

PANORAMA

PROFF – Professionalisation of VET teachers for the future

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Pia Cort
Auli Härkönen
Kristiina Volmari

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Europe 123
GR-57001 Thessaloniki (Pylea)

Postal Address:
PO Box 22427
GR-55102 Thessaloniki

Tel. (30) 23 10 49 01 11
Fax (30) 23 10 49 00 20
E-mail: info@cedefop.eu.int
Homepage: www.cedefop.eu.int
Interactive website: www.trainingvillage.gr

Pia Cort, TTnet Denmark
Auli Härkönen, TTnet Finland
Kristiina Volmari, TTnet Finland

Edited by:

Cedefop

Mara Brugia, Project manager

Published under the responsibility of:

Johan van Rens, Director

Stavros Stavrou, Deputy Director

Foreword

‘I am convinced that Lisbon is the right track for the Union. I am also convinced that by acting together we will reinforce the impact of our Lisbon reforms.’

(President designate Barroso in his speech to the European Council, 4 November 2004)

The Lisbon strategy is a commitment to bring about economic, social and environmental renewal in the EU. In March 2000, the European Council in Lisbon set out a 10-year strategy to make the EU ‘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’. Under the strategy, a stronger economy will drive job creation alongside social and environmental policies that ensure sustainable development and social inclusion.

Training, and in particular, vocational education and training has in recent years gained important status on the European social and political agenda. Today’s and tomorrow’s demands for a highly skilled workforce for the European economy are new and demanding challenges for the teacher and training community.

This report identifies how current reforms in European VET systems are impacting on the teaching and training environment in terms of work practices and techniques. It is essential that teacher and trainer training continues to improve. Many countries now face a lack of VET educators or expect to in the near future, and many involved in training no longer have the required professional qualifications. These are alarming signals.

Achieving the Lisbon goals in labour market terms requires the commitment of all. This report contributes to identifying the strengths and weakness of current trainer policies; it looks at examples of programmes and practices adopted as strategies to provide the necessary skills to VET teachers and trainers, and draws up recommendations for policy-makers and practitioners.

The training of trainers network (TTnet) set up by Cedefop will undoubtedly play an important role in disseminating these findings and the lessons learned.

Mara Brugia
TTnet coordinator

Johan van Rens
Director, Cedefop

Table of contents

Foreword	1
Table of contents	3
Executive summary	5
Definitions	9
1. Introduction.....	11
2. Objectives, methodology and terminology	13
2.1. Objectives.....	13
2.2. Methodology.....	15
3. Analysis of the case studies	17
3.1. Introduction	17
3.2. VET reform and new demands on teacher and trainer training.....	17
3.3. Target groups.....	19
3.4. Supporting VET teachers' and trainers' professionalism.....	20
3.4.1. Meeting the needs of VET teachers and trainers.....	20
3.4.2. Pedagogical skills.....	20
3.4.3. Vocational skills.....	22
3.4.4. Acquiring formal qualifications	23
3.4.5. Improving cooperation between the world of school and the world of work	24
3.4.6. Increasing professional wellbeing.....	25
3.5. Strategies for teacher and trainer training: modes of delivery.....	26
3.6. Accreditation	29
3.7. Funding for in-service training.....	30
3.8. Impact.....	31
3.8.1. Limitations of evaluation	31
3.8.2. Material outcomes.....	32
3.8.3. Non-material outcomes: self-evaluation	32
3.8.4. Feedback from programme participants.....	33
4. Conclusions and recommendations	34
4.1. VET reform and the impact on teachers.....	34
4.1.1. 'Pedagogical update'	34
4.1.2. 'Vocational update'	35
4.1.3. Professional wellbeing	35

4.1.4.	Target groups and teacher roles	35
4.1.5.	Accreditation	36
4.1.6.	Overcoming teacher resistance.....	36
4.1.7.	Challenges for teacher training	37
4.2.	Recommendations	37
4.2.1.	Recommendations for policy-makers.....	37
4.2.2.	Recommendations for practitioners	38
	List of terms and abbreviations	41
Annex 1	PROFF: collected cases.....	43
Annex 2:	Description of analysed cases	47
	Bibliography.....	59

Executive summary

This report describes the results of a research project entitled ‘Professionalisation of VET teachers for the future’ (PROFF). The project was jointly coordinated by TTnet Denmark and TTnet Finland. The Dutch, French, Italian, Norwegian and Portuguese TTnets were partners.

PROFF is based on previous work done within the TTnet and builds on findings and results presented at the TTnet workshop in Helsinki in 2001. The aim of this workshop was to identify current and future challenges for VET teachers. The challenges identified during the proceedings included: the need to provide vocational education to new target groups; changing paradigms in educational theory and the trend towards student centred approaches, the increasing role of information and communication technology (ICT) as an educational and a management tool, new developments in labour markets, changes in national VET legislation and in the way VET is organised and the impact of internationalisation. In this setting, the goal of PROFF is to **look at the way in which these challenges are being met in the EU Member States, to identify ‘cases of good practice and to disseminate and discuss these cases at European level via the national TT-networks’.**

The project is based on case studies collected by the national TTnets. Each of the participating countries (Denmark, Finland, France, Italy, the Netherlands, Norway and Portugal) was asked to collect four or five case studies. Of these, 10 cases were then selected for in-depth investigation.

The investigation showed that many countries are facing a shortage of VET educators or expect to face such a shortage soon. This makes it imperative to improve teacher and trainer training. Many VET reforms have not paid enough attention to this issue.

The study found that, in all the countries studied, VET reform has had a major impact on organising teaching and on teachers’ working practices and teaching techniques. In many European countries VET reform has also meant that many professional educators no longer have the officially required qualifications.

The case studies pointed to some of the skills and knowledge teachers need to acquire and teacher training to provide. These include:

- new pedagogical skills in line with the learner centred approach of modern pedagogical theory (‘pedagogical update’) and on-the-job learning techniques now being offered to trainees;
- up-to-date ‘vocational’ skills related to modern technologies and work practices (‘vocational update’);
- awareness of the needs of business and employers;
- skills for team working and networking;
- managerial, organisational and communications skills.

The studies show some of the strategies programmes have used to provide these skills to VET teachers and trainers. Several different programmes display the same basic trends. In many countries in Europe, continuing VET teacher training programmes have adopted a ‘dualistic’ approach, in which theoretical work alternates with practical work in their own school. Another trend is that teachers work in companies for two to three months in so-called on-the-job learning schemes to update their vocational competences. Participants agree that such programmes provide an invigorating experience, stimulating their motivation and adding realism to their training. By participating in on-the-job learning teachers create ties with instructors and managers in the companies where they are placed. These ties may later help them provide support for their students. At the same time, close contact with professional VET teachers may be useful for workplace instructors, who often have received no teacher training.

On accreditation, PROFF detected a degree of convergence between practices in different countries – all of which treat accreditation as important. Some programmes considered by PROFF provide a full course of study leading to a university degree or other forms of teacher certification. Most other programmes, while shorter, provide credits which participants can use in subsequent further education. Sometimes, course certificates enable participants to win promotion and/or pay increases.

One area where the project did not detect convergence was in funding models. There are great differences between approaches in different countries. In some, the main source of funding is the European Social Fund, meaning uncertainty in future given the inevitable trend to divert these funds towards the new Member States. In others, funding is provided by local, regional or central government or directly from training institutes’ own budgets. In several countries trainees pay for a part or even all their training. In others it is provided free. A review of the case studies suggests that often teacher access to training is constrained by lack of adequate financial support.

Another critical issue addressed by the project is teachers’ professional wellbeing, an unjustly neglected important topic, in a period when national VET systems are struggling to recruit new VET teachers and keep their existing staff. The case studies identify several important issues for teacher welfare and provide concrete examples of strategies designed to improve teachers’ satisfaction with their work. The study identified a key need for a ‘collegial approach’ which can contribute significantly to reducing teachers’ workloads.

The study looks at the impact of the programmes examined in the case studies. Although a complete evaluation is not yet possible, school managements believe they have had a positive impact on teacher skills and motivation. This assessment is shared by most programme participants, who none the less make several suggestions for improvement. Important is the demand for stronger management commitment, ensuring that teachers have enough time to take part in in-service training programmes, even when these conflict with the short-term priorities of the training institutes where they work.

The report ends by summarising the main findings and drawing up a series of recommendations for policy-makers and practitioners. The recommendations for policy-makers are:

- (a) VET reform should make adequate provision for training VET personnel;
- (b) training should be differentiated to meet the differing needs of different categories of VET personnel as well as local needs;
- (c) better training should be provided to middle management and other non-teaching staff;
- (d) it is essential to improve training for workplace instructors;
- (e) changes to training programmes, particularly when encouraged by a reform, should involve all stakeholders and allow participants to develop a sense of ownership and commitment to the reform;
- (f) effective VET requires closer contacts between training institutions and industry. This can be achieved best by adopting an approach where theoretical training alternates with on-the-job learning in enterprises;
- (g) training for teachers should adopt a dual approach. It is essential that teachers themselves participate in on-the-job learning;
- (h) policy-makers should pay greater attention to teachers' professional wellbeing – reducing workloads, improving financial incentives and making efforts to provide them with a more satisfying work environment;
- (i) in-service training should be regular and compulsory.

The main recommendations for practitioners are:

- (a) training managers and teachers should encourage close contacts between schools and local companies;
- (b) teaching should integrate theory and practice. This requires both classroom teaching and on-the-job learning;
- (c) training should provide teachers with managerial, organisational, counselling and communication skills;
- (d) training programmes work best when teachers and trainers take part in identifying their own training needs and designing the training;
- (e) professional development of VET teachers and trainers is too important to be left in the hands of the individual teacher. Competence development must go hand in hand with organisational change;
- (f) change in teachers' working cultures requires commitment and time. Teacher and training programmes will only be effective if managers show their commitment through their own active participation and by ensuring that teacher training is allocated adequate time and financial support.

Definitions

In-service training

Different European countries use different terms to describe training taking place after initial training. In this study, we use the term *in-service training*. Following the definition proposed by the Eurydice network *in-service training* denotes all activities and practices intended to broaden teachers' knowledge, improve their skills and to help them assess and develop their professional approach (Eurydice, 1995). By this definition, *in-service training* includes a broad range of programmes and courses set up by employers or by local, regional or national authorities.

Professionalisation

The concept of *professionalisation* is ambiguous. It can be understood as a strategy to protect a profession from outside competition, by defining the skills and competences required to enter the profession (as occurs with doctors and lawyers). Obviously this is not the definition used in PROFF. In this project, *professionalisation* is closely linked to efforts to update, upgrade and develop VET teachers' competences so they can meet the challenges facing their profession and act professionally in their daily work. Professionalising VET teachers represents a significant contribution to the quality and effectiveness of VET systems. It promotes mastery of technical and scientific advances, and enables teachers to anticipate and deal with change.

Teacher, trainer, tutor, etc.

The concepts of *teacher*, *trainer*, *tutor*, etc. are just as ambiguous as professionalisation. In the data collection of PROFF this ambiguity resulted in cases with varying target groups, ranging from teachers (in the strict sense of the word) to middle managers. Most participants can none the less be considered professional *educators*. *Professional educators* can include trainers, group leaders, tutors, teachers, instructors, trainers of trainers, etc. (de Blignières-Légeraud, 2000a).

In EU countries the term *teacher* is generally used to name personnel in primary schools, secondary schools and initial vocational training colleges.

Tutors are defined as salaried employees of the enterprise appointed by the employer to be responsible for a trainee in initial training, continuing training or retraining within the enterprise. A tutor's main task is teaching trainees (de Blignières-Légeraud, 2000b). Many countries use the term (*workplace*) *instructor*.

