value of work experience for HE studies, which is characteristic for the Nordic countries but also common in Australia, the Czech Republic, Hungary, New Zealand and Switzerland, where a sizeable proportion of new entrants is much older than the typical age of entry. In Australia, New Zealand and the Nordic countries, more than 20 % of first-time entrants are 28 years of age or older.

Further to delayed entrance into tertiary programmes, net rates of entry into tertiary education should also be considered in light of participation in post-secondary non-tertiary programmes, which are an important alternative to tertiary education in some OECD countries (OECD 2005a).

Box 2. International standard classification of education

The international standard classification of education (ISCED) levels are used to compile internationally comparable statistics on education. The classification distinguishes between seven levels of education ranging from pre-primary to tertiary. Less than upper secondary education is defined as pre-primary, primary, and lower secondary education for all countries. Upper secondary programmes in Canada, Japan, and the US are classified as 3A and are designed to provide access to tertiary academic education. Upper secondary programmes in France include academic programmes (3A), programmes that lead to higher vocational-technical education (3B), and those that directly lead to the labour market (3C). In Germany upper secondary includes 3A programmes as well as 3B. Italy and the UK include both 3A and 3C programmes in upper secondary education. Academic higher education refers to ISCED level 5A (academic higher education-first stage), and ISCED level 6 (academic higher education-second stage/doctoral studies) for all countries (Unesco, 2006).

Figure 2. Distribution of students within the HE sector



For our purpose it is important that ISCED 5A refers to programmes that are largely theory based and intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements. They are normally expected to be at least three years in duration. ISCED 5B refers to programmes that, like ISCED 5A, generally require successful completion of an upper secondary qualification or its equivalent for entry, but which are generally shorter, more practical, technical or occupationally specific than ISCED 5A programmes (OECD, 2005c, p. 18).

In the tertiary education sector in Europe, the distribution of students between university and non-university sectors varies between 39 % of students enrolled in universities (the Netherlands) to 100 % (Latvia) (Figure 2) presumably the result of varying HE settings and monopoly situations. This differentiation will be further elaborated in Section 2.3 of this contribution. A second suggestion of individual pathways comes from the vocational and academic orientations within those tertiary level institutions. In the Netherlands a high proportion of students currently study in institutions in which teaching focuses strongly on applied and practical aspects (61 %), followed by Ireland and Finland. Irish students are distributed more or less evenly, with half going to universities while the other half attends other kinds of tertiary education institutions. In Finland more than 40 % of all students are enrolled at non-university

institutions. In Germany, France and Portugal little more than a quarter (between 28 % and 29 %) of all students attend non-university institutions. The overview is presented in Figure 2.

The diversification in HE is the result of several trends:

- (a) an institutional internal differentiation: from universities to institutes of technology and colleges of art;
- (b) mission differentiation: practice-oriented institutions are created (i.e. *Hoger Beroepsonderwijs* in the Netherlands, AMK in Finland and *Fachhochschule* in Germany, Austria and Switzerland);
- (c) diversification of students engagement in HE: students are following different strategies though strictly enrolling at ISCED level 5A (Germany, Spain, Italy, Latvia, Austria) or at ISCED level 5B (Ireland, France, the Netherlands, Portugal and Finland);
- (d) a repartition of the students according to their sociocultural backgrounds: students from lower educational family backgrounds are more frequently enrolled at non-university institutions which usually have a more practical orientation and offer shorter study programmes (HIS, 2005);
- (e) student aspirations and the need for high-level skills to participate in the knowledge-based economy;
- (f) a critique on the too strong academic orientation of HE (OECD, 2005c, p. 17).

This internal diversification in the HE sector accompanies steady growth in students in tertiary education in the EU: between 1998 and 2002, the annual growth rate was over 2 % (European Commission et al., 2005, p. 141). The number of tertiary students in the EU-25 was close to 17 million in 2002/03. This is an increase of 2.5 million students, 17 %, in five years, since 1997/98 (Andren, 2005). A legitimate question is which part of the HE sector (vocational-oriented – ISCED B – versus academic-oriented – ISCED A) is growing more. Across Europe, the distribution of students for the year 2002/03 is as follows: about 14 million students are engaged in ISCED 5A, 3 million are engaged in ISCED 5B programmes and about half a million in ISCED 6 (Andren,

2005). The comparison between both ISCED 5 programmes, as presented in Table 1, shows an increase in the student enrolment in ISCED 5A programmes.

From the end of World War II to the 1970s, entry rates to HE continually increased, becoming, in the late 1990s, ‘universal’ tertiary education. The growth rates of the proportion of new entry students among the corresponding age groups have recently been, on average, higher than the growth rates for the absolute numbers of students in the west European OECD Member States and also in many other OECD Member States. In 1992, the attainment rate of tertiary education in the adult population was 16 % on average of the western European OECD Member States for which

Table 1. Rate of 25-64 years old having attained tertiary education (1992 and 2003)

	1992			2003		
	Non-University	University	Total	ISCED 5B	ISCED 5A	Total
Austria	7	7	14	7	7	14
Belgium	11	9	20	16	13	29
Czech Republic	m	m	m	-	12	12
Denmark	6	13	19	7	25	32
Finland	8	10	18	17	16	33
France	6	10	16	9	14	23
Germany	10	12	22	10	14	24
Greece*	3	10	13	6	13	18
Hungary	m	m	m	-	15	15
Ireland	9	8	17	10	16	26
Italy	-	6	6	-	10	10
Netherlands	-	21	21	3	22	25
Poland	m	m	m	-	14	14
Portugal*	2	5	7	2	8	10
Slovakia	m	m	m	1	11	12
Spain	3	10	13	7	18	25
Sweden	12	12	24	15	18	33
United Kingdom	8	11	19	9	29	38
Norway	13	12	25	2	29	31
Switzerland	13	8	21	9	18	27

* 1991 data in 1992 column

Sources: OECD, 1994 and 2005a.

information was available. It increased to 24 % in 2004. Thus, the annual growth rate was almost 4 %. The percentage of tertiary education trained persons among the adult population increased by more than 0.5 % annually (Teichler and Bürger, 2005). A differentiation by country is presented in Table 1.

In 2003, the percentage of tertiary-education trained persons in the age group 55-64 was 22 % and 32 % for 25-34 year-olds. It thus can be expected that the proportion of tertiary-education trained persons of the adult education will grow in the next few decades at a pace of about 0.5 %, only moderately less than in the previous decades. This rise is mainly due to an increased risk of unemployment and other forms of exclusion of young people with insufficient education.

The continued growth in participation has resulted in increased diversity in the backgrounds and interests of those aspiring to tertiary studies. Tertiary institutions need to expand the number of students they admit and adapt their programmes and teaching to the diverse needs of new generations of students.

1.2. Increasing skill demand

Unemployment and demographic change are key issues in the EU. The unemployment rate was 8 % in the EU-25 and for those under 25 years old reached 17.5 % in the EU-25 in August 2006 (seasonally-adjusted, Eurostat, 2006a) and the workforce is shrinking and ageing rapidly. The risk of unemployment is higher for persons with lower level qualification, although the risk varies between countries. At the beginning of the 21st century the persistence of low-skilled, low-paid work and the polarisation of employment conditions and earnings have become prevalent in OECD economies (OECD, 2006).

There is thus an urgent need to increase employment rates and keep older workers in employment. Education and training can contribute to reducing skill mismatch and improving employment prospects for the unemployed, inactive and older workers. Further 'despite increases in educational participation and attainment (as presented in the previous paragraph), the relatively low fertility rates recorded within the

Table 2. Employed persons aged 15 and more by occupation (2005, total employed persons: 197 477 000, EU-25)

	%	ISCO 88-COM
Elementary occupations	9.7	9
Low-skilled non manual occupations	24.9	4/5
Skilled manual occupations	26.8	6/8
Highly-skilled non manual occupations	38.6	1/3

Source: Jouhette and Romans, 2006, p. 7.

Table 3. Employed persons aged 15 and more by economic activity (2005, total employed persons: 197 477 000, EU-25)

	%
Agriculture	4.9
Industry	27.5
Market services	37.4
Non-market services	30.2

Source: Jouhette and Romans, 2006, p. 6.

European Union in the past couple of decades have resulted in a comparatively short supply of skilled entrants into the labour market. On the other hand, there is a large stock of existing workers, some of which are characterised by lower skills (and employability). As a result, there are shortages at the top-end of the labour market, underlining the need for lifelong learning to tackle inadequate vocational qualifications' (Eurostat, 2006b, p. 80). In 2005, about 30 % of the EU working age population, some 73 million people, can be considered low-skilled (not having reached upper secondary education level) (Labour force survey 2005). In parallel to this, EU competitors have higher-skilled populations and continue to raise skills levels. The labour force survey provides overviews of the currently expected skills profiles in the labour market for the main jobs and as a proportion of the economic activity.

It is estimated that by 2010 almost half of the net additional jobs will require people with tertiary-level qualifications; just under 40 % will require upper secondary level and only 15 % basic schooling. This means a continuing major decline in job prospects for the low-skilled (Cedefop, Tessaring and Wannan, 2004). VET and HE have to fulfil a complex task of raising the abilities of a low-skilled population, and further training and improvement of the skilled population; this contributes to a lifelong learning perspective in the context of development of market and non-market services, characterised by rapid change and high levels of innovation.

1.3. An increased diversity of learners' background

Looking for the 'traditional' HE or VET students leads to reflections what this term means. Adults who want to take up basic or vocational learning again are usually expected to complete the same course as a young person, regardless of their experience and learning accrued in alternative settings. In HE the situation is rather different: here, the non-traditional student is more typically placed in separate courses, but these do not carry the same academic weight, nor do they lead to qualifications of equivalent value. In both cases, the inadequacy lies in the relative incapacity of existing systems to respond effectively to

individual needs and circumstances. In addition to granting formal access to HE after graduation from VET, or after completion of general education, various 'non-traditional' approaches have been developed.. In Europe, the biggest proportion of students entering HE via non-traditional routes is found in Ireland (18 %) where every second student in this group gains access to college on the basis of mature years (being over 23 years of age) (HIS, 2005).

Until recently, HE was an education path characterised by a relatively homogeneous group of learners in terms of learning background and biographic data. The continued growth in participation has resulted in greater diversity of backgrounds and interests among those aspiring to tertiary studies. Non-traditional HE students seem to bear common features: they are somewhat older and they have a patchwork learning background. The high age of students can be explained by the fact that the bachelor degree (BA) is awarded after completion of long or very long degree courses (i.e. in Germany, Ireland, the Netherlands, Austria and Finland,) or because the studies begin at a later stage, namely after a gap between leaving school and entering HE. Their main common characteristic is that they gain entry to HE by other ways than the 'traditional' immediate route, as in taking up intermediary education and training routes like VET.

Recently, within the tertiary education sector, some institutions have been established to promote equity and regional development (i.e. the university colleges in Norway, the *instituts universitaires de technologie* in France or the *Fachhochschulen* in Germany). The regional proximity of those institutions to the learners allows easier access to tertiary education, especially for those students with modest means. Those institutions also provide a structure for regionally-related research and development as well as for transfer to smaller and medium-sized enterprises (OECD, 2005c).

The heterogeneity of the VET learners is the result of many factors such as the professional experience acquired at individual level, the employment situation, the nature of the work, the individual motivation for starting or renewing the learning activity (update knowledge and competences, return to VET), the legal situation (e.g. migrants), the health situation (persons with

disabilities), the age and the status (students, pupils, trainees, apprentices, etc.) (Cedefop, Le Mouillour, 2005).

However, both sectors have a similar mission: securing the employability of their graduates. They offer different schemes to the learners who have to balance work and life as well as, increasingly, developing their own learning strategies.

1.4. First synthesis: what drifts?

As the tertiary sector grows and the variety of study programmes increases, there is a need for some kind of subdivision of the sector. Not all students are similarly interested in academic education, so more vocational orientation is offered. The same applies to future employers. Despite the employers' associations frequent calls for more highly qualified personnel, they do not expect everyone to go through the same kind of education (Alesi et al., 2005). In addition, HE institutions struggle to provide high quality education to all students in times of budget cuts.

In HE research, the term 'academic drift' describes the influence of the attractiveness of the university status on non-university institutions that strive to acquire the same standing. It also describes a tendency of making vocational education more academic (Neave, 1996). Similarly, VET providers, especially those at the borderline of VET and HE sectors, are offering short-term tertiary cycles or are entering into cooperation with polytechnics, thus stepping into the HE field. This all forms part of the academic drift.

The phenomenon is not universal. At the same time the emphasis on employability and professional relevance generate a vocational drift; for instance, traditional long academic programmes are being redesigned better to meet demands from the world of work. Employability, degree structures and institutional diversity are closely linked. Denmark and Finland, for example, have undertaken reform of degree structures in recent years, leading to different education settings. The Bologna second cycles (master degrees) are offered in the non-university sector. This is a consequence of the fact that, in those countries, employability is not the main driver; the notion of occupational relevance to labour-market requirements prevails. The link between HE and VET within dual or alternance programmes is also gaining importance in the tertiary sector. Whereas the provisions are primarily anchored in universities of applied sciences, as for instance in Germany and Austria by the *Fachhochschulen*, more and more universities are now offering such dual curricula within the Bologna process. Those aspects will be further elaborated on in the following part of the contribution

Vocational and academic drifts are embedded in these structural quantitative and qualitative developments. However, it is important to note that official statistical data are likely to lose some of their validity, if differences in the quality, occupational relevance and labour market value of different individual tertiary education institutions and programmes become more important in the future. Also, statistics on secondary and tertiary education are not well adapted to reflect lifelong learning (Teichler and Bürger, 2005).

2. Overlap and permeability

Using the analogy of plate tectonics, in which large sheets of rock forming the earth surface move and bump into each other, we can suggest that in education we have at least two main plates: the HE plate and the VET plate. Those plates are themselves not even but subdivided into geological and geographical proprieties. We ascertain four types of development, which lead to the blurring of boundaries between VET and HE and an increase of the overlap zone as presented in the following figure.