A *trainer* is a professional involved in apprenticeship systems, on-the-job and off-the-job training activities and, more generally, in private sector training.

Pedagogical and vocational skills; pedagogical and vocational update

Teachers and trainers in VET require two distinct sets of skills. They need *pedagogical skills*: ability to analyse and identify student needs, ability to design training programmes to meet these needs, ability to teach and ability to assess the educational and professional outcome of this teaching. These are *generic skills* needed by all teachers regardless of the discipline in which they work.

VET teachers also need *vocational skills* and knowledge. They need to understand and perform the tasks trainees will be asked to perform when they leave school and begin work – and also have a firm grounding in the theory underlying these skills.

In the past, VET teachers acquired their pedagogical and vocational skills at the beginning of their careers. Today this is no longer possible. National VET systems are in continuous change. Educational theory suggests innovative teaching methods, some involving the use of technology. And the workplace is changing faster still, both in terms both of technology and working practices.

In this new situation, it is essential that teachers should continuously *update* their pedagogical and vocational skills. In what follows we will refer to these processes as *pedagogical update* and *vocational update*.

1. Introduction

The annual conference of the Cedefop TTnet network held in Thessaloniki in 2001, set up three projects on themes identified as transversal priorities for TTnet national networks which also reflected Community policy on training teachers and trainers in VET. The three projects are:

- Project 1: E-Learning: innovative practices and the activities and competences of teachers and trainers;
- Project 2: Professionalisation of VET teachers;
- Project 3: Validation of non-formal learning for trainers.

This report describes Project 2: Professionalisation of VET teachers for the future (PROFF). The main focus of PROFF is on innovative in-service training for VET teachers. The project was jointly coordinated by TTnet Denmark and TTnet Finland. The Dutch, French, Italian, Norwegian and Portuguese TTnets were partners.

PROFF is based on previous work within TTnet and builds on findings and results presented at a TTnet workshop on the ‘professionalisation of VET teachers’, held in Helsinki in 2001. The main themes of this workshop were:

- ‘professionalisation of teachers’;
- meeting future challenges in this field;
- developing ‘professionalisation’ during teacher careers.

On the second theme the workshop identified several challenges. These included:

- the need to provide vocational education to new target groups;
- changing paradigms in educational theory and the trend towards student centred approaches;
- the increasing role of IT, as an educational and management tool;
- new developments in labour markets;
- changes in national VET legislation;
- organisational changes at school level;
- the impact of internationalisation.

The responses to these challenges were, however, tentative. As stated in the workshop's final conclusions:

'It is fairly easy to identify transnational challenges in professionalisation of teachers. However, in order to find solutions and to identify good practices to meet these challenges, more dialogue and research are needed' (TTnet workshop, 2001).

In short, what was needed was new research into the way these challenges were being met in EU Member States. PROFF therefore took as its point of departure the challenges identified by the Helsinki workshop, and sought **to identify 'cases of good practice and disseminate and discuss these cases at European level via the national TT-networks'**.

PROFF conducted 10 case studies in six different countries (Denmark, Finland, Italy, the Netherlands, Norway and Portugal). Each case study describes a single 'case of good practice'. The studies have made it possible to:

- identify key issues for professionalising VET teachers in EU Member States;
- examine the way different institutions have responded to these issues;
- assess the consequences for teacher training;
- draw up recommendations for policy-makers and practitioners.

By disseminating information on the studies the project partners hope the results will act as a stimulus for further development at school and teacher levels.

The remainder of this report describes the work conducted by the PROFF partners since the beginning of the project. It is divided into three chapters. Chapter 2 describes PROFF's objectives and methodology. Chapter 3 describes the results of the case studies. Chapter 4 summarises the main findings, presenting the project's recommendations for policy-makers and practitioners.

2. Objectives, methodology and terminology

2.1. Objectives

As described above, the PROFF project takes as its point of departure the findings of the Helsinki workshop and the challenges identified at the workshop.

The goal of the PROFF project is to study the way in which EU Member States are facing these challenges (see figure below, entitled ‘Professionalisation of VET teachers for the future’).

New target groups: VET teachers today have to deal with more diverse target groups than ever before. One of the effects of lifelong learning is an increasing number of adults entering VET programmes. A critical challenge for VET is to find ways of teaching adults which take proper account of their previous professional and life experience, their variable skills and their attitudes, which may be very different to those of younger people. In some cases it may be necessary to deal with significant resistance to learning.

Changing paradigms in educational theory: recent years have seen rapid changes in educational theory which now focuses on learning rather than techniques for ‘transmitting’ information by teachers. The teacher’s role becomes that of a ‘coach’ or ‘facilitator’. This calls upon teachers to plan and differentiate their teaching to take account of students’ different learning styles. Optimal teaching requires teachers to apply a broad range of teaching methods, including project work, workshops, case studies, etc. The challenge for VET is how to integrate these methods into national VET systems and to equip teachers to use the new methods in their day-to-day classroom practice.

ICT development: one of the key technological developments of the last three decades has been the rapid development of ICT which has invaded every field of business and now has a significant impact on education. Today all VET teachers require general skills in ICT – not just because their students will need ICT skills to meet the needs of the labour market – but because teachers themselves are increasingly expected to use ICT as a teaching tool, as well as for administration. To keep up with students and their demands VET teachers need to find innovative ways of using a computer in their jobs. This means they have to become familiar not only with e-learning but also with ‘blended models’ in which e-learning is integrated with classroom teaching, group work, seminars, etc. This poses the problem of how best to provide teachers with the technical and non-technical skills they need to take advantage of these opportunities.

Labour market development: The institutions that provide vocational education and training exist to serve the business community, which demands that young people leaving vocational training should have immediately useful skills. If teachers fail to keep up to date with new technologies and new working practices, vocational schools will produce candidates who do

not have the skills the labour market requires. One of the key challenges facing VET is how to guarantee that teachers' 'vocational skills' keep up to date with developments in business.

Another challenge, also stemming from developments in the labour market, is how to keep existing teachers and how to attract suitable candidates for the teaching profession. In a 'knowledge society' the teaching profession is of central importance. The ideal of lifelong learning cannot be achieved without professional teachers. This is a challenge in which both government and professional organisations have a vital role to play.

Internationalisation: internationalising VET teacher skills is a serious challenge. Market developments imply that to an increasing extent national VET systems are called upon to include an international dimension in the training they provide. Also the action programmes promoted by the EU Commission bring this dimension into the classroom. For teachers, areas of critical importance include language skills, knowledge of other countries, knowledge of trades and trade requirements in other countries, intercultural communicative skills, etc.

Besides the challenges clearly identified by the Helsinki workshop, early research in PROFF identified three new – and critical – challenges which the Helsinki workshop had not included in its own list.

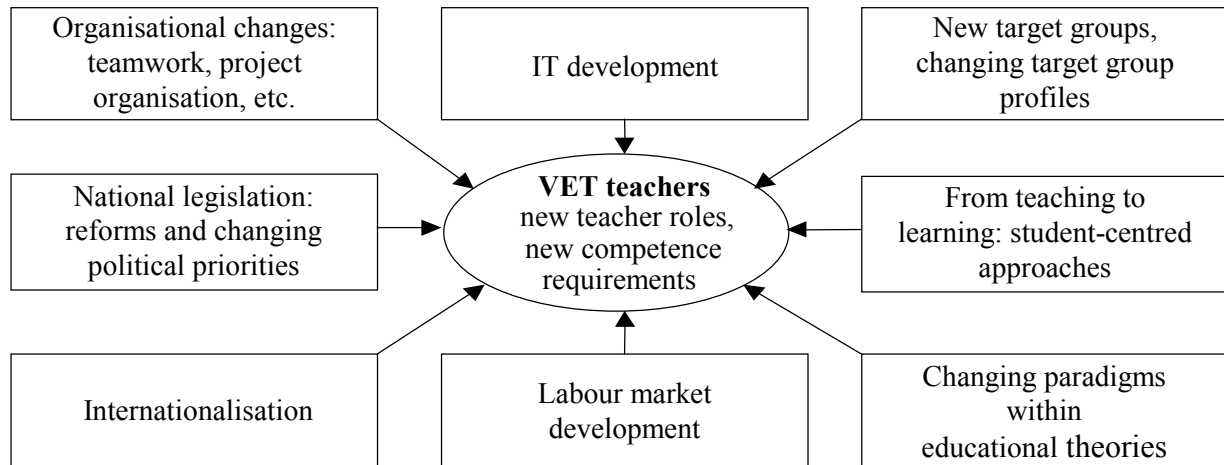
Changes in national VET legislation: during the past 10 years most European countries have responded to changes in the economy and the labour market with radical changes to VET legislation. In short, national VET systems no longer last for decades. Reform follows reform and teachers have to be able to handle this situation. Preparing them is an important challenge for existing models of teacher and trainer training.

Changes in the organisation of teaching: the spirit of VET reform demands that vocational schools become 'learning organisations', whose most important resource is their teachers and their knowledge. As a result, developing teacher competences and knowledge sharing have become central issues for school management and for drawing up organisational and training strategies. Meanwhile, however, organisational change has led to the introduction of new working practices – flexibility, modularisation, interdisciplinary teaching – that challenge the traditional roles of VET teachers. The role of the VET teacher is no longer to work autonomously but rather to cooperate with other teachers to plan, coordinate and carry out teaching together. This raises the question of how to change teachers' perceptions of their role and how best to prepare them for the different roles they will occupy in the future.

Meeting teacher needs and guaranteeing their professional welfare: VET teachers obviously have a strong interest in raising professional standards and thereby improving their position on the labour market. It should none the less be recognised that the impact of VET reform on teachers' professional wellbeing is not automatically positive. Perhaps the most important challenge for VET is to find ways of meeting teacher needs. This is likely to involve increased efforts to improve teacher competences and to provide teachers with formal qualifications. Often it is likely to require recognition of non-formal competences teachers have acquired

through practical experience. In some cases a more transparent salary and career system might also make a useful contribution.

Professionalisation of VET teachers for the future



2.2. Methodology

The Helsinki workshop pointed to the need to identify *good practices*.

Given this goal PROFF decided to base its investigation on a series of case studies. The goal of the individual case studies was to describe a training programme providing in-service training to VET personnel and responding to (at least some of) the challenges identified by the project. The programmes to be investigated could be local, regional or national in scope and could include both formal and informal training activities.

Each national TTnet was asked to identify four or five programmes which satisfied these criteria. To ensure the ‘standardisation’ of data collection, the project coordinators created a standardised questionnaire and explanatory notes. The national TTnets then used these tools to collect a series of preliminary data, which they submitted to the project for evaluation. By the end of October 2002, 21 cases had been submitted.

At the end of January 2003, PROFF selected 10 of these cases for analysis. The key selection criteria were:

- innovation: the degree to which the programme provided a genuinely novel approach to critical issues in teacher and trainer training;
- impact: the extent to which programmes were already influencing VET practice in the countries where they were originally implemented;

- transferability: the potential for transferring the approach proposed by programmes outside the context in which it was originally developed;
- target population: PROFF gave preference to programmes which provided training to a broad audience, including many different categories of VET personnel;
- geographical spread: case studies were selected to cover as many partner countries as possible.

The initial ranking of cases from individual countries was made by the partners concerned, which were presumed to have the vision and competence to identify the cases likely to be most interesting from a national and an international perspective.

The final selection was made by the project coordinators, bearing in mind the overall goals of the project.

The final sample of case studies included the following projects:

- EUD-IT, Denmark;
- Reform competence project, Denmark;
- Developing on-the-job learning and vocational skills (TOKE), Finland;
- META, Finland;
- Telkkä, Finland;
- Tukeva, Finland;
- Higher education pathways for vocational training and labour policy management (HEP), Italy;
- Vocational pedagogy in enterprises, Norway;
- Dual trajecten bve, the Netherlands;
- Continuing education of teachers within the scope of school libraries, Portugal.

The analysis was carried out by the project coordinators from January 2003 to May 2003. The partners contributed with additional information.

The preliminary results of the analysis were presented at a conference in Brussels in May 2003.

3. Analysis of the case studies

3.1. Introduction

In this chapter we analyse the results of the 10 case studies selected for analysis. We begin by briefly examining the background to the study: that is the way in which reform is changing national systems for vocational education and training and the new requirements this places on teacher and trainer training (Section 3.2.). In Section 3.3. we examine how these reforms have changed the target groups for VET. In the following section (Section 3.4.) we examine the mix of skills and qualifications required by VET teachers, trainers and managers. Section 3.5. looks at some of the strategies being used to provide them while the following section examines ‘modes of delivery’: the ways in which teachers and trainers are actually taught. In Section 3.6. we examine the crucial issue of accreditation for teacher and trainer training. Section 3.7. looks briefly at the question of funding for in-service training. Finally, Section 3.8. examines the impact of the programmes studied in the case studies.

3.2. VET reform and new demands on teacher and trainer training

The programmes examined in the case studies were planned and carried out during a period of large-scale reform in national VET systems. As a result of these reforms, modern European VET places a new emphasis on adult, lifelong learning. Courses have become more modular. It has become easier for students to obtain credit for previous learning (both formal and informal).

Often (especially in the Danish, Finnish and Norwegian case studies), these changes have had a major impact on the way teaching is organised, requiring teachers and trainers to acquire these new competences. In Finland, for example, traditional VET was school-based. A key goal of VET reform has been to improve the interaction between school and working life. This implies increased focus on on-the-job learning, i.e. inclusion of six months of on-the-job learning and skills demonstrations in VET programmes. In Denmark, reforms in the late 1990s led to the introduction of new teaching methods with teachers being required to act as tutors for trainees, counselling them in their educational choices. Norway too has restructured VET programmes for school leavers. In the new system, trainees have to spend two years at school followed by two years of apprenticeship. The new apprenticeship system has strengthened the need to ensure the quality of workplace training and to guarantee the teaching skills of workplace instructors and in-company trainers. In Italy, a series of reforms have created pressure for better coordination and integration between institutions offering vocational training, placing new requirements on the skills of middle management. In

Portugal, a government initiative to encourage reading has led to an expansion of the traditional role of teachers who are now working as information guides in school libraries.

In general, the case studies show that teacher and trainer training is strongly affected by changes in the way VET teaching is organised and that this leads to changes in requirements for training. We have identified several trends, shared by most programmes studied by PROFF.

- VET reform has led, in nearly all cases, to the redefinition, diversification and expansion of teacher functions. In modern VET systems, teachers' roles are no longer just to teach but also to counsel students, to guide them in their educational choices, to perform administrative and management tasks, to plan, conduct research, and cooperate with external partners (outside institutions, companies, public authorities, parents, etc.). Several programmes examined were explicitly designed to respond to this change in teachers' roles. Perhaps the clearest example was the Dutch 'dual trajecten bve' programme, which was carefully designed to address the differentiation of staff functions in Dutch institutes for vocational training and adult education (ROCs).
- The diversification just described means that to an increasing extent teachers work in multidisciplinary teams, covering multiple subject areas. In the past teachers worked independently, on their own. In modern VET systems, however, effective teaching depends not just on teaching skills but on the ability to work in a team and to plan and coordinate team actions. Collegiality is also one of the ways to survive under the mounting pressure and a means for improving the professional wellbeing of teachers. This is a significant challenge for teachers. In collegial work teachers take a risk, exposing their weak points to their colleagues. The need to adopt a collegial style of working requires teachers to acquire communication, social and management skills which were not previously included in teacher and trainer training.
- Another issue, addressed in nearly all the programmes, is the need for teachers to reconceptualise their own position within VET. It is not enough for teachers to acquire new skills and perform new functions. Effective motivation of teachers requires that they should understand the reasons for the change – making them their own.

Finally, many programmes display a trend towards increased cooperation, not only between different departments in the same organisation but also among the many different organisations and actors involved in national VET systems. These include schools, training institutions, companies and local and central government. Often, cooperation takes the form of what we have called bottom-across coordination, with individual teachers cooperating directly with teachers, researchers, administrators and policy-makers outside their own organisation. This trend is critical. To quote the former Swedish education minister, Ylva Johansson (OECD/CERI, 2003):

'Networks and partnerships are critical: school autonomy goes hand in hand with being connected to the community, other educators and the broader society. Hence, the key role of networks and partnerships. Too much educational practice

is characterised by isolation: schools from parents and the community and from each other; teachers and learners in isolated classrooms.'

To be effective, this coordination requires new 'networking' and interdisciplinary skills.

Most changes just described were initiated not from within, but from outside the VET system, as a result of political decision and/or of pressure from industry. Often they challenge the teacher's view of the VET system, of their own role and of the way they teach. And in some cases the changes contrast with teachers' 'implicit', 'tacit' knowledge of how best to behave in specific teaching situation. This situation is made worse when government – or management – fails to provide teachers with the time, or the financial resources to retrain. Where these resources are not available teachers (and their managers) will give priority to the needs of their students rather than to their own training. In short, and as a result of all these factors, whole-hearted teacher acceptance of change cannot be taken for granted and teacher resistance to change is one of the most significant threats to the success of VET reform.

In this setting, a key goal of many teacher training programmes is to give teachers a sense of 'ownership' in the new system – providing them with the skills and qualifications to play an active role in its development. In at least one case (that of the Dutch institutes for vocational training and adult education (ROCs)) management believes that innovative training programmes are essential to prevent an exodus of experienced, but underqualified staff.

3.3. Target groups

The key target group for teacher and trainer training consists, by definition, of professional educators working in vocational schools, private companies and public organisations. One of the most important results of the case studies is, however, that effective human resource development in VET requires more than this. Managers for the programmes examined in the case studies were aware that actors at any particular level in an organisation have to understand the functions of other actors. In the Finnish META programme, for example, training was provided not only to teachers and workplace instructors, but also to managers. Again in Finland, Telkkä created a twinning arrangement between teachers and workplace instructors deliberately designed to create synergy between the two groups. In the Danish 'reform competence project', there was a clear perception that changes are easier to implement if training involves all groups of personnel with a stake in the changes. Especially important is middle management – which, without adequate training is likely to hold up the implementation of reform. In the Dutch 'dual trajecten bve' project, training was provided for educational assistants, instructors/trainers and coaches in vocational training: new professions created by VET reform. The Italian HEP programme, took this approach a step further, focusing exclusively on executives and managers from public and private vocational centres, employment centres, regional and provincial administration and trade union organisations. Other programmes with mixed target populations include the Portuguese programme

‘continuing education of teachers within the scope of school libraries’ which provides training for teachers and school staff.

3.4. Supporting VET teachers’ and trainers’ professionalism

3.4.1. Meeting the needs of VET teachers and trainers

The goal of teacher and trainer training is to provide teachers and trainers with the mix of knowledge and skills needed to perform their work.

The programmes studied by PROFF focused on many different competences. For clarity we will discuss these under the following five headings:

- pedagogical skills;
- vocational skills;
- acquiring formal qualifications;
- improving cooperation between the world of school and the world of work;
- increasing professional wellbeing.

Below we describe the way the programmes examined in the case studies approached these areas.

3.4.2. Pedagogical skills

Introducing new educational theories and pedagogical principles in teaching is a dominant theme in all the case studies. As already described, the trend from teaching to learning creates a need to change the practices of VET teachers who have traditionally worked alone and concentrated on disseminating knowledge to trainees. Today, teachers need to work in teams, they have to be able to guide trainees more than just transfer knowledge, and they must also be able to plan, describe and reflect on their own teaching practices.

For analysis the following cases were studied (see Appendix 2): Tukeva, Finland; ‘developing on-the-job learning and vocational skills’ (TOKE), Finland; META, Finland; ‘reform competence project’, Denmark; EUD-IT, Denmark; ‘dual trajecten bve’, the Netherlands; ‘vocational pedagogy in enterprises’, Norway; ‘continuing education of teachers within the scope of school libraries’, Portugal.

Most training activities provide participants with factual knowledge on developments in VET systems and VET reforms and their consequences. Focused on pedagogy, training also provides participants with knowledge on new educational/pedagogical methods and theories as well as integrating ICT in teaching.

On pedagogical skills there are some clear transnational trends. In many training activities, focus is on qualifying teachers for more ‘student-oriented’ approaches, i.e. coaching; guiding; supervising and tutoring.

There is a clear change in the teacher’s role brought about by a stronger focus on learning, the students and their individual learning styles, and by the greater flexibility of VET brought about by modularisation and increased possibilities of credit transfer/recognition of prior learning. This calls for more individual guidance of students and the ability of teachers to assess the strengths and weaknesses of their students to guide them through VET.

Another skill focus is ability to cooperate with other teachers in planning and carrying out the teaching. Teachers are expected to cooperate and create synergy between different subjects in thematic/interdisciplinary teaching.

One case that stands out is the Portuguese one focusing on ‘pedagogy of documentation’. The aim of this training activity is to qualify teachers to work as ‘information guides’ in school libraries. It provides a good example of the expanding functions teachers are expected to undertake. Teachers learn about documentation methods and information search to guide students in their search for information.

However, training does not focus solely on the pedagogical update. Teacher functions are not isolated but seen as a whole and therefore training also provides participants with skills that support teachers in other functions, e.g. project work and management, administration and research-related activities.

Overall, the cases confirm a move away from an isolated teacher role to teacher teams and more diverse teacher functions. Teachers must have a very broad span of skills to perform in their profession.

The cases represent innovative training activities and thus a common ambition is to develop new and more up-to-date models for the continuing training of vocational teachers. Some transnational trends are use of dual training, modularisation, on-the-job learning and study circles/experience exchange groups.

These methods are not new, but it is obvious lifelong learning, focus on different learning contexts, interaction between these learning contexts, and teamwork have had a huge influence on the way training and skills development are perceived. The interaction between practice and theory is increasingly in focus. The challenge is to create training activities which are close to the practice of teachers and which support them in their present – and future – functions but which also challenge their practice. Often teachers have to reflect on practice and see how theory and practice might ‘fertilise’ each other.

In the Dutch case, a good example of new approaches to training is provided. The training activities are tailor-made to the institutes of vocational training and adult education (ROCs) and reflect different contextual factors: a new labour market agreement, fear of a large exodus

of teaching staff at ROCs, and a need for educational innovation. As a result of cooperation among ROCs, teacher colleges and Fontys teacher training institutes, a new demand-based training and teaching system has been developed for staff at ROCs. The system provides a four-year route considering subcompetences corresponding with the job profiles of the different ROC personnel groups. The model is based on the dual training principle and has an in-built progression, which gives access to further education and to the ‘ordinary’ teacher training programme.

In the Finnish META programme, a new collegial model for pedagogical innovation and development has been established. The training is based on the interaction between different groups and activities, i.e. collegial groups established within the same institution, inter-institutional networks built around a certain theme and training camps arranged two to three times per year. And in the Danish EUD-IT, a new programme for a pedagogical driver’s licence integrating both teamwork and organisational IT development has been developed.

Common to these training activities is the interaction between practice and theory, and that participants are expected to cooperate and exchange ideas and experiences during training. These elements are often supported by using ICT.