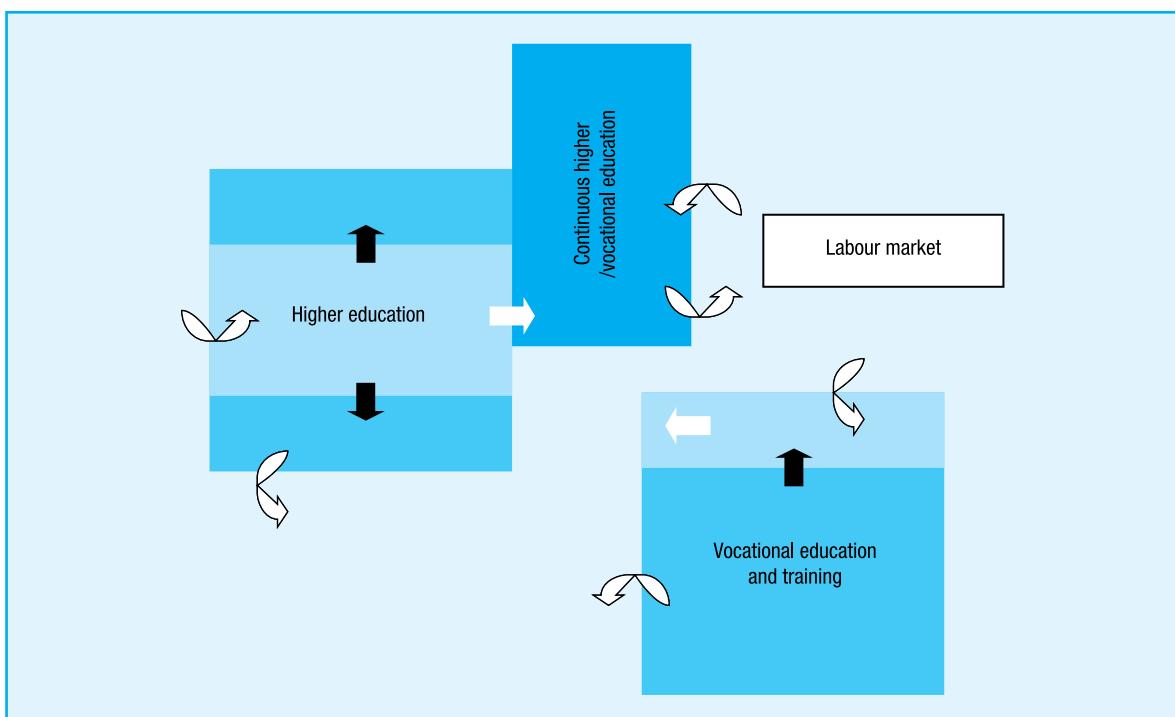
Our educational plate tectonics leads to the following insights:

(a) the HE field enlarges its first level, in particular following the introduction of the bachelor degrees; and in many countries post-secondary non-tertiary degrees/tertiary short cycles offered by HE institutions (e.g. foundation degrees) are offered before/at the lower limit of the first level HE;

- (b) the HE field enlarges its field of activities in offering degrees and programmes in continuing education;
- (c) the VET field is upgrading towards the HE field by offering vocationally-oriented degrees at BA level and increasingly offering continuous vocational training;
- (d) the labour-market acts as part of the pedagogical and didactic learning settings. It offers job placements for the graduates of both educational sectors and has an influence on learning and teaching content in terms of their professional relevance and the future employability of the graduates.

These changes are endorsed by qualitative changes in the definition of bachelor degrees and VET/HE programmes, by new rules on access and admission in both education fields and by the appearance of new institutions and/or the definition of new core missions. Both fields are

Figure 3. **Institutional tectonics movements**



under pressure from the learners demanding permeability so they can cross systems borders. This is also supported by the European education policy agenda and in line with lifelong learning, which requires reduced barriers to learning and increased permeability of pathways.

2.1. Facilitating access and admission

Permeability can be interpreted as a consequence of the development of the knowledge-based society. The links enabling progression between secondary and tertiary education, as well as from one form of tertiary education to another area, are still under-developed (OECD, 2005c, p. 30). The expansion in the HE sector (so that half of an age cohort reach HE level), the variety of motives and profiles of students, and the diversification of the professional and social roles of graduates all call for adaptation of ladders between initial VET, continuous VET (CVET) and HE (Teichler, 2005).

In VET, substantial change is expected from new instruments such as the recognition of vocational qualifications for access to HE or the delivery of credits and recognition of prior learning experience as equivalent to (parts of) HE studies. This is recognised as a strategy to improve parity of esteem between VET and general education. Barriers to lifelong learning are found not only in education and training but also in other societal subsystems (labour market, industrial relations). Various authorities are involved in the governance and regulation of VET and HE systems and new forms of multi-actor, multi-level coordination have to be developed. The difficulties in creating permeability and transitions within the education system are obviously linked with two education-historical inheritances: the high level of regulation, formalism and certificate orientation (with a lesser individual, flexible orientation) as well as the pronounced selection function, not only within the institutions but also at the transitions. The selection process for university entrance does not only embrace factors such as social origin, but also the school background of the candidates (general education versus vocational qualification) (Teichler, 2005) which also reflect social

phenomena. To some extent, facilitating access to HE for VET graduates (and non-traditional students) necessitates structural changes at both levels. Recently, this development has been mirrored in the emergence of new degrees (vocational higher education qualifications) and the development of instruments for facilitating access to HE or CVET.

Schemes for smoothing access and building bridges between VET and HE encompass:

- (a) regular entry routes via vocational upper secondary schooling: school-based or apprenticeship;
- (b) late entry of persons with traditional entry qualification undertaking vocational training or spending some time in the labour market before enrolment in HE;
- (c) extension of entry routes to second chance schooling, specific entry exams for experienced adult without typical entry qualification;
- (d) increased opportunities for adults through distance education degree programmes, specific programmes for adult and part-time students (e.g. Estonia, Greece, Spain, Cyprus, Lithuania, the Netherlands and Finland);
- (e) continuous education: advanced degree, continuous professional education, staff trainings (e.g. Malta, Slovakia where lifelong learning centres have been established within universities) (the country examples are quoted from European Commission, 2005).

2.1.1. Role of qualifications frameworks

At European policy level, the development of the European qualifications framework for lifelong learning (European Commission, 2006a) provides evidence of an emerging new conception of the relationship between VET and HE. An example is overcoming the view of separated – in some countries even rather monolithically – education subsystems but considering transitions within a common qualifications framework (Box 3).

The EQF is at the congruence of different developments at national and European levels. At national level, emerging or existing national qualifications frameworks have the main objectives of legibility, transparency and mobility of qualifications (e.g. Scottish credit

and qualifications framework, Irish qualifications framework, Australian qualifications framework). However, current discussions at Member State level shows that the major issue lies in designing qualifications descriptors that apply to VET and HE qualifications and in designing structures that would/could link VET and HE. At European level, initial ideas on the EQF came from the HE sector while designing the qualifications framework for the European Higher Education Area, as a welcome opportunity to think more systematically about the purpose of HE. In this context HE has at least four fundamental objectives:

- (a) preparation for the labour market;
- (b) preparation for life as active citizens in democratic society;
- (c) personal development;
- (d) development and maintenance of an advanced knowledge base (Bergan, 2003).

Further to defining permeability in terms of access combined with selection processes, the development of qualifications frameworks promotes the use of qualifications as criteria to recognise and validate competence (in terms of academic and/or professional knowledge and skills) for moving within the education systems.

Australia is presented in Box 4 as an example of a country where the qualifications links are generally based on a content or outcome relationship in which parts of one qualification are recognised as having equivalence with – or are integrated into – another qualification (AQF, 2004b).

Box 3. European qualifications framework (EQF) for lifelong learning

The main purpose of the EQF is ‘to act as a translation device and neutral reference point for comparing qualifications across different education and training systems and to strengthen cooperation and mutual trust between the relevant stakeholders. This will increase transparency, facilitate the transfer and use of qualifications across different education and training systems and levels’ (European Commission, 2006a, p. 3).

These so-called qualification links should be considered for the development of the EQF for lifelong learning: they offer greater transparency of qualifications in Europe and improved permeability between and within education systems by providing common European descriptors for the recognition of knowledge, skills and competence (European Commission, 2006a). In parallel, methods are being developed to recognise and validate prior learning and experience, as for instance in Belgium (Flanders), Bulgaria, Denmark, Estonia, Finland, France, the Netherlands, Norway and the UK (European Commission, 2005). They should be incorporated into structural reforms implemented to increase the permeability of VET and HE and into qualification frameworks.

Further schemes are being developed at

Box 4. Mobility between VET and HE in Australia

Australia is one example with extended student VET to HE and HE to VET mobility. Harris et al. (2005) bring some evidence on the mobility patterns between both education systems:

- (a) females represent the greater proportion of mobile
- (b) students in both directions;
- (c) business-related fields dominate in terms of frequency of mobility;
- (d) the mobility between VET and HE occurs with less delay than between HE and VET;
- (e) university beginners tend to be studying full-time while the VET beginners are part-time.

As bridging both fields is of utmost importance on the European policy agenda it is worth looking at individual motivation and identifying differences between VET and HE learners. ‘The key motivation for both (learners) groups in undertaking further study was to improve employment prospects, with the next two (in different sequence) being to gain or improve practical skills and for personal interest, development or recreation. While both groups were studying to obtain a vocationally specialised education and to improve employment prospects, the university beginners favoured studying in the same or similar field of education to retrain for a different career, whereas the majority of the VET beginners was studying in a different field of education to improve prospects in their present career’ (Harris et al., 2005, p. 43).

national level for transition between vocation-oriented and academic-oriented programmes. In Albania, Belgium, Bosnia and Herzegovina, Liechtenstein and Switzerland, ISCED 4B programmes give direct access to specialisation programmes at ISCED 5A or 5B. In other countries in which occupationally oriented ISCED 5B programmes last one or two years, graduates – apart from being able to access directly the labour market – generally have opportunities for credit transfer or for facilitating their transition to ISCED 5A. They do not have to study the entire bachelor programme again. They may embark directly on the second or third year of the bachelor (ISCED 5A). This is the case, for instance, in Cyprus, Iceland, Latvia, Slovenia, Spain, Sweden and the UK. In Hungary, ISCED 5B qualifications provide for exemption (up to 60 credits) from part of any ISCED 5A programme (Eurydice, 2005, p. 16).

2.2. Redefining the core missions

Controversially discussed in relation to the mission-statements of both sectors are vocationalism of HE (Symes and McIntyre, 2002) and academisation in higher vocational education (vocational and academic drifts). This mirrors changes in the institutional settings of both sectors and the appearance of new organisational forms (e.g. networks between VET and HE institutions, private HE institutions, HE institutions acting in the field of CVET). Even though the development of vocational degrees in HE brings evidence that this field is being ‘vocationallyised’ it might be asked what is the respective understanding of education and training in both education systems and what have been the leading concepts up to now. HE as and VET are preparing the learners for their entrance into the labour market at different levels.

Until recently it seemed clear that VET addresses levels up to superior technician and that HE would provide higher occupational profiles. The Bologna process, the development of post-secondary non-tertiary educational provisions and the introduction of so-called professional bachelor degrees have brought opacities and uncertainties in the education system which

has to rediscover and redefine itself. Since not every university graduate becomes a scientist, but may perform a ‘normal’ job industry, there is a need for increased vocational activity and application-oriented scientifically based activity in HE regarding future professional skills and employability. Nevertheless, HE institutions have expressed their fears of seeing a downgrading of universities to ‘mere teaching institutions’, if ‘vocationality’ is to be understood as fit for a specific professional field (EUA, 2003).

Are the institutions increasingly defining themselves in relation to their ‘employability’ mission? It seems to be the case. Some 91 % of the heads of European HE institutions regard the employability of their graduates to be an important – or even very important – concern when designing or restructuring their curricula. This view also raises concerns about the traditional mission of HE. Among university graduates, employability essentially means the acquisition of competences of innovation and leadership, both important and relevant to the academic field and any professional activities in the labour market (Reichert and Tauch, 2003). In the course of the introduction of bachelor degrees, the employability discussion has become a major issue in countries not having experienced this kind of degree. Academic teachers do not yet fully trust the new first cycle qualifications, and they frequently advise their students to remain in HE until the end of the second cycle (Alesi et al., 2005).

The vocational orientation in HE can be categorised as followed:

- (a) content: vocational-oriented content instead of pure academic content. Reconceptualisation, academic/professional divide, practice versus theory in HE study programmes;
- (b) professional relevance of education and training: professional relevance versus employability, human resources profile and knowledge as specific to the country development requirements, fit between curricula and labour-market requirements;
- (c) learning outcomes: competence-based study programmes, credit systems, general employability skills, entrepreneurial skills, work based learning/work experience;
- (d) institutional level: new forms of HE institutions have been developed such as corporate and entrepreneurial universities, as well as new

Box 5. Licences professionnelles in France

The *licences professionnelles* have relied on three principles since their introduction in 1999: pedagogical innovation, plurality of participation and partnership with professional actors. Establishing links with actors outside academia are characteristics of the vocationally-oriented programmes. It is interesting also to consider the changes initiated within HE. They can be offered by universities of applied sciences, university departments, engineering schools, institutes, further education departments, etc., which means they lead to links between actors in the HE area. Further, colleges (*lycées*) are joining nearly half the initiatives (42 % of the projects submitted in 2002) (Maillard et al., 2004). The vocational aspect (*offre professionnalisante*) is defined regarding two aspects: the graduates will have occupations other than in the educational sector and they will enter the labour market shortly after graduation.

schemes of partnership between VET and HE institutions.

The core missions of HE institutions increasingly encompass continuous education activities. Their market share in CVET can reach up to 5 % (i.e. in Germany; BMBF, 2006). Continuous education is defined as their third pillar, alongside teaching and research: HE institutions have the opportunity to develop demand-driven continuous education programmes where there is conflicting interest between practical needs for continuous education and scientific orientation. An international comparison of the involvement of HE institutions in continuous HE shows that their engagement will increase and that it will lead to internal organisational changes in terms of governance and management methods of HE institutions. It seems that HE institutions will increasingly engage in degree-oriented programmes at master's level, as this represents their unique selling position, with mixed learners coming from regular HE programmes and continuous education learners partially belonging the active labour force and partially being unemployed or low qualified (Dunkel and Le Moullour, 2007).

We observe that, from a European education policy perspective, non-university education seems to be the orphan of the Bologna process. While the Copenhagen process is vocationally oriented, the Bologna process focuses on the academic environment: neither of them really accounts for higher professional degrees. The decision on non-university level strongly depends on the national perception of the function of the sector and the attention paid to this issue. As for the new mission, we notice a vocational drift in HE characterised by the introduction of vocationally-oriented study programmes at HE level such as the *licences*

professionnelles in France (Box 5) or the bachelor 'professional' degree at European level. However, we also observe new degrees in-between, such as the *istruzione e formazione tecnica superiore* (IFTs) non academic, technical upper secondary education in Italy (Box 7).

2.3. Degrees and didactics

At this stage of the discussion it is useful to refer to new kinds of cycles and degree offers which have been developed in the course of new mission definitions. As suggested by the theory of credentialism (Brown, 1995) the competition for formal degrees and the economic and social value of the status of degree-holder are major motivations for students. It is symptomatic that, depending on the research viewpoint, the degrees are labelled as belonging to tertiary or to the post-secondary non-tertiary cycles. In 25 out of 30 OECD countries, the post-secondary non-tertiary programmes are offered to upper secondary graduates. A 17-year-old can expect to receive 0.2 years of post-secondary non-tertiary education on average in OECD countries. This expectation ranges from 0.1 year (e.g. in Iceland, Italy, Norway, Slovakia, Sweden and the US) to 0.6 years and more (e.g. in Australia, Austria, Hungary, Ireland and New Zealand). Graduates of upper secondary programmes and people in employment who want to upgrade their skills can also choose from a wide range of tertiary programmes (OECD, 2005a).