3.4.3. Vocational skills

VET teachers require not only ‘generic’ teaching skills (and the theoretical knowledge to back them up), but also specific vocational skills in the subjects they teach their students. In PROFF three cases were studied under this theme, namely META (Finland), Telkkä (Finland) and HEP (Italy).

In traditional VET systems these skills were usually acquired at the beginning of a teacher’s career. In many countries (such as Finland) the separation between the vocational training system and industry meant that updating these skills was difficult if not impossible.

Today, in a period of rapid industrial and technological change, it is essential that VET teachers continuously update their vocational skills and knowledge, incorporating what they learn into their own teaching programmes to ensure trainees leave the VET system with immediately useful skills.

A review of case studies shows that in many European countries, on-the-job learning (OJL) for teachers and trainers is now a standard component in teacher and trainer training, allowing teachers to improve their skills in the areas they are teaching and providing them with direct experience of the world of work. This awareness is especially strong in the Finnish Telkkä, which is specifically designed to improve cooperation between VET institutions and companies/industry by means of teachers’ OJL and twinning arrangements between workplace instructors and teachers. An additional aim has been to increase the attractiveness of the VET teaching profession. The Italian HEP programme has similar goals. One of the key objectives

of this programme is to encourage managers to develop networks with businesses in their area of work.

3.4.4. Acquiring formal qualifications

There is a common need to update VET-teachers' qualifications and competences in the EU. There are many reasons, for example: globalisation meaning that industries and services need new abilities to meet competition inside and outside the EU; the population in the EU is ageing; the changing vocational qualifications; the pool of unskilled or semi-skilled labour and their willingness to learn new skills including IT skills are challenging.

Access to the teachers' qualification is generally regulated by and subject to the control of a ministerial authority. In almost all EU countries, to qualify as a teacher of vocational training, it is necessary to have a higher education degree followed by teacher training regulated at national level. In some cases the higher education degree can be replaced by a nationally recognised vocational qualification. Besides the sector-specific requirements related to the level of education, VET teachers need to have work experience.

In most countries the qualifications required of trainers or workplace instructors have not been formally defined. Neither do there appear to be any specific training paths to become a trainer of continuing training in a company or in a training organisation.

The need for teachers to update and develop their professional qualifications and competences is obvious in all cases of PROFF. It is not possible to have enough new young competent VET teachers, instead those already working in vocational schools need to be given an opportunity to update their qualifications.

For analysis the following cases were studied: Tukeyva (Finland) and 'dual trajecten bve' (the Netherlands).

The Finnish Tukeyva programme aims at developing the skills and knowledge of participants, providing motivation to train for the real challenges of working life, creating new models and behaviour and familiarising the participants with new kinds of learning environments. Often the studies resulted in formal academic degrees.

Participants developed different kinds of competences. Typically they took part in theoretical studies integrated with practical activities. For example, studies of new pedagogical trends were combined with studies on learning organisations and using ICT in their work.

For individuals, self-esteem was improved. In organisations, they developed not only their own competences but also contributed to the dissemination of new ideas to their colleagues and managers.

The thrust of the Dutch programme 'dual trajecten bve' came from new professions in the Netherlands, i.e. educational assistants, instructors and coaches. These professions require a

new set of competences. The new approach was to start by describing the required competences and then provide tailor-made courses with a strong dualistic approach. The experience from this programme has also been valuable in other areas of teacher training.

It became clear in analysing the cases that VET teachers and other educators need support in career planning. It is too often the responsibility of individual teachers who cannot be expected to be aware of all education developments.

3.4.5. Improving cooperation between the world of school and the world of work

One challenge identified in the original work plan for PROFF was labour market development and its implications for the VET teaching profession. Besides updating vocational skills it means that cooperation between educational institutions and the world of work must be improved to provide for continuous updating.

To be a professionally competent VET teacher today means being familiar with the demands of the world of work and necessary vocational skills and how they will develop in future. This, in turn, means the teacher should have an insight into local and regional businesses and the labour market in general. It also means the teacher should be able to plan, develop and assess education and training for the needs of the world of work in cooperation with representatives from enterprises.

Functional connections to the world of work are fundamental for students' employability and transition to working life. If education and training is institutional, as it was for instance in Finland before the VET reform in the 1990s, there can be a 'gulf' between education and working life. Bridging this 'gulf' has, in the worst case, meant the student has almost had to be retrained when entering the labour market (Ruohotie et al., 1998).

On-the-job learning, which is becoming part of VET in most European countries, provides opportunities for updating teachers' vocational skills and contacts with the world of work. It is also one of the most effective and economic means of developing teachers' professionalism – according to a report by the Economic Information Office in Finland (*Ammatillinen opettaja työelämäjaksolla*, 2002).

Among the problems and difficulties mentioned by van der Klink (2000) in on-the-job learning are lack of cooperation for improving the didactic skills of on-the-job learning instructors and lack of communication between trainees' instructors and educational institutes and training departments. Teachers play a key role in establishing and maintaining connections with the workplace in on-the-job learning. Training should be available for teachers where they are encouraged and provided with tools and methods for setting up and maintaining this cooperation.

Improving cooperation between the worlds of school and work was recurrent in the data collected: of all cases, eight addressed this issue. Of these, five were included in the analysis,

namely three Finnish (Telkkä, TOKE and Tukeva), one Norwegian (‘vocational pedagogy in enterprises’) and one Italian (HEP).

Training programmes address the new challenges and competences for teachers and managers to operate in the changed setting. They need to be able to plan and carry out on-the-job learning and skills demonstrations as well as theoretical and practical knowledge and skills in assessment, evaluation and quality control. They also need to be familiar with legislation and the ideology of on-the-job learning and skill demonstrations as well as pedagogy and teaching methods.

Teachers need knowledge of the practices in businesses and workplaces to respond better to the needs of working life. In the programmes analysed, network-based cultures have been adopted including intensified networking with the world of work, businesses and their staff as well as developing institutional partnerships. Networking also enabled teachers in the Finnish programmes to assess on-the-job learning places, important in quality control of VET.

As generally agreed, functional cooperation between schools and the world of work can improve the quality of education and its relevance to working life. It also assists youth in their transition to working life. It is productive to establish and maintain these relationships at teacher-manager level instead of the traditional top management level. This bottom-across approach could ensure continuation and continuing exchange between schools and enterprises.

3.4.6. Increasing professional wellbeing

As mentioned earlier, an important goal for teacher and trainer training is to make VET teaching more attractive for teachers and trainers. This is a challenge for national authorities, labour unions and education providers, particularly at a time when workload and challenges for the profession are constantly increasing. In addition, countries such as the Czech Republic, Finland, Germany, Italy, Norway and Sweden are facing an ageing teacher population. A recent study estimated that 42 % of VET teachers in Finland are 50 years or older (Opetusministeriö, 2003). If national VET systems are to be effective we need teachers to stay on longer and we need to attract new entrants into the profession.

This raises the important – but often neglected – question of the ‘professional wellbeing’ of VET personnel.

What is professional wellbeing? A teacher in a Finnish project defined it as ‘the ease and lightness of coming to work every morning’. Professional wellbeing is essential not only for staff retention but also for the quality of training national VET systems provide to learners. As John Coolahan (2002) put it:

‘It is only intelligent, highly skilled, imaginative, caring and well educated teachers who will be able to respond satisfactorily to the demands placed on the education in developed societies. If society’s concern is to improve quality in

education and to foster creative, enterprising, innovative, self-reliant young people, with the capacity and motivation to go on as lifelong learners, then this will not happen until the teachers are themselves challenging, innovative and lifelong learners. The future wellbeing of the teaching profession is of pivotal importance.'

What makes teachers feel happy and well? Contributing factors include:

- confidence in their work;
- respect (of students, peers and superiors);
- a positive attitude to their work.

A recent OECD study and a study by a Finnish pension fund agree on some of the conditions for these goals to be achieved (Santiago, 2002; Salo et al., 2002):

- teachers need effective support from their organisation and from management;
- the work itself plays an important role: it should provide teachers with enough challenges and stimuli to be interesting, but it should not be overly stressful; teachers need to feel that their work makes a difference;
- teachers require autonomy and flexibility: it is essential they are able to take their own decisions on how to conduct their work;
- it is important teachers are able to cooperate and take joint decisions with colleagues;
- teachers need in-service training and updating of competences;
- the general working atmosphere – and the attitudes of colleagues – must be positive, making work an enjoyable experience.

Among the cases studied by PROFF, two Finnish programmes (META and Telkkä) aim to improve teachers' professional wellbeing. The themes of the two projects are respectively 'From individuality to a culture of collegiality' (META) and 'Development of education and training evolving from working life' (Telkkä). META's aim is to renew the way teachers work, developing a permanent culture of collegiality, pooling people, skills and equipment to improve the quality of teaching and management and to emphasise the role of learning in teachers' own jobs; in Telkkä the aim is to increase the professional wellbeing of teachers by providing them with improved professional and vocational skills.

3.5. Strategies for teacher and trainer training: modes of delivery

The new skills needed by VET teachers and trainers require new strategies for teacher and trainer training. In a rapidly changing world it is inconceivable that initial training can equip teachers and trainers for careers which may last 40 years: training to teach is a lifelong

enterprise. In the new setting, theory has to be more tightly integrated with practice than in the past. Above all, teachers and trainers have to feel they are taking part in the training process. Often the push to adopt (and teach) new teaching practices has come not from teachers themselves but from new legislation or management. It is essential, therefore, that teachers develop a sense of ‘ownership’, working to make the new techniques their own.

A review of the programmes studied shows several clear transnational trends:

- most programmes adopt a ‘dualistic’ approach, alternating on-the-job learning with theory or theory with work in the teacher’s own classroom, mixing informal and formal learning. While this approach is not new, recent programmes have been increasingly effective in integrating theory and practice. Alternating practice with theory provides new ways of communicating: between teacher educators (including supervisors, external consultants, or whoever may be responsible for training) and participants;
- many programmes adopt a flexible, modular approach to curricular planning, personalising teaching to meet the needs of teachers and trainers with different needs and different backgrounds;
- several programmes favour a ‘bottom-up approach’ which encourages teachers to reflect on their teaching practices, express their skill needs and take part in designing and assessing training to meet those needs. This avoids the risk that a more academic approach or an approach not based on daily practice and on teachers’ own experience might provoke resistance to change. In programmes based on this strategy, teacher training no longer follows a fixed lecture-based curriculum but adapts from day to day, in line with participants’ daily practices;
- in some cases (e.g. in the Finnish Tukeya programme) teacher participation is encouraged by creating ‘study circles’ and ‘experience exchange groups’ involving staff from different departments and institutions. This enables participants to learn about practices in other schools or in other parts of the VET system, thereby gaining a new perspective – and a stimulus for reflection – on their own practices;
- ICT (websites, web-conferencing) often provides a powerful tool for encouraging exchanges of views among participants and their teachers. Use of these tools is especially effective when available for the duration of training. In some cases (e.g. the Italian HEP programme and the Finnish Tukeya programme), part of the programme is delivered in distance learning mode (i.e. via ICT).

The programmes studied varied remarkably. Some, such as TOKE and HEP, were very broad in scope with part-time participants taking one to two years to complete their studies. Both programmes required participants to invest time outside the classroom. TOKE required students to write reports and analyses; HEP involved them in study visits.

Other programmes (such as Telkkä) were much shorter. Telkkä participants worked full-time in an enterprise for just two months (although this was preceded by a seminar and independent work preparing for the seminar).

Just as programmes differ in scope and duration, so they differed in their choice of subject material. TOKE has a stronger focus on theory, (pedagogy, legislation) than Telkkä or HEP. Telkkä adopted a practical, hands-on approach based on on-the-job learning (OJL) in a company environment (during which participants helped to train workplace instructors). In HEP, too, the choice of teaching topics is down-to-earth.