To respond to this requirement education systems have developed new kinds of degrees anchored in tertiary short cycles or post-secondary non-tertiary cycles. This varying denomination shows the inner difficulties of the education

systems in dealing with those hybrid degrees. The objectives of tertiary short cycle education are to provide short professional training not linked to previous studies (e.g. Bulgaria, Cyprus, the Czech Republic, Latvia, Lithuania, Luxembourg, the Netherlands, Spain, the Swiss Confederation and Turkey). This can, in some countries, be credited for traditional HE programmes or a further professional specialisation (e.g. Ireland, Northern Ireland, Italy, Scotland). Tertiary short cycles are delivered within the college sector or in schools (e.g. Bulgaria, the Czech Republic, Spain, Luxembourg and Hungary), in non-university HE (e.g. Lithuania), in other categories of providers (e.g. Austria, Croatia, the Czech Republic and France), within the framework of adult education (e.g. Austria, Denmark, Ireland, the Swiss Confederation and the UK) and at universities. We will come back to the institutional aspect in the following part of our contribution.

As far as the involvement of professional organisations in designing and restructuring curricula in tertiary short cycles is concerned, the picture is quite diverse. When professional organisations are involved they are most likely the chambers of commerce (e.g. Denmark, Ireland, Spain, France, Italy, Latvia, Lithuania, Austria and the UK). Trade unions are also involved (e.g. Austria, Denmark, Italy, Latvia, Sweden, Turkey

Box 6. Foundation degree in the UK

The foundation degree was introduced in 2000. This degree provides a new model of vocational HE based on collaboration between employers and providers of higher education. It aims to widen and increase participation in HE by delivering knowledge and skills needed for employment by the application of work-based and flexible modes of learning. Foundation degrees are 'employment-related, higher education qualifications, designed to equip students with the higher-level skills that employers are crying out for. They are bringing HE and business closer together to meet the needs of employers' (DfES, 2003). The qualification is taught over a two-year period (when studied full-time) and is not equal to a bachelor's degree. However, students can transfer to the third year of a bachelor course once they have completed the foundation degree. The degree is work-focused and can be either company or profession specific. It is the newer (post-1992) institutions that have most successfully developed the foundation degree (Bowers-Brown, 2006).

and the UK) as well as employment agencies (e.g. Ireland, Italy, Latvia, Austria and Sweden) or others such as employers and their sector organisations (Northern Ireland) (Kirsch et al., 2005).

The new, vocationally-oriented degree programmes have also been set up at HE level but in a clear, formal separation from the old university programmes and degrees (e.g. the foundation degree in the UK, Box 6). This is especially true for Finland, where the avoidance of academic drift was a major topic in the whole process. In Italy and Austria, academic drift was not openly discussed as a major problem but those countries still created unique degree structures for vocational training. Those countries lacked a separate sector for vocational education in HE for a very long time but the situation changed quite recently (in the 1990s) in terms of historical development of the education system. In 1999 Italy introduced the integrated non-academic higher technical and VET system (IFTS), Finland introduced Polytechnics in 1991, (*Ammattikorkeakoulu*, AMK), Austria the *Fachhochschulen* (FHS) in 1993, and Sweden the advanced vocational education (AVE) in 1996.

The most important element of these new sectors is the fact, that they are all based on a new type of degree designed as a clear alternative to traditional university degrees. Vocationally-oriented degree programmes are supposed to be equal, but different from university programmes. With a minimum nominal length of three years, governments tried to give the new degrees more or less equal status with university degrees. Compared to shorter post-secondary programmes, this is a clear improvement in status, which puts the new degrees at HE level. However, these new degrees differ from university degrees with respect to their clear focus on vocational education. Admittedly, university programmes such as medicine, law, dentistry or engineering are ultimate preconditions for an occupation in the related professional fields, and therefore seem to be vocational as well. But being part of the traditional degree structure of the universities, these programmes tend to be academically driven, often avoiding distinguishing scientific and vocational goals in their educational profiles. In contrast, the new degree programmes are supposed to put their main emphasis on vocational aspects. Those vocational aspects encompass the

profiles of the learners and the teaching/learning methods. This is illustrated in Italy by the IFTS, Box 7.

Box 7: The IFTS model in Italy

IFTS stands for Integrated non-academic higher technical and vocational education and training system or *istruzione e formazione tecnico-professionale superiore integrata*. The IFTS is accessible for learners with an upper secondary certificate or learners/workers with certifiable competences acquired from previous education, training and work experiences. It is designed to prepare senior technicians to meet the demand for skills from public and private labour markets. It is an integrated training-education model, both flexible and tailor-made (addressed to employed and unemployed young people and adults) through the principles of modularity, skill-based learning and credits. IFTS standards contain competence units defined as sets of certifiable skills that can be recognised as training credits and used to enter other pathways, under agreements between the various training agencies working together within the IFTS system (Dunkel and Le Moullour, 2005).

For some HE institutions there is a debate about the extent to which the HE sector can respond appropriately to the skills needs of a rapidly changing and dynamic labour market. Some are examining their curricular and programme design and are making efforts to incorporate more fully a vocationally-oriented content which prepares graduates for the world of work. This vocational content takes many forms, from work-based learning (including internships and work placement schemes), to complementary IT, language, and management skills, in order to equip graduates with abilities supplementary to a solid knowledge base in their future career paths. Both at HE and at VET levels, task-oriented approaches are developing in didactics and pedagogics, with VET more or less encompassing work-related or school-based elements. The development of vocation-oriented programmes at HE level takes different forms such as:

- (a) introduction of modules linked to work placement search (definition of professional objectives, etc.);
- (b) alternance, practice placements, dual learning, apprenticeship;
- (c) participation of professionals as lecturers in

HE regular programmes;
(d) project-based learning activities or tutorial schemes; learning-working trajectories.

In the Netherlands, for instance, where school-based vocational education and apprenticeship coexist, the Adult and vocational education act (1996) distinguishes two main pathways: one is a full-time, college-based pathway that includes work placements for 20-60 % of the time; the second has a part-time work-based pathway (apprenticeship in a company for 60-80 % of the time). It is also possible to identify task-oriented approaches in HE didactics, for example work-based learning is more or less developed according to the national tradition and can take such forms as the work-based learning for academic credits in the UK (Dunkel et al., 2004). Common to both sectors is the focus on learning outcomes and on experiential learning. With the development of vocation-orientation in further and HE in France (1990s) some trades such as medicine or accountancy have included alternating schemes in their programmes. Such schemes have been generalised to all higher level qualifications (including HE institutions such as *grandes écoles*) (Hahn et al., 2005). In the UK, work-based learning involves significant elements of work-based assessment, may involve attending courses in further or higher education, is focused on the needs of the employer and employee, is for people in employment, and can be at all national qualification framework and HE levels. Qualifications include NVQs, professional body qualifications, and foundation degrees.

These examples are in line with the concept of connectivity as analysed by Griffiths and Guile (2001). They define 'connectivity' as the purpose of that pedagogic approach which educators would adopt in order to take explicit account of the relationship between theoretical and everyday knowledge in their attempt to mediate the different demands arising in the contexts of education and work. The connective model of workplace learning must include consideration of questions with regard to support of learners in work experience programmes to help them to integrate and connect learning in different learning places and different contents and types of knowledge (codified, situated, tacit). As an interesting challenge they add also the integration of developments in work and in education.

2.4. Institutional changes and diversification strategies

A substantial proportion of tertiary education is now provided outside universities; in institutions with a wide variety of characteristics, many are vocationally oriented (OECD, 2005c). Thus universities no longer have the monopoly over the provision of tertiary education. Non-university institutions cover a range from vocational colleges, providing a mix of upper secondary and short-cycle tertiary courses, to polytechnics institutions teaching four-year courses at degree level. Further strategies for progression and transitions include the institutional integration of:

- (a) non-university institutions into universities;
- (b) secondary schools into post-secondary education institutions;
- (c) short-term labour market programmes into tertiary institutions (especially continuous HE programmes) (OECD, 2005c, p. 30-31).

As consequence of the Bologna process, universities of applied sciences or colleges and traditional universities are able to offer academic or professional/practical and interdisciplinary master study programmes. The continuing differences are visible in two respects:

- (a) universities of applied sciences principally offer practical bachelor study programmes, which also contain methodological and theoretical elements, to open up options for further study at master's level;
- (b) traditional universities principally offer bachelor study programmes as preparation for further study in a master programme and tend to consider the creation of employability as a secondary element (Alesi et al., 2005).

The level of vocational/occupational programmes offered by non-university institutions is partly dependent on the way the other parts of the education system have developed. In countries with strong vocational education programmes within upper secondary education and with dual apprenticeship systems, such as Austria, Germany and Switzerland, institutions that provide tertiary education outside of the universities provide occupational programmes at a higher level, and beyond, at a level ISCED 5A equivalent to the programmes offered by universities. Where the

upper secondary vocational education is weaker, as in the UK and the US, tertiary education outside of universities is provided within institutions that also provide lower level vocational preparation (OECD, 2005c, p. 25).

There are developments in terms of institutional settings in both education systems and the categories used to describe the situation are already outdated by the time we use them. Generally, the division between ISCED 5A and 5B programmes may be identified by the type of institution that organises the provision (university or non-university) and the level of qualification awarded on completion of studies. However, this 'binary' form of organisation is becoming blurred by the trend for university and non-university institutions to become increasingly similar (Eurydice, 2005, p. 16). As the university of applied sciences comes closer to university, national systems invent new denominations. For instance, in the UK the binary education system with polytechnics and universities has been replaced; now there are post-1992 new universities alongside the old universities (Box 5). In parallel, the diversification of national HE systems occurs in two directions:

- (a) new fields of qualification are established or are granted professional status (introduction of degree programmes, i.e. in ICT);
- (b) new forms of qualifications are established (i.e. special degree for vocational education with minimum requirement of at least three years of studies).

By making vocational degrees – at least formally – comparable or parallel to university degrees, vocational education becomes a real alternative to university education. The boundaries between the different sectors of provision in HE, VET and continuous education are blurring. Students may be tempted to enrol in non-university HE, if the programmes are perceived as more student-centred. At the same time, new providers are entering the HE market, often selling their services in a customised way. For example, in Australia tailor-made training is being offered by a number of universities; it can take the form of short courses and certificates, firm-specific content embedded in courses, work-based learning credited towards a qualification, or some combination of all the above (Gallagher, 2001).

Cooperation and resulting permeability between different HE institutional types were generally low, except for England where it had a long tradition. Here HE colleges were often associated with universities and offered degrees under their auspices, so that college graduates could continue their studies in universities. In Germany and the Netherlands, *Fachhochschule* and *Hogeschool* degrees gave access to the first and second year of university, respectively, and additional waivers were only granted on a case-by-case basis. In both countries graduates could, in special cases, be directly admitted to doctoral studies. In France, the best university and *institut universitaire de technologie* (IUT) students after the first two study years were admitted by the *grandes écoles*, whose masters-level graduates could, in turn, do their doctorate at universities. The Bologna process considers the HE system as a whole and focuses on structuring degrees in cycles. Consequently the criteria for defining institutional types became less clear-cut, the institutions became more alike, and the status hierarchy also flattened somewhat. In Germany and the Netherlands the strict typology assigning theory- or research-oriented programmes to universities and professionally- or practice-oriented programmes to *Fachhochschule* and *Hogeschool* has been relaxed. A further change occurred regarding the *Berufsakademien*, a type of post-secondary professional education institution that was formerly not seen as part of HE. They can now grant bachelor degrees, subject to accreditation. This development led to a loosening of the ties between institution and degree types, with the type of degree awarded being independent from the institutional type; thus degrees become 'deinstitutionalised'.

This movement is collateral to recontextualisation of education institutions within a network of education-interested institutions, in the context of an expansion strategy or out of economic necessity. For instance, the German *Berufsakademien* have to engage in cooperation with universities of applied sciences to be able to deliver a bachelor degree. They associate in this networking their traditional partners such as the chambers of trade and handicrafts and the firms to offer degrees that are strongly vocationally-oriented, including work-based learning. In Australia HE and VET cooperate to form an integrated dual-sector offering sequential awards and/or concurrent

programmes (AQF, 2004a). Other cases involve a merger of former institutions: in Finland the AMK institutions (*Ammattikorkeakoulu* or school of higher vocational education) were established in the 1990s mainly by merging existing technical and business colleges, plus other institutions formerly at secondary level. They have established a non-university sector of HE. In 2006 they obtained the denomination of universities of applied sciences in relation to the Bologna process.

The second strand of development is through enhanced collaboration and networking activities. In Italy the innovation of IFTS programme consists in the strong involvement of all the experts, such as schools, universities, representatives of social partners, vocational agencies, etc., in building up and implementing its educational and training paths, which are planned by the regions. In the UK, the alliance between universities, colleges and employers to develop foundation degrees directly addresses the need to raise qualification levels in regions. One of the more striking alliances involves business enterprises and HE institutions creating 'corporate universities' and the customised offer of education and training at higher level from universities to business enterprises (Dunkel and Le Moullour, 2007). The emergence of these partnerships has much to do with the changing economy, which is increasingly based around knowledge and information, the traditional stock-in-trade of the university. The transition to knowledge capitalism - a knowledge-based economy - has given a renewed impetus to HE. One expression of this is work-based learning challenging the scope and site of the university curriculum (Symes and McIntyre, 2002). However, regular and close involvement of professional associations and employers in curricular development still seems to be limited in Europe (Reichert and Tauch, 2003).

2.5. Second synthesis: core mission or portfolio of activities?

Beyond the quantitative and qualitative developments in VET and HE, both education sectors are undergoing internal diversifications which force them to redefine their core missions and

open their doors to one another's graduates and to learners out of the labour market (i.e. continuous education schemes). One growing concern is the links to the labour market and the economic and social contexts. Changes occur within both systems and can be characterised by an expansion of their respective fields of activities, slightly overriding the borderlines between the systems. Quantitative changes are linked to specific institutional changes: this means we are bound to observe movements in the student cohorts, the institutions and the programmes offered. For instance VET providers are providing training for qualifications anchored at HE level as the so-called universities of corporate sciences (*Berufsakademie*) in Germany, and within both education subsystems other institutions are changing, particularly polytechnics and universities of applied sciences. Beyond secondary level, a number of options exist for further education: more or less vocationally-oriented programmes at tertiary level, different lengths of programmes and

purposes ranging from preparing for professions with high skill requirements to preparing to enter the labour market with occupational specific skills.