The case studies provided several innovative training strategies.

The Finnish Telkkä programme, for example, is based on close cooperation between teachers and instructors in industry. This enables instructors to develop their pedagogical skills by cooperating with teachers while teachers benefit from instructors' up-to-date knowledge of recent technologies and working practices.

The Dutch 'dual trajecten bve' programme adopts a similar dualistic approach placing key importance on the concept of learning-by-doing. There is a strong emphasis on teaching trainees how to produce ICT-based teaching tools and materials. The programme provides trainees with a four-year 'training route' which is personalised to provide the specific professional competences required by ROC personnel with different job profiles. The programme – which is more demand-oriented than usual in this kind of programme – has an in-built progression, which gives access to further education and to 'ordinary' teacher training programmes.

The Finnish META programme provides a new collegial model for pedagogical innovation and development. Training is based on interaction between different groups and activities, i.e. collegial groups established within the same institution, interinstitutional networks built around a certain theme and training camps arranged two to three times per year.

The Finnish Tukeva programme combines academic tradition and practical experience. Modes of delivery change from one subproject to another. Most programmes used ICT but in different ways. Some course components (e.g. some modules on pedagogical techniques) are delivered using e-learning only. Others adopt a blended approach.

Often, participants formed study circles, which support experience sharing and cooperation. It is useful for single participants to share the workload with a colleague. Many assignments involve extensive sharing and teamwork.

The curricula for Tukeva – equivalent to other study programmes organised by universities, polytechnics and vocational teacher education colleges – were designed using a top-down approach. The selection of course materials is, on the other hand, entirely bottom-up. Often, participants select themes and cases from their own working environment.

Common to all these approaches is interaction between practice and theory, the strong emphasis on cooperation and interaction among participants and using ICT to support this interaction. A recent development, observed in the Finnish META and Telkkä projects, is bottom-across networking: lively cooperation between teachers and instructors belonging to

different institutions – a major step forward over more traditional models of cooperation which mainly involve principals and heads of department.

3.6. Accreditation

Competence and accreditation are complementary. Competences describe an individual's ability to perform well-defined professional tasks. Accreditation is the process of attributing/providing formal evidence of value to competences, irrespective of the way these competences have been gained. Certification of competences is the process of issuing certificates or diplomas, which formally recognise the achievements of an individual (Brugia, 2002). The Eurydice network defines a certificate of qualification/diploma/degree as the official proof of a qualification acquired by a pupil or student after passing an examination or by completing a course of training (de Blighnières-Légeraud, 2002). The prime purpose of accreditation is to meet formal requirements on teacher qualifications imposed by clients, government regulations and work organisation (Jarkko, 1996).

In most European countries, accrediting teachers is regulated by ministerial authority. Mostly they require both a university degree (or in some instances, a nationally recognised vocational qualification) and a specific qualification as a teacher. In addition VET teachers nearly always require practical work experience.

Teachers contrast with workplace trainers and instructors. While national regulations impose (varying) requirements on staff involved in initial vocational training, there is no formal definition of the qualifications or formal training required to take part in continuing training.

Accreditation of teacher competences is key for all PROFF case studies – particularly when the target population includes teachers and trainers already working but who do not have the qualifications required (or soon to be required) by law. Often accreditation may be required for teachers to continue their careers. Accreditation may also make it easier for programme managers to gain state or European funding.

Five programmes studied provide formal accreditation to their students.

The 'dual trajecten bve' programme (the Netherlands) allows participants gradually to improve their skills until they earn a formal teaching qualification. The course has received official national recognition. Credits are certified by Fontys teacher training institutes. Participants can develop their competences and qualifications gradually up to teacher level. Participating in the course thus provides a significant boost to trainees' careers.

Other programmes which offer formal accreditation to students include 'vocational pedagogy in enterprises' (Norway), 'continuing education of teachers within the scope of school libraries' (Portugal), and EUD-IT (Denmark). Most other projects (e.g. the Italian HEP programme) give credit which participants can use to pursue their studies in further or higher education. In this way the teaching provided becomes a component in a long-term programme

of continuous learning. Individuals acquire the ability to plan their own individual learning paths. There are, so to speak, no 'dead ends'.

An alternative approach is to allow teachers and trainers to participate in large-scale training programmes leading to an academic degree, or a certificate. This is the approach taken by the Finnish Tukeya programme, which specifically targets teachers and other educational personnel already working in vocational education centres. Participants who finish their study programmes receive formal accreditation from universities, polytechnics and/or vocational teacher education colleges. Given that Finnish teachers' salaries are based on their educational qualifications, certification can lead to a considerable salary rise. In some cases the qualification makes it possible to take a new job.

Tukeya is a large project, which provides several different routes towards a formal qualification. These include: (a) pedagogical vocational teacher studies at vocational teacher education colleges; (b) university level studies in pedagogy, business and economics and technology; (c) polytechnic level studies in different departments; (d) research and development projects. Some participants in the programme study for academic degrees (at bachelor's, master's and postgraduate levels).

The study programmes proposed by Tukeya developed participants' skills, knowledge and motivation to respond adequately to the challenges of teaching in a VET environment. Participants were able to:

- take part in theoretical studies;
- integrate these studies with practical activity at grass-roots level;
- familiarise themselves with new kinds of learning environment and learning methodology;
- modify their own classroom practice;
- learn to make effective use of ICT;
- attain a formal academic degree.

Key benefits reported by programme managers include not only improvements in participants' self-esteem but also spreading new ideas to colleagues and superiors.

3.7. Funding for in-service training

PROFF did not detect any uniform transnational trend in funding in-service training in different Member States. The main findings are summarised below.

- National ministries of education are the most common source of financing. All programmes except the Norwegian and the Portuguese received at least some funding from this source.

- A second important source is the European Commission, through the European Social Fund (ESF) and (on a smaller scale) through the Leonardo da Vinci programme. European funding is important in all Portuguese, several Finnish programmes and in one Danish case. The preponderant role of European finance for these programmes is a cause for concern. There is a significant risk that, in the near future, the inevitable diversion of EU (and particularly ESF) funds to the new Member States will lead to financial difficulties for EU-dependent teacher-training programmes.
- In Finland and Italy significant funding is provided by local and regional government.
- In Denmark, Finland and the Netherlands, vocational training institutions provide cofunding for teacher and trainer training as part of their regular personnel development programmes.
- In Italy, the Netherlands and Portugal there are no tuition fees for teachers and trainers who take part in programmes. Some Danish and Finnish programmes, on the other hand, charge tuition fees. In Norway, tuition fees from participants cover the whole cost of teacher training.
- Equality is important in all teacher training programmes. Individual teachers participating in these programmes find themselves in different positions. Some teachers can study and update their skills during working hours, but others train off-the-job. In different cases employers provide different degrees of support, e.g. by paying for travel and accommodation expenses and study materials. As we have seen, some programmes require participants to pay tuition fees.

3.8. Impact

3.8.1. Limitations of evaluation

It is not yet possible to evaluate the medium- and long-term impact of the programmes described in the case studies. At the time of writing, many programmes were still in progress. Often formal evaluation of outcomes is weak or absent: an unfortunate yet common failure. Given these limitations we are forced to base our analysis on three useful – but incomplete – sources of information, namely:

- material outcomes of projects (volumes of new learning materials, software tools, etc.);
- non-material outcomes, reported by programme managers to PROFF interviewers (self-evaluation);
- feedback from programme participants, collected by programme organisers or by PROFF coordinators.

3.8.2. Material outcomes

On material outcomes, most programmes studied by PROFF were not designed to develop ‘a product’, but to train VET teachers and trainers. Where such products were developed they represent a ‘side effect’ rather than the programme’s central goal. These side effects were none the less real. Teachers participating in the Finnish TOKE and Telkkä programmes collected and analysed existing materials and developed new resources for on-the-job learning and skills demonstrations. In both cases, the teachers in training analysed available materials, a valuable resource not only for participants, but for everybody involved in on-the-job learning. Participants also produced useful surveys of on-the-job learning places, including quality evaluation, as well, in the case of TOKE, as surveys of assessment and evaluation practices in their own institutions. The Italian HEP programme also produced this output, with participants generating new proposals for curricular design and for interorganisational cooperation.

3.8.3. Non-material outcomes: self-evaluation

The main outcomes of the projects were primarily ‘non-material’. In all cases, the managers responsible for running programmes reported a positive impact on teacher skills and wellbeing. In Finland, the Tukeya project allowed 1 500 Finnish teachers to acquire new teaching skills. Managers responsible for the META and Telkkä programmes reported the programmes had made a positive contribution to teachers’ wellbeing and motivation, promoting a more innovative and agreeable teaching environment and better cooperation with industry. Teachers have acquired new concepts of learning and new ideas on the role of teachers in the Finnish VET system. A natural development has been improved teamwork skills and experiments with coteaching. The managers responsible for running META believe the programme has contributed to the teachers’ overall professional development, though they recognise it is hard to measure. They hope in the long term these changes will promote decreased teacher-absenteeism and help recruit teaching staff.

In Telkkä, managers report teachers and trainers taking part display increased interest in and understanding of new concepts and methodologies. Managers in TOKE believe participants have increased their motivation to develop and apply new concepts of learning. In all three cases programme leaders believe their programmes have contributed to increased networking between their own staff and those in other institutions, contributing to institutional partnerships.

The Italian HEP programme reports comparable results. HEP managers report a positive impact on intra- and interinstitutional cooperation. Training institutes participating in the programme have developed a new network-based culture, which was not previously present.

3.8.4. Feedback from programme participants

In general, feedback from participants supports the positive evaluations from managers, though in some cases participants identify areas in which programmes could be improved.

Participants in the four Finnish programmes see the multidisciplinary nature of the programmes as a great plus, enabling them to cooperate genuinely with other departments in their own institution, with other institutions and with industry. The fact they are able to develop their own projects based on their own needs is positively received. Teachers and trainers in TOKE are especially positive about the on-the-job component of their learning. Participants also give a positive evaluation of the learning materials they used, and believe they will be useful for their work after the project. On suggestions for improvement, participants in TOKE feel it would have been helpful to have had more contact with teachers and staff in companies where they were undergoing OJL. They also feel it would have been useful if company staff had participated in the skills demonstrations module. Other suggestions include greater management involvement in the programme, improved tutoring, especially during distance work and report writing, and clearer instructions for distance work. Most participants in Telkkä also found their experience rewarding, though it sometimes proved to be extremely time-consuming. Participants report improvements in the working atmosphere in their institutions.

In Italy, as in Finland, feedback from participants was positive, confirming many choices made when designing the programme. Suggestions for improvement include:

- greater attention to labour-market policy and to the role of government employment agencies;
- reconsidering ‘in-service’ training pathways, reducing the length of paid training hours (from 800 to 600 hours), and making training available to the highest possible number of teachers and trainers; at the end of 2002, these suggestions formed the basis for a second phase of the programme in the Piedmont and Veneto regions of Italy.

4. Conclusions and recommendations

4.1. VET reform and the impact on teachers

The PROFF project has identified and described cases of good practice in teacher and trainer training in six European countries. A review of these cases shows many similarities but also differences.