Defining the core missions of institutions is increasingly taking into account the possibility to offer vocational-oriented as well as academic-orientated education and training within a single institution without losing its 'corporate' identity. This happens when VET institutions offer bachelor degrees or when HE institutions offer CVET. The awareness that VET provision might occur at different proficiency levels is growing with the thrust of the EQF. Meanwhile, various schemes allow transparency and permeability between the two sub-systems. They include new definition of entry routes, new schemes for education and training provision, implementation of recognition, and crediting procedures. There might be a need for new definitions of the tasks and missions of VET and HE institutions as multi-fields institutions are emerging.

3. Summary and outlook

Most European countries are facing common problems of academic drift, poor motivation of students on vocational programmes and a failure to provide future employees with the type of knowledge and skill they will need in a fast-changing knowledge-based economy. We can observe a tendency towards enhanced practice orientation (vocational drift) of traditional HE programmes that may increase the attractiveness of graduates for the economy. New forms of flexible learning pathways expressed in efficient linking of general, vocational and HE are becoming significant.

Some of the barriers to flexible learning pathways relate to moving between VET and HE. While VET, general education and HE pathways have different purposes, ranging from hands-on working practice and occupational capability to intellectual development and the idea of education *per se*, they can be linked. Elements of general education can contribute to progression in vocational education and vice versa. Thus, increased permeability of movement between education and training subsystems is important in promoting participation, especially by non-traditional students. Universities traditionally assured quality by final degree examinations and not by regulating admission, until the idea gained ground that standardised entry requirements would result in a homogeneous student body that would make it easier to produce excellence reliably. In recent years, opportunities to transfer from VET to HE and to enter university at a later stage of life by different routes have expanded. The HE sector itself has become more differentiated and has expanded its capacity, but there is no obvious consensus across Europe on how best to meet current demands. Widening the spectrum of eligibility for entry to include VET qualifications can involve credential based, testing-based or market regulation approaches. There is no agreement on whether the boundary between initial and continuing education should remain or fall, and whether continuing education should be integrated into regular departments or dealt with separately. Currently, it is not known for certain which options are more successful and on

which terms, nor whether accepting a diversity of responses across Europe is preferable to acting on a common position.

Summarising, we can report an increasing deinstitutionalisation. First there is a loosening of ties between institutions and degree types. Then there is a partial blurring of boundaries between HE and VET (upper segment of VET, lower segment of HE) with a simultaneous increase of their zone of overlap. Finally, there is a growing number of mixed participants and mixed programmes.

Such overlapping education may be further facilitated if different purposes are seen as less important. However, if they are considered as more important, and the EQF is adopted half-heartedly, there is potential for separated but linked frameworks in which some of the components of each are portable via credit systems between them. In the latter case VET is always partly educational and only partly about preparation for employment. In this context the question of the traditional institutional division of labour in the education system emerges, especially between VET and HE. The relationship between VET and HE cycles of studies are characterised by vertical and horizontal differentiation expressed as functional diversification in rather monolithic subsystems up to now. However, the institutional tectonics is moving now, as outlined in two possible development paths: 'complementary multiversity' and 'competitive diversity'.

3.1. Complementary multiversity

With young people following new pathways through education, training and employment, and working age citizens expressing a demand for continued learning, provision of education and training is changing. Combining an award from non-university education – especially VET offering technical and further education – and the university could be promising in meeting emerging training and labour-market trends. This meets also the trend of mass-individualisation, where curricula will be turned into learning pathways.

Companies and professional bodies are taking up the discussion and may make their own arrangements for workforce training and professional development, if HE institutions cannot provide suitable and efficient provision; in consequence, the institutions might then lose their monopoly of teaching, research and awarding qualifications. Enhancing differentiation requires HE institutions to move as much as they can to student-centred provision of education and training, with far-reaching implications for curriculum, research, interaction with students and the relationships with other institutions in the education system. Dual-sector institutions contain both HE and vocational elements with respect to the upper segment of VET (polytechnics) and the lower segment of HE (BA).

This transformation of university to multiversity can also be expressed as a ‘friendly takeover’ of the respective functions of each subsystem. This takeover is characterised by a growing overlapping zone demanding enhanced transition and progression. Continuing education uses both subsystems for knowledge updating. Referring to our picture of ‘institutional tectonic movements’ (Figure 3 in Section 2) HE adds something on the bottom; VET adds something on the top by increasingly including HE components to attract learners and meet labour-market requirements. These add-ons are the result of institutional change expressed in new degrees, courses and institutions.

Thus, the idea of multiversity includes providing education – lifelong learning – to a broad target group. Whether the binary divide has to be maintained or not will be left open. There are signs of increased collaboration between VET and HE such as partnerships and associations in the Netherlands and Belgium (De Weert, 2006). While the multiversity path can be also an opportunity for continuing education, the reverse trend is characterised by profiling, for example by research, by teaching or by work-based learning in a highly diversified and competitive education system.

3.2. Competitive diversity

In the case of the traditional university, a single university model no longer exists but rather a complex set of private institutions and public ones; some of the latter are in transition from the academic republic to managerial university and struggling with issues of marketisation and commercialisation. Also, a broad range of VET providers varies from full-time schools to dual system and work-based providers, which finally leads to a diversity of institutions in both HE and VET. This diversity is also characterised by competition for human (best students and teachers) and financial resources (public funds can be spent either for continuing education or R&D activities).

Faced with the knowledge society trend, many players try to imitate the character of the university (academisation): yesterday’s polytechnics become today’s universities. Today’s universities become tomorrow’s graduate schools, and some vocational colleges/schools and post-secondary institutions become universities of corporate sciences or of applied sciences.

Sometimes the course of development is a spiral, as in Finland where polytechnics became AMKs, were retransformed into polytechnics and finally emerged as universities of applied sciences in 2006. In Japanese universities faculties no longer exist, having become graduate schools that offer BA courses for initial education only as an auxiliary service, while their core activity is as a graduate school. In their turn, junior colleges were upgraded to universities and research is the function of specific research universities.

The stronger vocational and application orientation may lead to academic drift in the non-university sector, emphasising the diversity of the HE system. However, the political emphasis of the employability discourse could be interpreted as a warning against academic drift. Here tensions arise with the vocational emphasis of the BA and the utility argument of education and its valorisation. But different national employability discussions in countries with different types of HE institutions may allow increasing potential for permeability as distances are reduced and rising expectations are nurtured. How does this potential develop with existing regulations?

3.3. Conclusions, policy implications and further research

Approaching VET and HE as in the 'multiversity' may be facilitated by integrating vocational and academic learning within a single integrated reference framework such as the proposal of the EQF; this may be advantageous for both administrative and political reasons. Administratively, the EQF should be more coherent, easier to manage and ought to make all kinds of progression simpler. Politically, integration is tied to the idea of promoting parity of esteem between academic and vocational learning. However, in practice, integration can be a highly controversial issue. Some see it negatively as lowering the rigour of academic learning and doing away with the idea of education *per se*; therefore they prefer 'diversity' providing customised education. Others see it as a way of broadening training by requiring it to be more educational. Some welcome it as the basis for ensuring parity of esteem between academic and vocational learning, whereas others see it as leading to academic drift and undermining the importance of vocational qualifications as competence indicators.

In the upper overlapping part of VET and HE, which encompasses higher vocational education and professional HE, we can observe the two sectors of HE coming closer together. The Bologna process has contributed to the ambition of the non-university sector to have a tiered structure with a master's as follow-up to the bachelor degree.

Competition and rivalry between the two sectors of HE remain but, at the same time, in European countries with a binary system there is growing collaboration between universities and higher vocational education in professional HE. HE and VET providers must address a greater diversity of learning objectives, meeting the needs of multiple target groups. This implies a variety of actions: building networks of different types of educational institutions; creating regional and cross-country networks to address specific issues and needs; and ensuring that universities place greater priority on training those who are

key figures for promoting lifelong learning in the future, that is, future teachers and trainers. Overall, HE and VET providers should adapt so that they offer environments and opportunities that are attractive to those who would like to study in them.

However, it seems convergence can not conceal the remaining differences between VET and HE because of the functional prerequisites. VET institutions are more involved in regional and economic development, distinguishing them from classical universities; this opens a way for more heterogeneity and profiling in collaboration with the professional domain and regional stakeholders by focusing their resources on their areas of particular strengths. This development would foster a larger variety of institutional profiles, beneficial for society at large. An increasing academisation implies a loss of high performing school graduates for VET. Against this background the attractiveness of VET for career opportunities and continuing education for highly qualified school graduates has to be maintained, even increased. BA graduates will most probably occupy those positions that have been taken up to now by non-academics, for instance graduates of further and continuous VET. At the same time, the potential of low qualified employees without

Box 8. Policy implications

The foundation degree was introduced in 2000. This degree provides a new model of vocational HE based on collaboration between employers and providers of higher education. It aims to widen and increase participation in HE by delivering knowledge and skills needed for employment by the application of work-based and flexible modes of learning. Foundation degrees are 'employment-related, higher education qualifications, designed to equip students with the higher-level skills that employers are crying out for. They are bringing HE and business closer together to meet the needs of employers' (DfES, 2003). The qualification is taught over a two-year period (when studied full-time) and is not equal to a bachelor's degree. However, students can transfer to the third year of a bachelor course once they have completed the foundation degree. The degree is work-focused and can be either company or profession specific. It is the newer (post-1992) institutions that have most successfully developed the foundation degree (Bowers-Brown, 2006).

qualification has to be better exploited and better guidance to be provided.

Policy implications include smoothing access for VET and HE, building bridges between VET and HE, defining an overarching qualifications framework and fostering networking and competitive diversity (for more details see Box 8).

Government policies to support permeability have to focus on improving their institutional arrangements for mutual credit transfer and recognition of prior learning by VET and HE

providers. A research-led policy definition would include a stronger link and closer cooperation between VET and HE research communities, since both fields sometimes seem to be decoupled and separated. It would also be challenging to inquire more systematically into work-based learning, which may represent promising possibilities for an infusion of new vocationalisation in mass HE. Finally, we recommend reconsidering the role of institutions in and new forms of partnerships between VET and HE.

List of abbreviations

AMK	<i>Ammattikorkeakoulu</i> [university of applied sciences]	FI
BA	Bachelor degree	
CVET	Continuous vocational education and training	
EQF	European qualifications framework	
HE	Higher education	
IFTS	<i>Instruzione e formazione tecnica superiore</i> – non academic, technical upper secondary education	IT
ISCED	International standard classification of education	
ISCO	International standard classification of occupations	
IUT	<i>Institut Universitaire de Technologie</i> (France) Type of university of applied sciences	
IVET	Initial vocational education and training	
OECD	Organisation for Economic Cooperation and Development	
VET	Vocational education and training	

Bibliography

- Alesi, B. et al. *Bachelor and master study programmes in the Bologna process in selected European countries compared with Germany: the state of implementation*. Berlin: BMBF, 2005.
- Andren, B. 17 million tertiary students in the European Union: enrolments 2002/03-graduates 2003 in tertiary education. *Statistics in focus*, 2005, No 19 (Population and social condition; education and training).
- AQF – Australian qualifications framework. *Cross sector qualification linkages*. Victoria, AU: AQF, 2004a.
- AQF – Australian qualifications framework. *National guidelines on cross-sector qualification linkages*. Vitoria, AU: AQF, 2004b.
- Bergan, S. *Qualification structures in European higher education*. Danish Bologna Seminar, held in Copenhagen, 27 and 28 March, 2003. Final version. Copenhagen: Danish Rectors Conference and Ministry of Science, Technology and Innovation, 2003.
- BMBF. *Continuing education at institutions of higher education*. Berlin: Federal Ministry of Education and Research, 2006.
- Bowers-Brown, T. Widening participation in higher education amongst students from disadvantaged socio-economic groups. *Tertiary Education and Management*, 2006, Vol. 12, No 1, p. 59-74.
- Brown, D.K. *Degrees of control: a sociology of educational expansion and occupational credentialism*. New York: Teachers College Press, 1995.
- Cedefop; Descy, P.; Tessaring, M. *Training and learning for competence: second report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2001 (Cedefop Reference series; 6).
- Cedefop; Le Mouillour, I. *European approaches to credit (transfer) systems in VET: an assessment of the applicability of existing credit systems to a European credit (transfer) system for vocational education and training (ECVET)*. Luxembourg: Publications Office, 2005 (Cedefop Dossier series; 12).
- Cedefop; Tessaring, M.; Wannan, J. *Vocational education and training – key to the future: Lisbon-Copenhagen-Maastricht: mobilising for 2010: Cedefop synthesis of the Maastricht study*. Luxembourg: Publications Office, 2004 (Cedefop Synthesis report).
- De Weert, E. *Professional competencies and research in non-university sector: systems convergence after Bologna*. CHER 19th Annual conference on systems convergence and institutional diversity held in Kassel, on 7 and 9 September 2006.
- DfES. Department for education skills. *2003 21st century skills. White paper*. London: HMSO, 2003.
- Dunkel, T. et al. Tätigkeits- und kompetenzorientierte Innovationen im formellen Weiterbildungssystem. In *Arbeitsgemeinschaft Betriebliche Weiterbildungsforschung e.V./Projekt Qualifikations-Entwicklungs-Management. Kompetenzentwicklung 2004. Lernförderliche Strukturbedingungen*. Berlin: Waxmann, 2004, p. 371-421.
- Dunkel, T.; Jones, S. Europäisierung nationaler Berufsbildung. In Clement, U. et al. (eds). *Zertifikate und Standards für die berufliche Bildung. Ein geeignetes Instrument politischer Steuerung?* Bielefeld: W. Bertelsmann, 2006. p. 40-60.
- Dunkel, T.; Le Mouillour, I. *Certification patterns, procedures and practices in relation to the development and implementation of a European credit (transfer) system for vocational education and training (ECVET)*. Internal report to the Commission of the European Communities. Brussels: European Commission, 2005.
- Dunkel, T.; Le Mouillour, I. Wissenschaftliche Weiterbildung in Frankreich. In Hanft et al. *Internationale Vergleichsstudie zur Struktur und Organisation der Weiterbildung an Hochschulen*. Abschlußbericht. Oldenburg: Carl Von Ossietzky University, 2007.
- European Commission. *Lifelong learning policy development*. Directorate-General for Education