Perhaps the most important result of PROFF is that the reform of European VET systems is leading to major changes in the way in which VET teaching is organised. This has led to diversifying and expanding teachers' roles, forcing them to adopt new teaching practices and placing new requirements on their professional skills. These changes have placed teachers under great pressure. Some teachers have found, with their existing qualifications, they are no longer formerly qualified to teach. Everywhere, the average age of teachers and trainers is increasing, and in some countries has already produced a shortage of teachers. As a result, at least one of the programmes examined by PROFF ('dual trajecten bve') was deliberately designed to counter the risk of an exodus from VET teaching. There can be little doubt that everywhere in Europe there is an urgent need to increase the attractiveness of the VET teacher profession. To meet this need, it is necessary to create new entry routes into the teaching profession and to improve the retention of current staff.

The situation just described calls for changes in the way teachers and trainers are trained, both at the beginning of their careers and once they are already in service. In many cases, however, VET reform has not adequately addressed this issue.

The programmes studied by PROFF identify and respond to specific issues in training VET teachers and trainers. They have successfully identified the skills required by VET teachers and trainers and have developed innovative strategies for teaching these skills. The managers responsible for implementing the programmes believe they have achieved extremely useful results. To a large extent this (necessarily one-sided) judgement is backed up by feedback from participants. It thus appears that many strategies studied in PROFF are genuine 'best practices' which, with suitable adaptations, could be applied elsewhere. The case studies provide useful insight into how best to apply the strategies. Key findings are summarised below.

4.1.1. 'Pedagogical update'

Introducing new educational theories and pedagogical principles in teaching is a dominant theme in all the case studies.

VET reform (with larger-scale changes in industry and the increasing role of ICT) has created a need for new student-orientated teaching methods in which the teacher becomes a facilitator

and a coach. This makes it necessary to update teachers' pedagogical skills. These include not only teaching but curricula design, counselling students on educational choices and cooperating effectively with other teachers and with workplace instructors. This is especially important for workplace instructors who may have a strong background in their own job but who have never received formal teacher training.

A key theme in the case studies is integrating theory and practice, often via a dual approach which combines theoretical classwork with on-the-job learning, in a company environment. This prepares teachers for programmes in which their own students participate in on-the-job learning, easing the transition from school to the workplace. Bottom-across cooperation between teachers and managers in industry – initiated during teachers' own training – can later be useful in guiding and providing support for their students.

4.1.2. 'Vocational update'

In a world of rapidly changing technologies and business practices, it is essential VET teachers and trainers keep abreast of new developments in the areas they teach, providing VET students and trainees with the up-to-date vocational skills required by the labour market. The case studies show that national VET systems are well aware of this need – which programmes attempt to satisfy by creating permanent networks with industry and by providing on-the-job learning opportunities for their staff. The programmes in the Finnish case studies are exemplary in this respect. In the on-the-job learning strategies adopted by these programmes, workplace instructors bring teachers up to date with recent developments in technology and working practices, while themselves becoming familiar with new techniques of teaching. Feedback from participants suggests this practice is both effective and well received.

4.1.3. Professional wellbeing

The professional wellbeing of teachers is a growing cause for concern. In the two cases on increasing teachers' professional wellbeing, one of the main motivators was to reduce the workload of teaching staff. The common strategy to promote cooperation and sharing among colleagues appears to be the only 'survival' strategy available until teachers' working conditions change drastically. However, overcoming the barriers of tradition and mindsets, and to introducing **permanent** changes in working cultures will require much effort and work. Faced with an ageing and burdened teacher population, employers and policy-makers must realise the importance of measures to increase the wellbeing of the teaching force.

4.1.4. Target groups and teacher roles

The case studies show that in modern VET environments students acquiring new skills requires an organised team effort by VET personnel. It is important, therefore, to provide

adequate training not only for teachers but also for other personnel. Especially important is training for ‘middle managers’ who do not always have the skills effectively to manage human resources and motivate teachers for change.

Teachers themselves are taking on a much broader role than in the past. The programmes studied by PROFF place great emphasis on teachers’ managerial, administrative, teamworking, interdisciplinary and communication skills, areas which received little attention in traditional teacher training.

4.1.5. Accreditation

The case studies show that in many training institutions throughout Europe, large numbers of teachers and trainers lack the formal qualifications called for by VET reform. For workplace instructors, existing legislation usually provides no clear definition of the qualifications required. In many cases most instructors have never received any formal pedagogical training.

In these circumstances, key for teacher training programmes is how to provide teachers with the formal accreditation they need to pursue their careers. This requires careful planning of teachers’ careers, providing them with flexible learning/training pathways allowing them to achieve the required competences and professional qualifications. The case studies look at possible strategies for achieving this goal.

The Finnish Tukeya programme, described earlier in this report, provides an example of a large-scale training programme leading to a formal university qualification. Other programmes studied by PROFF offer alternative solutions including formal accreditation by institutions running the programmes and/or granting credits recognised by institutions of further and advanced education.

4.1.6. Overcoming teacher resistance

The case studies show many changes called for by VET reform did not originate from within national VET systems but were imposed from the outside, responding to pressures from industry and political decision-makers. For teachers in the profession for a considerable time and used to working autonomously, these changes represent a major upheaval. In the past, they were used to working independently, identifying themselves with the ‘subject’ they taught. In the new setting created by the reforms they have to change their practices. This means there are barriers to be overcome.

The Danish ‘reform competence project’ has identified some of these obstacles. First of all, change takes time. This may seem obvious, but it is not obvious when reforms have to be carried out in line with an externally determined timetable. Often reform planning has not paid enough attention to the need to retrain teachers. The situation is made worse when middle managers lack the competences or qualifications to manage human resources and help change teacher practices.

To overcome resistance, many projects adopted a bottom-up approach to curricula design involving teachers and trainers in planning and implementing their own training.

4.1.7. Challenges for teacher training

Despite the excellent results of the case studies, several challenges remain. Even when teachers are enthusiastic about innovative teacher training programmes, these programmes place a burden on their time. Where time and human resources are scarce teachers give priority to their short-term work priorities rather than to long-term training goals. This tendency is strengthened when teachers feel management is not fully committed to programmes and when it does not provide enough time for teacher participation (including independent ‘home’ work and taking part in formal training sessions).

An additional issue is finance. Different countries adopt different models for funding teacher and trainer training. Some are funded by the EU, a model which is likely to prove unsustainable as Europe shifts its resources towards the new Member States. In some cases, funding is provided by central, regional and local government. In others a large proportion of funding comes from participants’ own institutions or from participants themselves (e.g. the Norwegian case). The case studies give no indication of which of these models is most effective. It is none the less clear, at least in some cases, lack of sufficient financial resources prevents teachers and trainers from receiving the continual training they require.

A further cause for concern is teacher wellbeing. Facing an ageing and overburdened teacher population, it is essential that employers and policy-makers realise the importance of measures to increase the wellbeing of the teaching force. Two case studies address this issue through measures designed to promote a new, more ‘collegial’ style of work – possibly the only ‘survival’ strategy available until it becomes possible to introduce more radical improvements in teachers’ working conditions.

4.2. Recommendations

Based on the findings of the case studies it is possible to make several recommendations for policy-makers and VET practitioners.

4.2.1. Recommendations for policy-makers

- (a) It is important VET reform should provide enough financial resources for effective teacher and trainer training. This is especially important where training staff lack the formal teaching qualifications needed to develop their careers.
- (b) Policy-makers should pay attention to changing and expanding teachers’ roles. Industry and the unions should be more closely involved in defining teachers’ future roles. National policy should allow for local variations in teachers’ roles, tasks and salaries.

- (c) Training policy for VET personnel should consider the needs of non-teaching staff. It is important adequate training is provided to middle managers, who are often unprepared for the jobs they are asked to perform.
- (d) It is important to improve the training of workplace instructors – many of whom have no background in teaching and no formal teaching qualifications. One strategy for achieving this goal is to encourage teachers with the required teaching skills to take part in on-the-job learning programmes where they can transfer their skills to industry-based instructors.
- (e) It is essential all stakeholders (including industry and the unions) take part in planning and designing teacher and trainer training. It is particularly important to involve the teachers and trainers who receive training. Where participants feel reform is imposed from above they are likely to oppose change, hindering implementation of the reforms. Where they have a sense of ‘ownership’ it is more likely reforms will achieve their goals.
- (f) Effective VET requires closer contacts with training institutions and industry, making it easier for VET students to move from school to work. This can best be achieved by adopting a ‘dualistic’ approach, alternating theoretical training in the classroom with ‘on-the-job learning’. Policy-makers should provide guidelines for implementing ‘dual’ training.
- (g) Training for teachers should adopt a ‘dual approach’. Teachers themselves should participate in ‘on-the-job learning’. This enables them to keep up to date with new developments in technology and working techniques, guaranteeing the relevance of the training they provide to their students while at the same time creating the human contacts they need effectively to support their students.
- (h) Policy-makers should be aware that for teachers, the changes introduced by VET reform represent a major upheaval. It is thus extremely important that they should pay attention to teachers’ professional wellbeing – where possible reducing workloads, improving financial incentives and making efforts to provide them with a more satisfying work environment.
- (i) From the perspective of lifelong learning, in-service training should be both regular and compulsory. Initial teacher training cannot sustain the professionalism of teachers whose careers can span over 40 years.

4.2.2. Recommendations for practitioners

- (a) Key for effective VET is that practitioners maintain close contact with companies providing jobs to future trainees. This requires close and continual contacts between managers and teachers in training institutions and their company counterparts. Such contacts can be promoted via ‘twinning arrangements’ between teachers and workplace instructors. Work placements are another important tool, providing teachers with an invigorating and stimulating experience. Practical training periods in companies allow teachers to update their skills and knowledge in the subject areas they teach, while encouraging them to experiment with new teaching methods and materials, giving them a

realistic and holistic impression of the professions, and bringing elements of realism into their teaching.

- (b) In-service training should provide teachers with knowledge and skills to cope with new roles and functions. To achieve this teachers need an adequate theoretical background (e.g. on the nature and goals of VET legislation, the changing needs of employers, new teaching methodologies, how to integrate ICT into teaching). It is none the less essential they also have extensive on-the-job training – allowing them to develop a realistic picture of the needs of business, to keep up to date with recent developments in working practices and technology and to ‘network’ with company managers and instructors.
- (c) The role of modern VET teachers is not only to teach, but also to guide students in their educational choices. They have to act as counsellors, perform administrative and managerial tasks, plan, conduct research and cooperate with colleagues and external partners (other institutions, enterprises, public authorities, parents, etc.). Often VET teachers are called upon to work in cross-disciplinary teams. It is essential, therefore, that training for VET personnel should provide them with the managerial, organisational and communication skills they need to perform effectively these tasks. One way of achieving this is to encourage ‘bottom-across’ experience and knowledge sharing between personnel working in different departments in the same training institutions and with staff from other institutions.
- (d) Training programmes function best when management adopts a participatory approach allowing teachers and trainers to cooperate in identifying training needs and designing training required to satisfy those needs. Where management adopts this approach, the ‘curriculum’ is not set by training providers but is drawn up continuously with teachers. In this way, teachers take responsibility for change and acquire a feeling of ‘ownership’ which contributes greatly to the effectiveness of the programme.
- (e) The professional development of VET teachers and trainers is too important to be left to individual teachers’ motivation and personal incentives. It is not only the individual teacher who has to become more ‘professional’, but the entire organisation. Organisational change and competence development have to go hand in hand.
- (f) Change in teachers’ working cultures requires commitment and time. Teacher and training programmes will only be effective if managers show their commitment through their own active participation and by ensuring that teachers are given the time and financial support they need.