- and Culture Education. Brussels: European Commission, 2003.
- European Commission. *Maastricht communiqué on the future priorities of enhanced European cooperation in vocational education and training (VET) (Review of the Copenhagen declaration of 30 November 2002)*. Luxembourg: Publications Office, 2004.
- European Commission. *Annex to the communication from the Commission: modernising education and training: a vital contribution to prosperity and social cohesion in Europe. Draft 2006 joint progress report of the Council and the Commission on the implementation of the 'Education and training 2010 work programme'* [COM(2005) 549 final]. Brussels: European Commission, 2005 (Commission staff working document SEC(2005)1415).
- European Commission. *Implementing the Community Lisbon Programme: proposal for a recommendation of the European Parliament and of the Council on the establishment of the European qualifications framework for lifelong learning*. Luxembourg: Publications Office, 2006a (COM(2006)479 final).
- European Commission. *The Bologna process: next stop Bergen 2005*. Brussels: European Commission, 2006b.
- European Commission et al. *Key data on education in Europe 2005*. Luxembourg: Publications Office, 2005.
- EUA – European University Association. *EUA quality culture project: network report of thematic network 4: implementing Bologna reforms*. Brussels: EUA, March 2003.
- Eurostat. August 2006: Euro area unemployment up to 7.9%: EU-25 unchanged at 8.0%. *Eurostat Euro-indicators. News release*, 3 October 2006a, No 130.
- Eurostat. *Key figures on Europe: statistical pocketbook 2006: data 1995-2005*. Luxembourg: Publications Office, 2006b.
- Eurydice. *Focus on the structure of higher education in Europe 2004/05. National trends in the Bologna process*. Brussels: Eurydice, 2005.
- Gallagher, M. *Lifelong learning: demand and supply issues – some questions for research*. Paper presented at the business/higher education roundtable conference on the critical importance of lifelong learning held in Sydney on 24 July 2001.
- Griffiths, T.; Guile, D. A connective model of learning: the implications for work process knowledge. *European Educational Research Journal*, 2003, Vol. 2, No 1, p. 56-73.
- Hahn, C. et al. *L'alternance dans l'enseignement supérieur. enjeux et perspectives*. Paris: L'Harmattan, 2005.
- Harris, R. et al. *Student traffic. Two-way movement between vocational education and training and higher education*. Adelaide: NCVER – National Centre for Vocational Education Research, 2005.
- HIS – Hochschul-Informations-System. *Eurostudent 2005. Social and economic conditions of student life in Europe 2005. Synopsis of Indicators for Austria, Finland, France, Germany, Ireland, Italy, Latvia, Portugal, Spain, the Netherlands and United Kingdom (E/W)*. Joint Project coordinated by HIS. Hannover: Hochschul-Informations-System, 2005.
- Jouhette, S.; Romans, F. EU labour force survey: principal results 2005. *Statistics in focus*, 2006, No 13 (Population and social conditions).
- Kailis, E.; Pilos, S. Lifelong learning in Europe. *Statistics in focus*, 2005, No 8 (Population and social conditions).
- Kirsch, M. et al. *Tertiary short cycle education in Europe*. European Association of Institutions in Higher Education. Brussels: Eurashe, 2005.
- Koenegen-Grenier, Chr. *Akzeptanz und Karrieremöglichkeiten deutscher Absolventen auf dem Arbeitsmarkt*. Köln: IW – Institut der deutschen Wirtschaft Köln, 2004.
- Le Moullour, I.; Teichler, U. Making European credit transfer work: ECTS and ECVET. In Dani, A. et al. (eds). *Construction of the European qualifications*. Proceedings of European Symposium held in Strasbourg on 30 September and 1 October 2004. Paris: Mission éducation-économie-emploi; Béta-Céreq, Université Louis Pasteur, 2005, p. 93-102.
- Leney, T. et al. Achieving the Lisbon goal: the contribution of VET. Brussels: European Commission, 2005.
- Maillard, D. et al. Les licences professionnelles. Quelle acception de la «professionnalisation» à l'université? *Relief 5. Rapports du Cereq*, Juin 2004.

- Neave, G. Homogenization, integration, and convergence: the Cheshire cats of higher education analysis. In Lynn et al. (eds). *The mockers and the mocked: comparative perspectives on differentiation, convergence and diversity in higher education*. Paris: IAU/Press Pergamon, 1996, p. 26-41.
- OECD. *Education at a glance*. Paris: OECD, 1994.
- OECD. *Education at glance*. Paris: OECD, 2005a.
- OECD. *Learning a living. First results of the adult literacy and life skills survey*. Minister for Industry, Canada and OECD. Paris: OECD, 2005b.
- OECD. *Education policy analysis*. Paris: OECD, 2005c.
- OECD. *Skills upgrading. New policy perspectives*. Paris: OECD, 2006.
- Pfeffer, Th. et al. *Latecomers in vocational higher education: Austria, Finland, Italy*. Vienna: IFF, 2000 (HOFO Working Paper series 00.001).
- Available from Internet: http://www.iff.ac.at/hofo/WP/IFF_hofo.00.001_Pfeffer_latecomers.pdf [cited 18.2.2008].
- Reichert, S.; Tauch, C. *Trends 2003: Fortschritte auf dem Weg zum Europäischen Hochschulraum. Zusammenfassung*. Brussels: European Commission, 2003.
- Symes, C.; McIntyre, J. *Working knowledge: the new vocationalism and higher education*. New York: Palgrave Macmillan, 2002.
- Teichler, U. Zugangswege und Studienangebote für Studierende ohne traditionelle Hochschulreife. In Teichler, U. *Hochschulstrukturen im Umbruch*. Frankfurt: Campus, 2005, p. 151-163.
- Teichler, U.; Bürger, S. *Student enrolment and graduation trends in economically advanced countries*. Kassel, 2005 (mimeo).
- Unesco. *International standard classification of education: ISCED 1997*. Paris: Unesco, 2006.

Policy learning

Applying the changing learning paradigm for policy advice on VET reforms in transition countries

Peter Grootings and Sören Nielsen

Abstract

This paper explores the opportunities for applying active or new learning principles for education reforms in transition countries. The focus is on policy ‘learning’. Briefly, this concept was developed to argue that systemic reforms of vocational education and training (VET) in transition countries (and indeed any kind of major reform in any country) will only be successful and sustainable if policy development, formulation and implementation are firmly based on broad ownership and embeddedness in existing institutions. The concept of policy learning has been developed in a critical discussion with more traditional approaches of policy transfer and policy copying. It emphasises not just involvement but active engagement of national stakeholders in developing their own policy solutions, based on the understanding that there are no valid models but, at most, a wealth of international experience in dealing with similar policy issues in other contexts. The concept has major implications for foreign assistance and, in particular, for the role that individual and institutional policy advisers can and should play in their cooperation with colleagues in partner countries (¹).

This paper will discuss different dimensions of the new learning concept but will focus on how international assistance, such as provided by agencies like the European Training Foundation (ETF), can better contribute to sustainable reform of national education systems (²). It is argued that there are many similarities between the current international discussions about new learning, the new professionalisation of teachers and of our own view of the role of international policy advisers. Educationalists are discussing the need for teachers and trainers to shift from being transmitters of expert knowledge and skills to students – who are largely considered to be passive receivers of information – towards becoming facilitators of learning processes with those wanting to become competent. If systemic policy reform is about national stakeholders having – and being willing – actively to learn new policies rather than being told what to do, then international advisers should take proper notice of these discussions. The new learning paradigm is firmly based on new insights into how people learn and about how more experienced experts can help them to become competent.

(¹) The policy learning approach has been formally endorsed by the ETF general advisory forum conference in 2003 and reinforced by the advisory forum conference in June 2006. See formal statements on: www.etf.eu.int.

(²) The ETF is the European Union’s centre of expertise supporting vocational education and training reform in non-EU countries in the context of the EU external relations programmes. For details: www.etf.eu.int.

Table of contents

Introduction	271
1. The challenges facing countries in transition	272
2. Active learning	274
3. Education reforms in transition countries as learning processes	277
4. Policy reform is policy learning	279
5. Facilitating policy learning in practice	282
6. Policy learning through knowledge sharing	284
7. Peer learning and the open method of coordination	285
7.1. Traditional peer reviews: focus on outcomes	285
7.2. Modern peer learning: focus on process	287
8. Indications of the type of further research needed to facilitate policy learning	288
List of abbreviations	290
Bibliography	291

Introduction

Multilateral and bilateral donor agencies increasingly issue declarations about the need to contextualise knowledge and secure ownership of development policies by involving local policy-makers and other stakeholders in policy development and implementation⁽³⁾. Yet, policy transfer through imposing or copying (selective knowledge about) policies and models taken from other contexts still dominates the day-to-day operational practices of the donor community (King, 2005; King and McGrath, 2004; Grootings, 2004; Ellerman, 2005).

Development agencies and their staff normally act as classical school teachers, assumed to have the right knowledge and know best what has to be done. True knowledge just needs to be transferred to partners who don't know the truth (yet) and partners should accept measures that are presented to them as best practice. Local policy-makers and local stakeholders are regarded as passive knowledge and instruction receivers who do not possess enough relevant prior knowledge and experience. Accordingly, development or reform is seen by many agencies as a process of social engineering that will be successful if properly managed technically. In reality, most reform projects are short-lived because they do not fit in context and there is no local ownership. Reforms are often not sustainable. On the contrary, they tend to come and go with the donors and their agencies.

One reason for the gap between declaration and actual behaviour is an understanding, often only implicit, of why and how people learn and develop new knowledge and expertise. The standard assumption underlying most traditional learning approaches is that someone (the donor

representative) possesses the right knowledge and learners (the local policy-makers and other stakeholders) who do not have this knowledge should simply listen carefully and then do what they have learned.

New learning theories argue that learners are more successful in acquiring, digesting, applying and retrieving new knowledge when they have been actively engaged in these processes. Facilitating active policy learning rather than policy transfer may, therefore, have greater opportunity to contribute to sustainable reformed systems⁽⁴⁾.

Section 1 will set the scene by broadly outlining the substantial challenges facing countries in transition such as the countries of eastern Europe, the west Balkans and the former Soviet Union. Section 2 will summarise briefly what active or new learning is about. It will also indicate wider implications of active learning for formal education systems, informal learning and the roles and responsibilities of main stakeholders, in particular teachers and learners. Section 3 will present the systemic nature of education reforms in transition countries and the role that international donors play in assisting such reforms. Section 4 will introduce the concept of policy learning as a translation of the principles of active learning to the field of reform policy assistance. Section 5 will present some practical implications and contradictions of the policy learning concept. It will argue for a different role for donor agencies and consultants based on similarities between the roles of teachers and policy advisers in facilitating learning. Section 6 will suggest that knowledge sharing should be an integral aspect of policy learning. Finally, Section 7 indicates possible modes and areas for further research.

⁽³⁾ The World Bank announced in August 2004 an overhaul of its guidelines for policy-based lending (From adjustment lending to development policy lending), in recognition of the fact that there is no one blueprint for reform that will work and that governments must take ownership of reforms to develop a programme that the country needs (see also King, 2005).

⁽⁴⁾ Others would argue that good governance, participation of civic society, fight against corruption and sound legal frameworks are more important. This paper will pay attention to the learning aspects which have been neglected so far.

1. The challenges facing countries in transition

Impoverishment has been a general consequence of change in transition countries. Institutional impoverishment in vocational education has led to the disappearance of innovative capacities within the education system, in particular the vocational education part of it. VET systems have been forced to focus entirely on operational day-to-day provision of education and training at the cost of development. This was also the result of the closing down of central support systems, for ideological and financial reasons, especially those for curriculum development and in-service teacher training in vocational education. The building up of new support structures to replace the former ones has been slow (5).

There is a dramatic lack of resources, financial, human and conceptual, to rebuild the vocational education and training (VET) system. Instead, a specific constellation of aid and cooperation is in place. The donor community now greatly influences whether skills development is taken up as a policy priority, what focus any policies take and how they are being developed and implemented. The combination of individual memories, institutional legacies and donor policies, in most countries, means that the key issue is seen by most national stakeholders to be the absence of funds to purchase up-to-date teaching equipment, renovate premises and pay decent salaries. In short: restore an institution that was perceived to be doing just fine.

VET reform processes, however, are continuing in all transition countries. These are donor-led and designed by international experts with foreign technical assistance dominating local implementation. Here local education and VET experts are very often employed as local experts and as a consequence there is a quite strong familiarity with EU policy frameworks (in fact often higher than in EU Member States) as well as individual, national West European examples

of good practice. But these development activities are externally defined, technocratic (done with a purpose other than understanding and recognition), and normally carried out as short-time activities under sharp deadlines. While these activities may provide a living for local academics, they do not lead to the building up of professional research capacities. Education science, including VET, is theory as well as practice, and develops both knowledge about practice and theoretical knowledge. As practice, cf. teaching, learning and guidance, it belongs to the education system, and as theory it belongs to the scientific system. Expressed in German language this difference appears clearly: education as *Erziehung* (practice) and as *Erziehungswissenschaft* (theory).

A serious challenge for countries in transition is the fact that their own donor-led VET reforms take place in a period of radical change of European and global VET policy frameworks. How can countries cope with this and how do they avoid jumping into automatic policy taking and copying under the pressures from many interwoven discourses and EU processes of VET policy today?

Even though there are divergences and convergences in the development of VET policies in Europe, there are identifiable common discourses running together in all countries. In almost all countries it is possible to identify three levels of policy formation and discourse:

- (a) globalisation as a discourse frame for VET policies in Europe;
- (b) EU VET policies with a focus on the Lisbon objectives, the Copenhagen process, the Bologna process (for higher education, including higher VET), and the introduction of the open method of coordination in EU policies;
- (c) national VET policies and reforms.

These challenges face most ETF partner

(5) In the ETF Yearbook 2004 and 2005 (Grootings, 2004; Grootings and Nielsen, 2005) we have analysed wider aspects of the impoverishment of vocational education and training, such as the need to distinguish between modernisation needs and systemic reform needs. We have also indicated the neglected position of teachers and trainers and the need to think in terms of a double role for them (being both education professionals and stakeholders in education reform) to bring the reform of vocational education and training forward.

countries, in particular countries with EU candidate status but also those countries which have been given an EU membership perspective (the Western Balkans). For all these countries a sharper focus must be placed on how and through which mechanisms these policy discourses can possibly be transformed into practice within the national VET system.

Each country has to find national solutions in a European – and global – context and this is a formidable task for transition countries. European cooperation can support and inspire countries, with good possibilities for shared learning, but the real efforts and the hard work will have to be made at home through own national priority setting and policy decisions. Policy-makers and practitioners at all levels, therefore, have to develop the capacity to become policy learners and

policy interpreters, as there is a variety of models, measures and practices capable of achieving the same goal. There is in all transition countries a huge need to develop institutional capacities to translate goals into nationally preferred practices and to manage the internal processes involved. There are a number of critical elements of the policy-making chain which must be identified and overcome and the task is increasingly seen as one of devising new approaches to help countries ‘shape’ own policies and to overcome barriers to implementation. Reforms are major social learning processes, and the challenge still remains how to organise such policy learning activities in the coming years. There is an urgent need to come to grips with and conceptualise what the new learning paradigm might contribute to when applied to education reforms in partner countries.

2. Active learning

Engaging students in successful learning has always been a key problem for educationalists since the development of formal education systems that provided obligatory standardised school-based education programmes.

Policy debates have been coloured by the dominant understanding of why, what, where and how people learn and how people can be motivated to learn at all. The traditional behaviourist and cognitive approaches on which much of the standardised (formal and non-formal) education has been based have assumed that learning is basically a steady accumulation of discrete entities of knowledge and skills that can be presented to learners as if filling empty vessels⁽⁶⁾. Hager (2004, p. 411) has highlighted five further assumptions that follow from this understanding of learning: there is one best way of learning; learning is essentially an individual activity; learning which is non-transparent is inferior or, in other words, tacit knowledge does not really exist; learning centres on the stable and enduring (facts and proven evidence); and learning is replicable.

In contrast, by seeing learning as a continuous and highly selective process of exchange between individuals and their environment, constructivist approaches argue that people give their own meaning to information. They do so based on what they already know and framed by how they have become accustomed to seeing the world around them. They select and retain what is relevant for them. In doing so they construct their own understanding of reality as a basis to intervene and act. Different people, therefore, may give different interpretations to the same thing, may retain different aspects and may act differently on the basis of the same information.

Constructivists also argue that there are

many ways by which people can learn without someone else passing on pieces of expert knowledge (Verloop and Lowyck, 2003): that learning is foremost a social activity (Lave and Wenger, 1991; Wenger, 1998); that there is a lot of tacit learning taking place which is not easy to categorise and demonstrate but which is there when needed (Schön, 1983); that learning is dynamic and very much context-bound; and that good learning, therefore, depends on meaningful learning environments (Kolb, 1984; Simons et al., 2000). In combination, these insights are now known as new learning or active learning. While there are currently many attempts to introduce active learning techniques in traditional education settings, a more holistic active learning approach has developed into something like a new paradigm. Several countries are now reforming parts of their public education systems based on the principles of active learning.

Obviously, much of what is now receiving attention as new learning has been around already since decennia in the writings of school innovators such as Dewey, Montessori, Froebel, Steiner, Freinet and others, and has been practised in schools that are based on their pedagogical approaches. Until recently, attempts that combined different learning outcomes and alternative ways of learning have remained marginal to mainstream education and training. Most public education became characterised by the single model of expert teachers and trainers passing on bit-by-bit their knowledge and skills to pupils and students who knew nothing or at least not enough.

The emergence of an increased interest in the new learning paradigm during the 1990s is the combined result of fundamental changes in the labour market⁽⁷⁾ and new insights and research

⁽⁶⁾ For a critical presentation of these various learning theories see Driscoll (2000).

⁽⁷⁾ OECD (1996). Moreover, declining public budgets have also contributed to attempts to make education more efficient and effective and neo-liberal policy agendas on the left and the right have placed the responsible and autonomous citizen back on stage again. Changes in organisation of work within companies also build on responsible workers able to foresee and prevent rather than to react *ex post* or too late. The overall economic and political climate of the 1990s was very receptive for active learning insights. Active learning is more than a scientific approach to learning.

results from a whole range of disciplines dealing with the question of how people learn and retain new information (8). The new learning approaches give a more active role to learners in managing and shaping their own learning processes based on the understanding that good learning cannot be achieved when learners remain passive receivers of information and instructions.

The active learning paradigm stresses the need for new criteria for – and new kinds of – learning outcomes. For reasons of employability in a world characterised by fast-changing job requirements and growing insecurity, learning outcomes should not just be more relevant at a given moment but they should be durable, flexible, meaningful, generalisable and application-oriented (Simons et al., 2000, p. 1-2).

New kinds of learning outcomes have become important as well. These include the ability to learn, think, collaborate and regulate. People should be able to adapt quickly to changing situations, be able to cope well with continuing uncertainty, and know where and how to find the information that they need to deal with the challenges of their work and life situation (9).

The need to cope with new (social or key) competences has been a major drive behind curriculum and education reform in many countries since the early 1990s. But while these reforms initially concentrated on ‘new’ contents as additions to existing curricula and standard approaches, it is now increasingly understood that traditional ways of organising learning are unable to deal with these new learning insights and requirements (10). The key issues in education discussions currently, therefore, are not so much about the ‘what’ but about the ‘how’ questions: how can new learning outcomes be achieved?

In education sciences, attention for ‘new’ learning outcomes follows from a better understanding about how experience and information is represented in memory and about the kind of learning activities that learners apply. Three different ways of representation are normally

distinguished: episodic representations are based on personal, situated and affective experiences; conceptual or semantic representations refer to concepts and principles and their definitions; and action representations refer to what can be done with episodic and semantic information. People differ in terms of their preferred modes of representations. Because conceptual and semantic forms of representation have traditionally been regarded of a higher (intellectual) order, theoretical knowledge has been seen as more important than practical knowledge and learning, with the head as superior to learning with the hands.

The traditional curriculum, therefore, consisted of (unrelated) theoretical subjects plus – in vocational streams – practice periods to apply such theoretical knowledge. For modern educationalists, however, good learning outcomes mean rich and complex memory representations whereby there are strong interrelated connections between the different ways of representation. They also argue that these connections can start from any of the three different modes of representation (Simons et al., 2000, p. 3; Driscoll, 2000, Chapter 8; Pieters and Verschaffel, 2003).

For education professionals, the key question is how they can promote new learning outcomes through organising appropriate learning processes and developing instructional strategies. The new learning theories argue that learners are more successful in acquiring, digesting, applying and retrieving new knowledge, skills and attitudes when they have been actively engaged in these processes. Active involvement, cooperation with other learners and realistic contexts also help to increase the motivation to learn which in turn makes it easier for people to take responsibility for their learning into their own hands. In combining all this, active learning provides strong learning environments and produces good learning outcomes. The search is now to develop operational approaches to make active learning principles work in practice (11).

Active learning also implies considerable

(8) These include, besides psychology and education science (Driscoll, 2000) also brain research (OECD, 2002b).

(9) These are also called social or key competences.

(10) In many Anglo-Saxon countries education reform has in fact taken the form of establishing an assessment system that could measure learning outcomes assuming that these could be the result of very different learning processes and arguing subsequently that the nature of these learning processes therefore would not be relevant at all. The black box approach to learning has been a typical characteristic of economist approaches of education and training.

(11) See the various contributions in Simons et al. (2001) for an account of experiences from different domains.

changes in the roles that teachers and students play in education. With the growing attention towards active learning, there is a shift of responsibility from the teacher to the learner. The teacher becomes more an organiser and facilitator of learning processes than the transmitter of expert knowledge or skills; the learner is asked to participate in identifying learning needs and in managing the process of acquiring new knowledge. Teachers have to be able to identify what learners already know and how they learn best and then to guide them to find the information that can increase their knowledge further. In terms of structure of the education system, active learning insights give strong arguments for creating open and flexible pathways in education, providing a rich variety of learning environments, and recognising prior and

informal learning outcomes (Kok, 2003; Simons et al., 2000; Driscoll, 2000; Verloop and Lowyck, 2003; Grootings and Nielsen, 2005; OECD, 2005).

This new understanding of learning has considerable implications for the organisation of formal education (structures and contents), for informal and non-formal learning (recognition and validation) and the role of policy-makers, teachers, students and other stakeholders in education. The active learning paradigm is of relevance for any learning situation where people seek to acquire new knowledge and understanding to be able to act competently in a changing context. In the following section we will explore what active learning means for policy-makers in transition countries when faced with reforming their education and training systems.

3. Education reforms in transition countries as learning processes

Transition countries are very diverse and different but have in common that they are undergoing a fundamental change of their main societal institutions, including the system of education. They are seeking to change from centralised authoritarian societies with some form of state planned economy towards more democratic societies with a market based economy. For that reason they can be called transition countries. However, contrary to the way the term transition has been used so often, nobody really knows *a priori* where the transition will lead. There are, perhaps, general characteristics of democratic market-based economies but there are no blueprints that countries can simply apply.

What will come out of the reform process in each transition country will largely depend on how local policy-makers and other stakeholders will manage to use the resources that their countries have built up in the past, including the inherited physical and human infrastructures of their education systems (Grootings, 2004). Transition countries differ from developing countries in the sense that they used to have well-established and – at the time – effective and successful education systems. These have become impoverished as a result of continued underfunding and have increasingly lost relevance for a new labour-market context: the issue is, therefore, reforming and transforming obsolete systems rather than building new ones from scratch.

The reforms in transition countries are systemic as they imply changes that are both system-wide and system-deep. Reforms are system-wide, in the sense that they require changes in all aspects of the institutional arrangements of the countries. For education and training this means that all the building blocks of the education system need to be reviewed and revised: from delivery, provision, assessment, funding, quality assurance, administration and governance up to research and development. But changes are also system-deep since they require the development of new relationships between education and training

and other changing institutions in society. In transition countries these are the relationships between schools, the labour market and private enterprises. This asks for fundamentally new definitions of the roles of the main stakeholders in education and training as well as for changes of established working routines in education and training organisations.

These are complicated processes as all these other institutions undergo systemic changes as well. Vocational schools, for example, have now to educate and train for open and uncertain labour markets and no longer for agreed numbers and jobs in hosting companies that were basically interested in hoarding labour. However, in most countries labour markets are still under development and private sectors only gradually emerging. Teachers who have always been told how many students they would have and what they should teach them are suddenly in a situation where there is nobody to tell them. Developing new roles and relationships is for individuals essentially a process of learning new knowledge, skills and attitudes to become competent in a changing context. Reforming a national education system is a collective learning process of stakeholders (Grootings, 1993).

A major challenge for transition countries facing systemic reforms of their VET systems is to build up and strengthen their own capacities to formulate reform policies, not just capacities to implement imposed or borrowed policies. Reforms of VET in transition countries (and indeed any kind of major reform in any country) will only be successful and sustainable if policy development, formulation and implementation are firmly based on broad ownership and fit within existing institutions. The concept of policy learning reflects this understanding. Policy learning emphasises not just involvement but active engagement of national stakeholders in developing their own policy solutions. It is based on the understanding that there are no universally valid models that can simply be transferred or copied from one context into another. At most there

is a wealth of international but context-specific experience in dealing with similar policy issues that can be shared (12).

The discussions about new learning are relevant for education and training reforms in transition countries. They provide key criteria for successful reform and reform assistance. Education reform can only be sustainable if reform policies are owned by local stakeholders and are embedded in the context of the country. Education reform

is really about stakeholders being motivated to learning new ways of how to organise education and training systems: system wide and system deep. Learning is about developing new roles for all stakeholders at all levels in all the building blocks of the system. The challenge for donors and aid agencies, therefore, is not to sell prefabricated ‘what’ solutions but to find the appropriate answer to the question ‘how to help people help themselves?’ (Ellerman, 2004; 2005) (13).

(12) See Grootings (2004) for a longer discussion about ETF vision and its role in fostering and supporting policy learning among its partners.

(13) Ellerman (2005) has summarised this challenge into three ‘dos’ (start from present institutions; see the world through the eyes of the client; respect autonomy of the doers) and two ‘don’ts’ (don’t override self-help capacity with social engineering and don’t undercut self-help capacity with benevolent aid).

4. Policy reform is policy learning

Applying active learning insights to a review of VET reform experiences in transition countries further supports the need to think in terms of policy learning (¹⁴).

VET reforms in transition countries have often heavily depended on the presence and contribution of international donors. There is a mix of positive and less positive experiences. Especially in initial phases of transition, but sometimes also long after, donors have played a key role in developing awareness of the need for VET reforms, influencing the reform policy agenda and providing resources for strategy development and implementation. Often, however, donors or their experts in the field have shown little knowledge of specific national transition contexts and no understanding of the knowledge, experience, views and expectations of people involved in education and training. Very often, they have entered the partner countries with standardised one-fits-all packages of assistance. Capacity building was usually focused on developing appropriate capacities to implement what donors thought would be necessary.

In turn, many national policy-makers, certainly in initial stages of transition but sometimes also long after, were more interested in receiving funding than in policy-making. They were convinced that the key problem was the impoverished state of their education infrastructures. Moreover, they have often been unable to assess the fitness of donors' proposals for best practice for the institutional context of their own VET systems.

This combination of donor and recipient expectations and behaviour has created problems of sustainability for many donor-supported reform initiatives. With the departure of the donor the reform usually came to a halt. With the limited resources that donors can make available, practically no system-wide changes had been started anyway. Much of the earlier assistance to VET reform in the partner countries was guided by principles of policy copying and policy taking.

The guiding principle on the donor side seems to have been: we know your future and your past is irrelevant. Because international assistance has underestimated the relevance of institutional context, policy copying and policy taking has not contributed to system-deep VET reforms either. Stakeholders and policy-makers in transition countries have not been able to learn much about their new roles in a changing VET system although they may sometimes have become experts on the systems of other countries.

We may not know the details of future VET systems in partner countries but some of the basic characteristics that modern VET systems should develop have become increasingly clear from international experience: they should be decentralised, responsive to labour-markets and learner needs, transparent, well resourced, provide flexible and open pathways for young and adults, and have a capacity to innovate and adapt to changing conditions. All modern VET systems around the world are trying to become like that. But there is no best practice of how to organise such systems, neither in developed market economies nor in transition countries. There are many good – and perhaps also a couple of bad – context-bound practice examples. Moreover, good practice examples refer not only to what countries wanted to achieve in their reforms but also to how they have tried to change their systems. How is it possible to make good use of such knowledge and experience of policy objectives and strategies if policy copying and policy taking do not work?

The following example may further illustrate the challenges. The policy learning approach requires greater focus on how to organise policy learning platforms and environments in the countries so that a critical mass of key actors and stakeholders gradually develop VET reform policy understanding and competence. So far, since policy-transfer and policy-copying approaches have been dominant in the reform debates in most countries, the concept

(¹⁴) What follows is a summary of more detailed reviews in Grootings (2004).

of stakeholders has been very much influenced by the model and by ideology that was taken to be transferred or copied. A key issue in VET reform is the involvement of employers, private industry, or – in EU language – social partners. The view is that in a market-based economy governments cannot continue to be the sole responsible authorities for VET. The essence of systemic reform – adaptation of VET to free education choice, private enterprise and labour markets – requires involvement of enterprises where graduates will have to find employment.

The reality of the reform process in many transition countries, however, has created a whole series of interesting contradictions. Whereas private sector or social partner involvement was presented as a condition *sine qua non* for any market-based VET system, in practice governments have faced a huge problem of disinterest on the part of the private sector (employers and unions alike). There are many reasons for this situation, one of which is the lack of representative organisation at national level. Another is the absence of any professional capacity among social partners to deal with VET matters in a reform context. The result was, and often still is, that enlightened governments have to include the interests of the private sector in their own policy thinking; reform policy remains dependent on a few political reform champions, also because of the absence of a professional civil servant community inside, or of an education support infrastructure outside, the ministry apparatus.

Public education authorities in transition countries, therefore, remain the driving force behind VET reform, certainly at national level. The involvement of stakeholders representing industry is not something that can be built on from the start; it has to be developed as part of the reform process itself. Interestingly, if trade unions have been involved at all in national education reform policy debates these have often been teachers unions. Understandingly – given the state of public budgets and mounting pressures to decrease public spending on education in many transition countries – these have been more concerned with defending the social and material status

of their membership than engaging in contents of education reform. As a result, teachers, also through their unions' behaviour, have become regarded generally as major obstacles for reform. This, in turn, may sometimes even have led to the development of policies that sought to break the power of the teacher and trainer community instead of engaging them more positively (¹⁵).