List of terms and abbreviations

ESF	European Social Fund
EUD-IT	Pedagogical IT driver's licence for vocational teachers
Eurydice	Education information network in the European Community
HEP	Higher education pathways for vocational training and labour policy management
ICT	Information and communications technology
ISFOL	Institute for the development of workers' vocational training
IT	Information technology
META	From individuality to a culture of collegiality
OJL	On-the-job learning
PIL	<i>Prosessindustriens Landsforening</i> [Association of Norwegian process industries]
Prodep	Integrated operational programme for the development of education in Portugal
ROC	Dutch regional training centres
Telkkä	Development of education and training evolving from working life
TOKE	Developing on-the-job learning and vocational skills
TTnet	Training of trainers network
Tukeva	To research, to develop and to train
VET	Vocational education and training

Annex 1 PROFF: collected cases

	Theme	Target group, scope	Outcome	Accreditation	Funding
Denmark					
EUD-IT, Pedagogical IT driver's licence for vocational teachers	Pedagogical IT driver's licence	National programme for vocational teachers	IT in educational planning, teaching materials and flexible activities	EUD-IT certificate	Ministry of Education, participants
FoU, Danish Innovation and development programme	To support innovation and development in VET	National programme for VET teachers at all levels	New conceptions of work and teaching (flexibility, guidance, learning styles)	Non-formal merits	Ministry of Education, vocational schools
Reform competence project	Competence development in VET (reform 2000)	National programme for teachers and middle management	Implementation of reform at school level and initiation of development projects	Non-formal merits	Ministry of Education: Innovation and development funds
Teakwood	Model for CVET in the woodworking industry, updating the skills of teachers	Transnational programme for VET teachers from DK, DE, IT, FI. SMEs involved	New flexible teaching methods and modules together with the industry	Non-formal merits	Leonardo da Vinci project
Finland					
Competent e-learner	Advanced level competence in ICT	Regional programme for polytechnic teachers and librarians	Professional adaptation of ICT, production of digital materials	PD training diploma	Polytechnics involved
Developing on-the-job learning and vocational skills (TOKE)	Integration of on-the-job learning and skills demonstrations into VET	Regional programme for VET teachers and workplace instructors	Updated methodological skills, networks in enterprises, R&D, national in-service training model.	Diploma	ESF, State Provincial Office, Training consortium, National Board of Education

	Theme	Target group, scope	Outcome	Accreditation	Funding
META project	Raising the quality of VET through a collegial, collaborative culture	Regional programme for VET teachers	Increased professional wellbeing and level of activity of staff, decrease in workload	Non-formal merits	ESF, Provincial State Office, institutions involved
Telkkä, Development of education and training evolving from working life	Bringing VET and working life closer to each other	Regional programme for VET teachers, workplace instructors	Formation of teacher-instructor networks, quality assurance of workplaces	Non-formal merits	ESF, municipalities, Provincial State Office, institutions and enterprises
Tukeva	Completing vocational and pedagogical competences and qualifications	National programme for teachers in adult education and partners in enterprises	Qualifications, sector-wide networks, new in-service training model	University and polytechnic degrees and credits, teaching certificates	ESF, Ministry of Education, Provinces, National Board of Education, employers, students
France					
E-communication in initial VET teacher training	Enabling VET teachers to integrate the use of e-communication in teaching	Regional programme for teacher within accounting and clerical work	Integration of e-communication in teaching, new 'conference' system	Integrated into initial VET teacher training	Ministry of Education
Italy					
FaDol distance training for trainers	Collaborative through exclusive and targeted platform	National programme for teaching and non-teaching operators in VET	New continuing training model for developing skills, integration of VET and work	Non-formal merit	Italian Labour Ministry
Higher education pathway for vocational training and labour policy management (HEP)	Updating managerial profiles within the framework of VET and labour policies	Regional programme for management of VET centres, regional administration, TUs	Experimentation of institutional partnerships	Certification by regional authorities, university, ISFOL, university credits	Regional and national funds

	Theme	Target group, scope	Outcome	Accreditation	Funding
Netherlands					
DLO GZW, Teacher training	Dual training model: teacher qualifications for professionals	Regional programme for professionals in health care, food technology and welfare	Vocational and pedagogical competences, VET teacher diploma	Registered teacher training course	Administration of Education, regular funding of teacher training
Dual trajecten bve	Professionalisation of assistants and instructors	Regional programme for assistants and instructors in VET (already appointed)	Demand-oriented curriculum, new target groups in VET	Certification by Fontys teacher training institutes	Administration of Education, regular teacher training funding, institutes
Teacher training, coaches centre vocational training (CVV)	Studies leading to certification as VET teacher	National programme for coaches at VET centres	Vocational, pedagogical competences, possibilities to work as teacher	Certificate of VET teacher	Administration of Education, Boards of centres for vocational training
Toolbox	Mapping study options and routes	Local programme for first year students of teacher education	Motivation to study, personalised study plan	Non-formal merits	Fontys teacher training institutes
Norway					
Vocational pedagogy in enterprises	Strengthening of pedagogical competence in enterprises	National programme for trainers in enterprises		Non-formal merits	Participants
Portugal					
Continuing education of teachers/trainers within the scope of special education needs	Educational support for teachers	Local programme for basic education for teachers	Production and elaboration of teaching materials, individualisation of teaching	Certification by the Scientific and Pedagogical Council of Continuing Education	ESF, Prodep III

	Theme	Target group, scope	Outcome	Accreditation	Funding
Continuing education of teachers within the scope of school libraries	Coordination and dynamics of school library (multimedia centre)	Local programme for basic education teachers	Development of resources, new learning conception, leadership of libraries	Certification by training entity	ESF/Prodep
Training initiative, Continuing professional training plan	Organisational innovation: reflective groups	Local programme for teachers in secondary school	Planning of training, developing research-action plans	Written assessment and certificates, possible credits	ESF/Prodep III –project
Training scheme for trainers of industrial relations negotiators	Programme for training industrial relations negotiators	Regional programme for union and employer negotiators	Training materials, social partner cooperation	Certification by CITE	ESF, Leonardo da Vinci project

Annex 2: Description of analysed cases

1. EUD-IT, pedagogical IT driver's licence for vocational teachers, Denmark

In 2001, the Ministry of Education launched a new strategy for education and IT. In the new strategy, focus shifts from hardware and developing e-networks to educational content, knowledge sharing and developing IT competences. The strategy focuses on how teaching, learning and IT can be combined fruitfully to exploit the vast opportunities offered by IT.

The aim of EUD-IT is to qualify teachers in use of IT-tools within the following areas:

- educational planning;
- developing teaching materials;
- using electronic media in teaching;
- developing flexible and individualised learning activities;
- cooperation and team work.

The course consists of eight modules that have to be completed and approved by the coach in order to acquire the EUD-IT driver's licence. The first module is a compulsory introduction module. Hereafter the teachers can choose among 13 modules:

- text writing and IT;
- developing teaching material;
- project work and IT;
- using presentations in teaching;
- digital pictures;
- collecting and presenting data;
- using own websites in teaching;
- statistics and analysis – collecting and processing data;
- using simulation models in teaching;
- multimedia;
- flexible learning with IT;
- language teaching and IT;
- working with the electronic education plan (*Elevplan*).

Each module consists of literature dealing with central issues, assignments, guidelines for using software and library of supplementary texts. Teachers develop their IT and educational skills with a specific view on integrating IT as a natural element of everyday teaching as well

as their ability to cooperate in teams. Teaching materials, tools and resources were developed in connection with the education programme. For more information see <http://www.eud-it.dk>.

2. Reform competence project, Denmark

In 2001, the Danish VET programmes were substantially changed in structure, content, pedagogical principles and teacher roles. The basic courses were reduced from 83 to 7 basic VET courses. VET colleges were asked to reorganise their VET programmes and turn them into flexible modularised courses where individual trainees could try out various trades before finally deciding on an area of specialisation. The reform also introduced several new concepts such as individual educational plans, student portfolios and tutoring functions for teachers.

The aim of the project is to support the ongoing competence development of teachers and middle management at vocational schools in implementing the reform.

It consists of various development projects initiated locally. The schools and actors involved influence the projects starting with specific problems or challenges at the school in implementing the reform and the teachers' and middle management's need of competence development.

Teachers develop their ability to:

- guide students;
- use the electronic education plan (*Elevplan*);
- reflect on their own practice;
- change their own practice;
- differentiate teaching according to the needs of individual students;
- work in teams.

Middle management develop their ability to:

- motivate teachers;
- plan teaching according to the 2000 Reform;
- identify competence needs of teachers;
- initiate competence development of teachers.

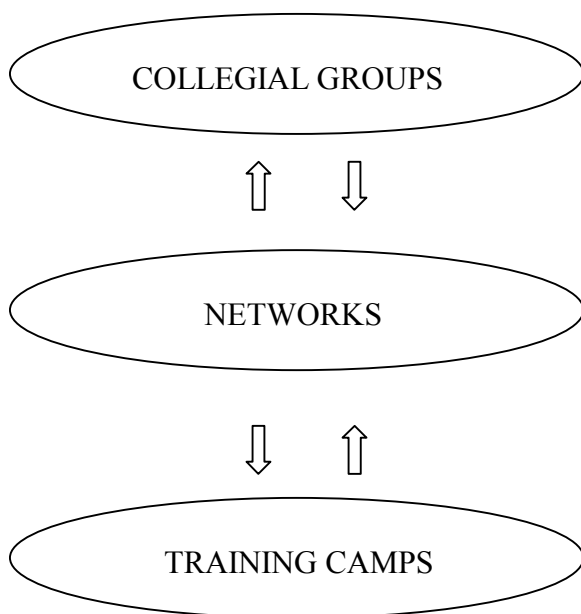
For information on materials and resources developed see <http://www.delod.dk/kompuvikling/Startside.htm>.

3. META, Finland

The META project aims at raising quality in VET by moving ‘*from individuality to a culture of collegiality*’. The programme also aims at increasing the professional wellbeing of teachers and thus combat the threat of teacher shortage.

Specifically, the programme strives to renew operation modes, develop a permanent culture of collegiality, pool people, skills and equipment, raise the quality of learning, teaching and management through long-term collegiality and emphasise learning in one’s own job.

Structure of the project:



Collegial groups are teams of two to four persons generally within the same institution. The formation is voluntary, based on individuals’ own choices. The aim is to support members in developing and renewing their teaching.

Networks are open projects built around a certain theme (e.g. special education needs, internationalisation, development of curricula, e-learning, etc.). All members should actively participate in the work of the network, i.e. be prepared to receive and deliver ideas, knowledge, experiences and skills.

Training camps are arranged two to three times per year and as forums for presenting new ideas, innovation and current issues as well as for sharing models and ideas developed in the collegial groups.

The aim is to develop the ‘deeper’ qualities in teaching: attitude to teaching, concept of learning, tutoring and counselling students. Also understanding the role of the teacher as a wider concept (e.g. tutoring and coteaching) as well as dealing with new learning environments. Expected results are increased attraction of vocational upper secondary education, decrease in drop-out rates, cooperation and utilisation of regional expertise, cooperation in purchasing costly equipment and increased attraction of the VET teacher profession.

4. Telkkä, development of education and training evolving from working life, Finland

The VET reform in Finland in the late 1990s placed huge demands on VET teachers: they are expected to enable their pupils to acquire the skills needed for working life and lifelong learning as well as developing and maintaining cooperation between VET and working life.

Upper secondary vocational qualifications were reformed from 1999 to 2001. All degrees include a minimum of six months of on-the-job learning. Also skills demonstrations to prove achievement of the objectives of vocational studies will be included in all upper secondary vocational education and training by 2005. These skills demonstrations are planned and organised in cooperation with businesses and other representatives of working life.

The aim of the Telkkä programme is to:

- develop VET to respond better to the needs of working life;
- update teachers' vocational skills;
- develop a model for developing VET through teachers' on-the-job periods;
- train workplace instructors (by teachers in training).

The programme is structured as follows:

- (a) distance work: pedagogical aspects of VET;
- (b) seminar: brief for teachers for training workplace instructors;
- (c) planning the OJL period;
- (d) two months on-the-job: forming pairs of teacher plus 'worker' and training one to two workplace instructors;
- (e) feedback – reporting by teacher and workplace;
- (f) synthesis and analysis;
- (g) training model, best practice, materials.

Telkkä from a participant's perspective:

Jaana trained originally as a teacher of home economics but later complemented her training with a bachelor's degree in the field. She has also completed the diploma of *näyttötutkintomestari* (expert on competence-based qualifications). She took part in Telkkä to get a professional update (e.g. dishes, raw materials, methods, different types of catering, insight into working life routines and understanding the professional profiles in catering).

During training Jaana felt particularly happy about testing the assignments that will eventually be given to students, i.e. is the scope of the assignment OK, up to date, relevant and realistic to require a learning diary? Also personal experience of daily life in a catering business will

help to prepare students for the realities of working life, i.e. the hectic pace and timetables, hierarchy, etc.

Besides grasping the different professional profiles, daily functions and realities in catering, she saw for herself what is important; what to emphasise and what routines students should master when entering the labour market. This has helped her develop her own teaching. Further, after seeing how demanding working life is, she has both demanded more from her students and helped them build up routines to support them.

Other outcomes affecting her teaching have been:

- no more pairwork: in the workplace most tasks are independent;
- a lot of visual material to support her teaching; photographs of working situations, settings and dishes;
- she now has direct access for study visits which can be difficult to arrange otherwise;
- she can use her own workplace partner as an expert lecturer;
- she saw what equipment should be bought for the school;
- professional wellbeing: increased confidence, new respect from students, increased energy and creativity, work seems easy and light.

Also, enterprises and instructors benefit from teachers' on-the-job training: they get neutral feedback on how to develop the workplace itself and on the guidance given to students.

Through cooperation with the workplace instructor Jaana was able to go through central issues such as coaching and assessing students and setting up common rules for students. The teacher and the instructor also listed the key skills the student should learn. During this cooperation the teacher got a vocational update and the instructor an insight into what on-the-job learning should be.

5. TOKE, 'developing on-the-job learning and vocational skills', Finland

The background for the training programme is the Finnish VET reform that started in the late 1990s which introduced compulsory on-the-job learning and skills demonstrations which will be included in all vocational qualifications by 2005.

The aim of the programme is to:

- provide teachers with skills to plan and implement on-the-job learning and skills demonstrations as well as assessment/evaluation and quality control;
- familiarise teachers with the legislation and ideology of on-the-job learning and skill demonstrations as well as pedagogy and teaching methods;
- improve cooperation between workplaces and institutions;

- familiarise teachers with practices in the businesses/workplaces.

The programme consists of four modules:

- on-the-job learning: legislation and regulations, practical arrangements and quality control, pedagogy in on-the-job learning, assessment in on-the-job learning;
- two-month on-the-job learning period: practices and networking;
- skills demonstrations and assessment: developing a common evaluation model;
- work-related research: latest research in organisations and their development.

The modules also work as independent study programmes.

The teaching materials and resources developed during the programme include:

- resources and materials on on-the-job learning as well as skills demonstrations;
- evaluating the above materials;
- data and analyses of the assessment and evaluation practices in the participants' own institutions;
- inventory and analysis of on-the-job learning places.

6. Tukeva (to research, develop and train), Finland

Finnish vocational adult education centres provide initial and continuing vocational training and education for employed and unemployed persons, including apprenticeship training. The training services are funded by the labour and education authorities and by the private sector. At these centres there are many teachers who have been in the profession for years but who lack pedagogical qualifications.

Tukeva, created in 1998, is based on experiences from previous training programmes. The main principles of the project originate from working life. The studies have been built up by universities, polytechnics and vocational teacher education colleges and are defined and assessed as other higher education studies.

Tukeva's aim is to:

- raise the level of teachers' qualifications;
- develop teachers' own organisations and raise the status of vocational adult education centres;
- improve their competitive position on the market;
- develop new models and materials, methods and contents, learning environments, blended learning solutions and disseminate these new models;
- increase cooperation between participants and organisations through networks;

- improve vocational teachers' access to continuing education;
- gain an insight – through research which is a part of the project – into the traditional and new dimensions of teachers' work, the impact of the project on the individual, organisation and society.

The programme included university level studies in pedagogy, business, economics and technology; VET pedagogy; polytechnic level studies in different departments; research and development projects.

During the programme new e-learning programmes and materials were developed as well as Metodix, a web-based environment for scientific research, methods and learning.

Tukeva has resulted in nation- and sector-wide networks. There is cooperation between educational authorities, educational organisations from secondary level to adult education to polytechnics and universities, labour unions, private companies.

7. HEP, 'higher education pathways for vocational training and labour policy management', Italy

The aim of HEP is to update the vocational skills of managers in VET and labour policies, and to promote the integration of VET and labour systems by developing a network-based culture among the actors in local systems.

The Institute for the development of workers' vocational training (ISFOL) in Italy, cooperating with some universities, has built up a programme to develop nationally valid training to ensure certifiable skill standards, provide for the lack of training in Italy and, above all, to support the reforms taking place in VET and labour policies.

The skills and competences were developed in six macro policy fields closely connected to the socio-economic environment, the service-distribution process, and the interaction between institutional and non-institutional actors and local stakeholders:

- managing relations and partnerships;
- planning and programming;
- managing structures and organisational processes;
- managing human resources;
- managing economic and financial resources;
- evaluating results and controlling quality.

Experimentation of institutional partnerships was successful. The close cooperation between regional authorities, universities, ISFOL, trainees' own organisations and other stakeholders proved to be fundamental for the success of the training pathway. Also the 'mix' of trainees

with different skills and organisational roles and different work backgrounds made it possible for them to make continuous comparisons on various subjects and thus develop a network-based culture.

8. Dual trajecten bve, the Netherlands

In 1997, the teacher training college of Fontys teacher training institutes was approached by several institutes for vocational training and adult education (ROCs) with a request to cooperate with them in setting up a teacher education programme. During the first development phase, three problem areas arose.

The first was the collective labour agreements in VET and adult education which allow for function differentiation. In these agreements teacher training colleges with 'traditional' teacher education are not sufficiently considered. They educate their students as second-grade teachers and there are no possibilities to anticipate the new functions mentioned in the collective ROC labour agreement.

Further, ROCs fear a large exodus of their teaching staff in the coming 10 years, mainly due to retirement. Finally, it was felt that educational innovation would be encouraged if ROCs started educating whole groups of teachers and trainers together.

The programme has a dual approach; it is not only about teacher training, but about a system of training for different jobs for the differentiated job profiles at ROCs, i.e. educational assistants, trainers, coaches and teachers. Educational assistants, trainers, coaches and teachers all coach, train or teach students on different levels and with different tasks. For instance an educational assistant works in an open learning centre, a trainer in practical instruction, a coach in learning at the workplace and a teacher in theoretical instruction. However, their theoretical background and experience from the world of work is mostly different.

The 13 different ROCs and a teacher training college cooperated in developing and implementing the programme and the evaluations. The ROCs as well as the teacher training college are both responsible for the quality and organisation of the dual course.

The ideology underlying the programme, its content and methodology are innovative. It is a dual route for educational staff with emphasis on learning at the workplace, i.e. integrating working and learning. It is competence-based instead of curriculum-orientated and it emphasises learning-by-doing. Teachers can develop their competences in a dual way of learning, coached by the coach from the institute for teacher training as well as by the coach in the workplace at the ROC. For every level (educational assistant, trainer, coach, and teacher) sets of competences were developed:

Educational assistants	Trainers	Coaches	Teachers
educational developments	educational developments and reform 1	educational developments and reform 2	developing training and teaching
coaching and instruction	instruction and coaching	coaching and tutoring	management and leadership
management of the learning environment	management of the learning process	communication and leadership	supervising in educational environments
general professional competences 1	general professional competences 2	development of competences	vocational pedagogy
	vocational competences	assessments and work-based coaching	vocational competences

9. Vocational pedagogy in enterprises, Norway

Akershus University College, Faculty of vocational and technical teachers and trainers, organises a study programme called ‘vocational pedagogy in enterprises’.

The target group is persons with training/teaching and tutoring functions in enterprises and companies. The programme has no formal educational requirements for applicants.

The programme was established in 1992 as cooperation between PIL (*Prosessindustriens Landsforening* – Association of Norwegian process industries) and *Statens Yrkespedagogiske Høgskole*, (now part of Akershus University College, Faculty of education of vocational and technical teachers and trainers.) The background for the initiative was a need from PIL to strengthen pedagogical competence in enterprises – not least with the forthcoming Reform94 (comprehensive reform in upper secondary education – including all initial vocational training in Norway). Since the reform, the main track for vocational education and training in Norway is two years at school and two years in companies. This means companies have more formalised responsibilities and obligations for training in its last two years. This initiative was later taken over by the college – and developed further outside PIL.

The programme is organised as an ‘open’ offer, having a heterogeneous group of participants from several companies and sectors of society. It is also delivered to specific target groups or enterprises/companies.

The programme is founded on adult education principles: experiential learning, theory/practice integration, participants’ orientation, collaborative learning as well as individually designed study processes.

The focus is on building on the experience and insight of students and on connecting learning activities directly to participants’ work in their own enterprises. Theory and methods are learned as a part of, or parallel to, practical tasks, adopting a holistic approach.

10. Continuing education of teachers within the scope of school libraries, Portugal

Following publication of the report *Launching the network of school libraries* in 1996, the national programme ‘network of school libraries’ was started as an educational policy measure. The school library, understood as a multimedia centre where information for educational purposes is processed, integrated, made available and produced in different media (books, newspapers, video, films, slides, computer programmes, online information, etc.), is therefore one of the main resources for curricula development. Consequently, it became necessary to promote training in school libraries.

The ideology of ‘teaching to learn’ emerged as a key skill for teachers, perceived as a process for developing skills that make it possible to manage the abundance of information available.

The goals of the training programme were to:

- improve professional performance in developing projects assigned to them;
- acquire, through self-learning, the necessary skills to realise the projects;
- encourage exchange of experiences and a research spirit for new scientifically proven dynamics;
- acquire new skills aimed at professional development and personal enrichment.

The programme consisted of:

- analysing policy background;
- reflecting on the role of the library teacher as cultural facilitator of the school;
- creative workshops for producing materials;
- organising the library/resource centre’s documentation;
- new technology and resources;
- project development.

The action made it possible to develop the following skills:

- leadership of school library projects;
- organisational techniques and animation of school libraries;
- team work and team spirit;
- new forms of relating to knowledge, structuring learning situations of pupils by using school libraries.

During training participants developed thematic dossiers, pedagogical kits and brochures. The thematic dossier included documentation on:

- preliminary organisation of the documental base: material in written (books) and non-written media, according to the international library science standards;
- library organisation and management dynamics;
- animation of libraries: programmes, suggestions and developing production workshops;
- new technology and school libraries;
- recovery of books and binding.

The pedagogical kits included puppets, *papier-mâché* masks, scenery and posters.

The following innovative dimensions were created:

- collaborative work among teachers;
- production of a thematic dossier to support the organisation and dynamisation of school libraries, freely available to all those interested;
- acquiring new skills for new forms of relating to knowledge, new modalities of structuring the learning situations of pupils using school libraries.

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European Centre for the
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Europe 123, GR-570 01 Thessaloniki (Pylea)
Postal address: PO Box 22427, GR-551 02 Thessaloniki
Tel. (30) 23 10 49 01 11, Fax (30) 23 10 49 00 20
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