More recently, however, there is an increasing awareness that teachers and trainers should be included among the critical mass of stakeholders for reform. This is mostly the result of a better understanding of why so many education reforms all over the world have gone wrong in the past. Exclusion of teachers as stakeholders from the reform process has frequently led to national reform policies failing to trigger any changes at all inside education institutions and classrooms. Teachers and trainers have now become recognised as crucial agents making reforms work in their professional capacity as organisers of learning.

It has also been understood that involving teachers is not just a matter of informing them so they know what is expected from them. Nor is this only a matter of training so that they know how the new policies have to be implemented. As professionals, teachers principally know best what will work in the specific context of their own school and classroom environment, including responding to the particular learning needs of the student population that they have to cater for. Their expertise, therefore, is an important source for translating general policy initiatives into very divergent real life contexts. A better understanding of why many education reforms have not worked, therefore, not only has implications for implementing reform policies but impacts on the very process of policy development and formulation.

This, in turn, reflects the fact that the current reforms in VET are very complex development processes that hardly compare to traditional reform conceptions with their clear stages of preparation, formulation, implementation and evaluation. This is especially true for reforms in transition countries that seek to combine systemic reforms with structural changes and modernisation of contents and approaches. Such reforms are

(¹⁵) Such as through moving from so called input control (based among others on teacher qualifications) towards output control mechanisms based on occupational and education standards with neglect of the education and learning processes that would lead to achieving the standards. In such cases, the assessment of standard attainment has frequently replaced education and training as such.

not one-off social engineering events designed by external experts but continuing change processes set within a broadly agreed reform agenda.

The reform agenda can be quite radical but requires further operational detailing, based on local innovation processes. It is because of this that teachers who are actively engaged in local innovation and experimentation are an important source of expertise for national policy-makers and that reform strategies have to build on engaging teachers and trainers working inside their school

organisations. Such an understanding of reform puts policy learning, capacity building and policy advice at both national and school-levels in a new perspective and at the same time with considerable more urgency than before (¹⁶). Traditional top-down or bottom-up strategies have become too simplistic and are insufficient to make reforms work. Policy learning as a process requires continuous interaction and dialogue between national and local partners, vertically, as well as among the various local initiatives horizontally.

(¹⁶) Experience from some countries such as the Netherlands also indicates the need to have additional coordinating and support institutions at the sector, regional or school-type level. Such is the role that associations of secondary and higher vocational schools and sector-based expertise centres are playing. Specialised local, regional and national research and development institutions in turn support these. In other words, reform, innovation or development infrastructures require more than national stakeholders and teachers in schools.

5. Facilitating policy learning in practice

A policy-learning approach may be the appropriate response to some of the key challenges of VET reform in transition countries. Policy-makers and other key stakeholders should be enabled to learn to develop their own policies but, in practice, there are considerable obstacles for facilitating policy learning. These stem from the many tensions between ‘what’ and ‘how’ in the relationship between experts and novices. Several of these obstacles are known from the search for operational approaches to make active learning work in classical education settings (¹⁷). However, others are particular to reform policy development.

Understanding context-boundness or institutional fit is not easy and it is a challenge that both local policy-makers and international advisers share. While donors usually do not have a good understanding of local context (often they even do not speak the language), it can also not simply be assumed that local policy-makers understand the characteristics of their own VET system. It is difficult to question what has always been the norm.

Moreover, international consultants do not always understand that the advice they provide is perhaps firmly rooted in the institutional context that they come from and they are often not well informed about policies and systems from other countries. How can local policy-makers assess the fitness of what is sold to them as the latest international trend? How can international advisers properly assess prior knowledge and contextualisation of new knowledge? Policy-makers are also under stress to come up quickly with solutions. Their political mandate does not leave them much time. Advisers are bound by the financial and time resources that the donors have reserved for their projects. Also the ownership issue raises some problems especially when this is restricted to a few cooperative national policy-makers and – simply because of the design of the donor project – leaves out the vast majority of

teachers and trainers in schools (Grootings and Nielsen, 2005). How can international advisers facilitate learning under such conditions?

The basic assumption underlying the concept of policy learning is not so much that policies can be learned but that actual policies are learned policies. Learning is not simply the transfer of expert knowledge or behaviour from one person to another but rather the acquisition of understanding and competence through participation in learning processes. However, policy-makers are not only policy learners. They also have to act, and acting on the political scene, especially in environments that are undergoing radical change as in transition countries, does not always leave a lot of space and time for careful and gradual learning. They have to engage in daily political decision-making and, depending on their position in the system, active engagement in political power struggles may often take priority (¹⁸).

At the same time, policy-makers engaged in systemic reforms are in need of new knowledge which very often contradicts with established knowledge and routines. For policy-makers therefore, because they are under pressure to act, learning is more than merely a cognitive process: learning is practice. Their learning is situated learning as it is an integral and inseparable aspect of their social practice. Lave and Wenger (1991) argue that all learning is situated learning and more particularly ‘legitimate peripheral participation in communities of practice’. Novice learners learn best when they are engaged in a community of more expert learners; during the learning process they become more competent themselves and move from the margin to the centre.

Policy-makers in transition countries can be regarded as highly motivated novice learners and policy learning can be facilitated by letting them participate in relevant communities of practice (Wenger, 1998). Such communities of practice

(¹⁷) The key issue remains how a learning situation can be established where the expert acts as a learning process facilitator and the novice can be stimulated to actively engage in learning.

(¹⁸) The issue of active learning in a lateral and vertical power context needs further research.

could be created by bringing together policy-makers from different countries that have gone through or are undergoing reforms of their education systems. International and local policy analysts, researchers, advisers and other practitioners could be part of such communities as well.

Policy-makers in transition countries may be seen as novices in terms of knowledge and expertise in the development of modern education systems in market economies but they are also experts as far as their own country context is concerned. Similarly, international policy advisers may perhaps be the experts with respect to education policy-making in developed

economies but they are often novices in terms of knowledge about the particular context of the partner country. Neither local stakeholders nor international advisers really know what fits with regard to modern education policy in a partner country's context.

The community of practice concept, therefore, needs to be further developed to take full account of these differences in learning experience and high levels of uncertainty. Since old and new knowledge relate to different contexts there are different peripheries and centres; even those who are closer to the centre remain learners themselves.

6. Policy learning through knowledge sharing

Reforming education and training systems in transition countries implies combining old and new knowledge in changing contexts for both local stakeholders and international advisers. Policy learning is not just about learning the policies that other countries have developed but rather about learning which policies can be developed locally by reflecting on the relevance of other countries' policies for the situation at home. Policy learning in this sense can only happen when information and knowledge is available and shared. The principal role of donors would be to enable a reform policy learning process by providing access to such information and experience and by facilitating a critical reflection on their relevance. However, donors and their staff cannot do their learning facilitation role well if they don't recognise that they themselves are also learners in the same policy learning process.

VET reform policy development seen as VET policy learning would have to use knowledge-sharing to enable decision-makers from partner countries to learn from – and not simply about – VET reform experiences from elsewhere, for input the formulation and the implementation of their own reform objectives. Knowledge-sharing would also enable donors and international advisers to better understand the institutional context and history of the partner country. For them, in

becoming familiar with local knowledge it will also be easier to appreciate and value the expertise that partners bring to the reform process.

International donors and their policy advisers would have to take a role similar to the one a modern teacher is supposed to play: not that of the expert who knows it all and simply passes on existing knowledge but the one that recognises problems, does not know the solutions yet, organises and guides knowledge sharing and in so doing develops new knowledge for all involved in the learning process. Policy learning, therefore, can only happen in partnership.

In policy learning partnerships, the timing and sequencing of knowledge sharing is of major importance if donor assistance is to have a real impact on local ownership and contextual fit, and if it is to create the necessary motivation, commitment and capacities to sustain reforms. This would require specific competences from policy advisers as they have to be able to judge where they and their partners are, in moving from the periphery to the centre of the community of practice. It would also require a rethinking of classical development instruments such as workshops, study visits, technical assistance, pilot projects and so on with a view to developing strong learning environments for policy learning to happen.

7. Peer learning and the open method of coordination (¹⁹)

What we are talking about here is also of high relevance for EU Member States. The underlying key questions that the section seeks to discuss are: how do policy-makers learn new policy and how can they be supported in doing so? These are key questions for any institution that claims to facilitate policy learning. But facilitating policy learning in practice is different from saying that it needs to be done. Also in EU policy formulation the concept of social learning processes is increasingly seen as a key instrument for channelling new policy awareness into national policy-making contexts.

7.1. Traditional peer reviews: focus on outcomes

Peer reviews of national policies have become popular among international organisations. The OECD, for example, has used this instrument widely in many policy domains. Both Member and non-Member States have increasingly become interested in having their policies reviewed by an OECD team, even if the review outcomes are on occasions very critical and not always easy to follow up.

For the OECD a peer review is a 'systematic examination and assessment of the performance of a State by other States, with the ultimate goal of helping the reviewed State improve its policy making, adopt best practices, and comply with established standards and principles' (OECD, 2002a). Besides its reviews of national policies, the

OECD has more recently also initiated thematic reviews. These seek to emulate good, coherent and non sector-specific policy from the experience of several countries (²⁰). OECD policy and thematic reviews have become a normal element of the international policy process in which governments have come under increasing pressure to do at least as good as governments of other countries. OECD members engage in reviews on a purely voluntary basis.

EU Member States even go one step further by agreeing to pursue common policy objectives at European and national levels. The EU has recently introduced peer reviews as an instrument in its open method of coordination, which aims at achieving greater convergence towards commonly agreed EU and Member State objectives (²¹). The European Commission seeks to promote policy coordination, establishment of common benchmarks and guidelines, periodic monitoring, evaluation and peer review, and the sharing of good examples of practice.

The open method of coordination itself is an approach to international policy based on the understanding that countries have developed different institutional solutions for similar policy domains. These can neither be easily standardised nor be transferred from one national context to another but provide rich learning sources for other countries that are seeking changes in policies (²²).

The directorate general for employment and social affairs of the European Commission, for

(¹⁹) This section builds on Grootings et al. (2006).

(²⁰) The OECD has organised several national education policy reviews in ETF partner countries and in many of these ETF staff have also actively contributed to the review teams, including those in south eastern Europe, the Baltic countries, and the Russian Federation. ETF staff have also participated in several Thematic OECD reviews, such as on transition from school to work, financing of lifelong learning, adult learning, and guidance and counselling.

(²¹) The instrument of peer reviews was introduced in 2002 by DG Employment of the European Commission, in the framework of the community action programme on social inclusion, with the aim of monitoring national action plans on social inclusion. See: http://ec.europa.eu/employment_social/social_inclusion/index_en.htm.

(²²) Although this is now generally accepted it has taken decades of international comparative research to do away with convergence and one-best-way thinking.

example, defines the peer review as 'a voluntary mutual learning process involving the scrutiny of specific policies, programmes or institutional arrangements presented as good practice' (23). Its aim is to encourage the dissemination of good practice across Member States by assessing the effectiveness of key policies or institutions. It can serve as a useful tool for Member States to help them in the design and implementation of more effective policies. It should also contribute to the dialogue with stakeholders such as social partners and NGOs and where appropriate, people experiencing poverty and social exclusion.

As a follow-up of the EU ministerial conference on *A Europe of skills: let's do the job!* in Maastricht in December 2004, the European Commission has strengthened support to the implementation of the Lisbon objectives at national level through the introduction of peer learning (24). The Commission defines this as 'a process of cooperation at European level, whereby reform agents from one country learn, through direct contact and practical cooperation, from the experiences of their counterparts elsewhere in Europe in implementing reforms of shared interests and concern'. It aims at mutual learning and contributing to the European area of education and training (25).

There is an interesting development in the shift from peer reviews to peer learning and the assumptions underlying these two approaches need to be spelled out to appreciate fully the implications of this change in wording.

Peer reviews have always tended to be undertaken as a kind of external quality assessment by peers in order to come up with recommendations for improvement; hence, the reference to best practice, international standards and benchmarks. Peers needed to be respected and of a certain reputation, at least 'of equal standing', not just in

order to be able to assess against best practice and international standards but also for their recommendations to be taken seriously by those under review. In other words, they needed to be recognised experts, knowledgeable of best practices and international standards, from which those reviewed can be expected to learn.

The problem with many peer reviews has always been that, even if the peer reviewers were recognised experts, this did not always guarantee that they were able properly to assess the situation under review, often because there was insufficient understanding of the specific context. This has been a particular issue in international policy reviews. Policy recommendations are often met with resistance, especially when they include advice on how to achieve certain objectives. Sometimes, recommendations are accepted but not followed up. In other cases the recommendations are so general that it is difficult for policy-makers to conclude what needs to be done. The fact that there is a considerable amount of contextual learning to be done by the members of the peer review team themselves has only gradually become acknowledged (26).

Much of the standard practice of international aid is based on the assumption that foreign experts are able to review and solve an aid-receiving country's needs. Today project identification and formulation is still done by foreign experts, despite the fact that stakeholder consultations have now become part of these processes. The experts engaged in these kinds of reviews represent donor organisations, either as members of their staff or under contract for the particular exercise. Although they are rarely considered as peers, they undertake a peer review. Much of donor aid project implementation is also done by foreign experts and is still often characterised by policy transfer,

(23) European Commission, community action programme to combat social exclusion 2002-06.

(24) The Maastricht conference discussed the progress made in VET by the EU and its Member States in achieving the Lisbon goal of becoming the most dynamic knowledge-based economy in the world in 2010.

(25) In 2005, peer learning activities have been organised in four clusters: adult participation in lifelong learning; teachers and trainers; making best use of resources; and ICT. After the nomination of peers by the Member States a preparatory meeting is organised, to be followed by two study visits and a final conference. The European area of education and training was launched as an objective by the European Commission in its memorandum on *Making a European area for lifelong learning a reality* (European Commission, 2001). It aims at empowering European citizens to move freely between learning settings, jobs, regions and countries.

(26) Usually, to prepare a review team, a country is asked to provide a country background report in which it also formulates the specific questions that the review team should provide answers for.

often even of policies dating from days long gone by or originating from very specific national policy environments that have only little relevance for the policy context of the aid receiving country (27).

7.2. Modern peer learning: focus on process

Peer learning, in contrast, is based on quite different assumptions. Those involved in a peer learning exercise are not necessarily in opposing roles of experts and learners; they are seen in a double role of learners and experts simultaneously. The peer learning event is also not meant as an assessment exercise but rather as providing a stimulating learning environment. Peers learn as peers. The expected outcome is not a set of policy recommendations for the country visited but eye-openers and well-thought through ideas for policies at home.

Whereas peer reviews are based on a traditional learning approach of expert knowledge transfer, peer learning – almost by definition – is based on modern constructivist learning principles, where learners actively develop new knowledge by giving sense to what they observe and share with others. However, although peer learning is closer to what we now know about how people learn, the approach is also not without problems. It places high demands on learners and learning environments and requires much from those acting as learning facilitators (28).

Peer learning is a voluntary process that requires engagement and the ability to learn. This assumes a certain level of ‘readiness’ and ‘informedness’ in order to be able to relate the newly observed to what is already known. In organising peer learning the gap between what is known and what is observed cannot be (too) large. Such is, however, often the case in policy learning for systemic change (29). Peer learners’ current knowledge and thinking is firmly rooted in a context which is often radically

different from the one under review. In such a situation it is very difficult to make good sense of what is being observed. It is almost impossible to recognise what is different.

Facilitators of peer learning, therefore, need to be able properly to assess the distance between ‘old’ and ‘new’ policy knowledge of participants in peer learning activities: they need to be able to know about and think in terms of both worlds. They also need to be able to design a learning strategy to bridge this gap, possibly in cooperation with the peer learners themselves. Peer learning, therefore, is more than what can be achieved with a single study visit or a one-off workshop. Peer learning is a process that develops over time and of which the outcome cannot be defined at the start. It also gives high priority to capacity building.

Policy learning is sharing experience from the past to develop knowledge for the future. It is also about sharing knowledge from abroad and knowledge that is locally produced and, therefore, about developing new knowledge as well. It contributes not only to creating more coherent system-wide reforms that fit but also facilitates system-deep reforms of VET systems as it enables all stakeholders to learn new roles and develop new working routines. It will be a challenging task to develop concrete approaches that can make policy learning, based on principles of active learning theory, work in practice.

Moreover, even if policy learning takes place, this will not guarantee that new learning will lead to new policies and political action. Policy learning by policy-makers is a necessary part of the policy process but by far not sufficient on its own to produce policy changes. Other, collective and institutional factors are also at stake. Policy change remains a political process.

However, there will not be any policy change, unless that those who are in a position to take policy decisions themselves are convinced that a particular policy issue is important and are broadly familiar with policy measures that can be taken to address them

(27) This has been a recurrent theme over the past decennia in the discussions about education aid. See for example King (1993) and the various publications of the network for policy research review and advice on education and training (NORRAG, available from Internet: <http://www.norrag.org>). For a wider discussion of these issues see also Grootings (2004).

(28) For a discussion of these issues see Grootings and Nielsen (2005).

(29) For the concept of systemic change see Grootings (2004).

8. Indications of the type of further research needed to facilitate policy learning

The specific form of further research should, in accordance with the argument in this section of making use of active learning methods as a methodology for reform of education systems in transition countries, reflect the new paradigm of socially organised learning processes. The setting up of research projects run by external education/VET scientists will not, in itself, be of sufficient help in the dynamic processes of transition if based on linear thinking about theory and practice. Indeed, the links between scientific research, development work and practice have been called into question in recent years. During the last decade the OECD has made critical assessments of education research (OECD, 1995, 2003, 2004) pointing out that it is too fragmented, and politicised, and its relevance for practice and policy-making is very modest. In an evaluation of financing and usefulness of English education research, Hillage et al., (1998) highlight that the connection between research, policy and practice is too weak, that research is too much governed by those who carry it out, that research normally concentrates on the consequences of political and policy decisions instead of looking into the education challenges for policy, that there is much too much small-scale research which cannot be generalised, and that policy-makers as well as practitioners are not able to make use of the actual research results at hand.

Science and practice are often not talking about the same and have different codes. The scientific system constitutes itself based on the form of communication which has the task of producing new knowledge or new recognition, its purpose is truth and related to this the code is true/false. At least this is true for positivist research/epistemology, albeit action-research and constructivist epistemology takes another approach, closer to policy learning in communities of practice (Cedefop, Descy and Tessaring, 2005, p. 28-33). The education system has the task of qualifying lifelong learners so that they master important and valuable knowledge and skills as

defined by society; the code here is conveyable/non-conveyable or, in practical terms, does it work? Education research often finds it difficult, if it is to be science, to be research for education practice; it can only be research on education practice. Practitioners communicate mostly about practice, while education theory communicates mostly about theory and, therefore, scientists and practitioners are not very good at cross-communicating.

In recent years attempts have been made to overcome the contradictory challenges for education science, namely to conform to appropriate scientific standards (function) and, at the same time, to be capable of delivering concrete interpretations and guidelines for action (delivery) of use for the practitioner. In *Re-thinking science: knowledge and the public in an age of uncertainty* (Nowotny et al., 2001) a distinction is made between mode-1 research corresponding to traditional scientific knowledge production and mode-2 research which is a new way of producing knowledge. It is argued that the mode-2 concept is expanding because of the increasing need for interaction between science and other societal sectors such as economy, politics, education, etc. Mode-2 research is characterised by being oriented towards problem-solving in specific practice contexts. It is oriented towards application of knowledge and more focused on producing solutions than producing new knowledge; its approaches emphasise the importance of involving both researchers and practitioners in the research process. The authors argue that mode-2 research is contextualised in a new public arena which they call agora. Research has moved from being at the centre to the agora – a place where market and politics meet and are mixed, and where private emotions and opinion meet public opinion and political consensus. Such contexts, which the authors call ‘transaction spaces’, have many similarities to education research, and the concept has also found considerable resonance in education (³⁰). Also for the ETF this ‘school’ is very interesting, as the main focus of the Foundation

⁽³⁰⁾ Learning Lab Denmark is inspired by the mode-2 concept and its annual conference is called Agora.

is not to produce new knowledge *per se* but to build on, communicate and increasingly ensure that knowledge is a guide for practice.

Mode-2 research takes its point of departure in the assumption that knowledge has changed character from classical scientific knowledge to socially robust knowledge, defined as relational and process-oriented knowledge. It is argued that the former hard truth ideal of science is no longer functional because knowledge production today is distributed widely among an increasing number of knowledge environments: ‘the guardians of science (in a quasi Platonic sense) therefore must accept that one part of their job description, custody of science’s grand meta-narrative, is becoming obsolete while the other part, articulation of the countless local narratives that compromise the complex links between science and society, is increasing in significance’ (Nowotny et al., 2001, p. 191) (31).

The conclusions to be drawn from the analysis above suggest stimulating local capacity for carrying out ‘accompanying’ research closely related to policy learning activities and based on mode-2 research. We will have to accept, in principle, the open-ended nature of this research due to the complexities of transformation society contexts. Such research must be inclusive and involve practitioners active in social learning processes as researchers, both belonging to this community of mode-2 research, in the sense that they are all involved in producing ‘socially robust’ knowledge. This is defined by five criteria: it is relational and not absolute; it describes a process towards a certain stability; it is based on a distinction between knowledge and acceptance; it is produced when research is infused with and expanded by social knowledge; and it has a strong empirical dimension which must be often tested and developed due to the fact that it is open-ended (32).

(31) See also Cedefop, Descy and Tessaring, 2005, in particular Sections 3.4.3 and 3.7.

(32) Op.cit., p. 167.

List of abbreviations

ETF	European Training Foundation
EU	European Union
NGO	non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
VET	vocational education and training

Bibliography

- Cedefop; Descy, P.; Tessaring, M. *The value of learning: evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2005 (Cedefop Reference series, 61).
- Driscoll, M.P. *Psychology of learning for instruction*. Second ed. Boston: Allyn and Bacon, 2000.
- Ellerman, D. Autonomy in education and development. *Journal of International Cooperation in Education*, 2004, Vol. 7, No 1, p. 3-14.
- Ellerman, D. *Helping people help themselves. From the World Bank to an alternative philosophy of development assistance*. Ann Arbor: University of Michigan Press, 2005.
- European Commission. *Communication from the Commission: making a European area of lifelong learning a reality: 'When planning for a year, plant corn. When planning for a decade, plant trees. When planning for life, train and educate people'*. Chinese proverb: Guanzi (c. 645BC). Luxembourg: Publications Office, 2001 (COM(2001)678final).
- Green, A. et al. *Convergence and divergence in European education and training systems*. London: Institute of Education, 1999 (Bedford Way papers, 7).
- Grootings, P. VET in transition: an overview of changes in three East European countries. *European Journal of Education*, 1993, Vol. 28, No 2, p. 229-240.
- Grootings, P. (ed.). *ETF yearbook 2004: learning matters*. European Training Foundation. Luxembourg: Publications Office, 2004.
- Grootings, P.; Nielsen, S. (eds). *ETF yearbook 2005: the role of teachers in VET reforms: professionals and stakeholders*. European Training Foundation. Luxembourg: Publications Office, 2005.
- Grootings, P. et al. Peer review and peer learning: incompatible or complementary approaches to facilitate policy learning? In Grootings, P.; Nielsen, S. (eds). *ETF yearbook 2006: skills development for poverty reduction*. European Training Foundation. Luxembourg: Publications Office, 2006, p. 121-131.
- Hager, P. The competence affair, or why vocational education and training urgently needs a new understanding of learning. *Journal of Vocational Education and Training*, 2004, Vol. 56, No 3, p. 409-434.
- Hillage, J. et al. *Excellence in research on schools*. London: DfEE, 1998.
- King, K. *Aid and education in the developing world: role of donor agencies in the analysis of education*. Harlow: Longham, 1993.
- King, K. *Development and the global policy agenda. Whose knowledge? Whose policy?* Edinburgh: Centre of African Studies, 2005.
- King, K.; McGrath, S. *Knowledge for development? Comparing British, Japanese, Swedish and World Bank aid*. London: Zed Books, 2004.
- Kok, J.M. *Talenten transformeren: over het nieuwe leren en nieuwe leerarrangementen*. Eindhoven: Fontys University of Applied Sciences, 2003.
- Kolb, D.A. *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, N.J.: Prentice Hall, 1984.
- Lave, J.; Wenger, E. *Situated learning: legitimate peripheral participation*. Cambridge: University Press, 1991.
- Nowotny, H. et al. *Re-thinking science: knowledge and the public in an age of uncertainty*. Cambridge: Polity Press, 2001.
- OECD. *Educational research and development – trends, issues and challenges*. Paris: OECD, 1995.
- OECD. *Lifelong learning for all*. Paris: OECD, 1996.
- OECD. *Peer review: a tool for co-operation and change*. Paris: OECD, 2002a.
- OECD. *Understanding the brain: towards a new learning science*. Paris: OECD, 2002b.
- OECD. *New challenges for educational research*. Paris: OECD, 2003.
- OECD. *National review on educational R&D: examiners report on Denmark*. Paris: CERI, 2004.
- OECD. *Teachers matter: attracting, developing*

- and retaining effective teachers.* Paris: OECD, 2005.
- Pieters, J.M.; Verschaffel, L. Beïnvloeden van leerprocessen. In Verloop, N.; Lowyck, J. (eds). *Onderwijskunde: een kennisbasis voor professionals.* Groningen: Wolters-Noordhof, 2003, p. 251-284.
- Schön, D. *The reflective practitioner: how professionals think in action.* New York: Basic Books, 1983.
- Simons, R.J. et al. (eds). *New learning.* Dordrecht: Kluwer Academic, 2000.
- Verloop, N.; Lowyck, J. (eds). *Onderwijskunde: een kennisbasis voor professionals.* Groningen: Wolters-Noordhof, 2003.
- Wenger, E. *Communities of practice: learning, meaning and identity.* Cambridge: University Press, 1998.

List of contributors

Béduwé Catherine

LIRHE, Université des Sciences Sociales –
Toulouse
catherine.beduwe@univ-tlse1.fr

Germe Jean-François

Professeur des Universités, Ecole doctorale
Entreprise, Travail, Emploi
germe@cnam.fr

Leney Tom, Armstrong Russell

Qualifications and Curriculum Authority –
London
ArmstrongR@qca.org.uk
leneyto@qca.org.uk

Planas Jordi

Universitat Autònoma de Barcelona,
Departament de sociologia
Jordi.planas@uab.es

Poumay Marianne

Université de Liège
M.Poumay@ulg.ac.be

**Parsons David, Hughes Jacqui, Allison
Chris, Walsh Kenneth**

HOST Policy Research – Horsham
c.allinson@hostpolicyresearch.com
j.hughes@hostpolicyresearch.com
d.parsons@hostpolicyresearch.com
k.walsh@hostpolicyresearch.com

Gruber Elke

elke.gruber@kabsi.at

Mandl Irene, Oberholzner Thomas

KMU Forschung Austria – Vienna
i.mandl@kmuforschung.ac.at
t.oberholzner@kmuforschung.ac.at

Tikkanen Tarja

Iris Research – Stavanger
Tarja.Tikkanen@irisresearch.no

Dunkel Torsten

dunkel@incher.uni-kassel.de

Le Mouillour Isabelle

International Centre for higher Education
Research, Kassel, INCHER,
Federal Institute for Vocational Education and
Training – Bonn
LeMouillour@bibb.de

Teichler Ulrich

International Centre for Higher Education
Research Kassel, INCHER
University of Kassel
teichler@incher.uni-kassel.de

Grootings Peter, Nielsen Sören

European Training Foundation
Peter.Grootings@etf.europa.eu
Soren.Nielsen@etf.europa.eu



CEDEFOP

European Centre for the Development
of Vocational Training

Modernising vocational education and training

**Fourth report on vocational training research
in Europe: background report**

VOLUME 2

Luxembourg: Office for Official Publications of the European Communities

2009 - VI, 293 pp. - 21 x 29.7 cm

(Cedefop Reference series; 70 - ISSN 1608- 7089)

ISBN 978-92-896-0527-4

Cat. No: TI-33-07-002-EN-C

Price (excluding VAT) in Luxembourg: EUR 30

No of publication: 3050 EN

Modernising vocational education and training

Fourth report on vocational training research in Europe: background report

Volume 2

In 2002, the European ministers for vocational education and training from 31 European countries and the European Commission adopted the Copenhagen declaration, which underlines the contribution of vocational education and training (VET) to achieving the Lisbon goals and sets priorities for VET systems' reforms through enhanced European cooperation. Every two years, progress by Member States in modernising VET is reviewed and reform priorities are refined. The latest review was in Helsinki in December 2006.

The fourth report on VET research documents, discusses and analyses the socioeconomic context and VET reforms, based on latest research evidence. The report informs and improves policy-making and helps develop the VET research agenda. It thus provides and discusses the evidence base for enhanced cooperation in VET.

The background report collects contributions from renowned experts and researchers. Contributions have been compiled into three separate volumes. This volume addresses aspects and dimensions of the VET reform process such as training and developing VET teachers and trainers, learning at the workplace, VET for older workers and the differentiation and diversification of VET and higher education.



CEDEFOP

European Centre for the Development
of Vocational Training

Europe 123, 570 01 Thessaloniki (Pylea), GREECE
PO Box 22427, 551 02 Thessaloniki, GREECE
Tel. +30 2310490111, Fax +30 2310490020
E-mail: info@cedefop.europa.eu
www.cedefop.europa.eu

Price (excluding VAT) in Luxembourg: EUR 30 3050 EN



ISBN 978-92-896-0527-4



9 789289 605274 >