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European approaches to credit (transfer) systems in VET

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An assessment of the applicability of existing
credit systems to a European credit (transfer) system for
vocational education and training (ECVET)

Isabelle Le Mouillour

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Foreword

The credit transfer in VET study was commissioned in 2003 to the Centre for Research on Higher Education and Work at the University of Kassel, which charged the author to carry out this investigation.

Cedefop exchange

Improving vocational education and training, backed by closer cooperation throughout Europe in VET, is increasingly regarded as an important element in creating a European labour market, implementing the European employment strategy and meeting the Lisbon goals set for Europe's competitiveness, social cohesion and job creation. In the interim report of 2004, the Council reiterated the importance of agreed education and training objectives for realising the targets set for 2010.

The study was backed by the professional advice and contribution of members of the credit transfer technical working group. They provided addresses of stakeholders and experts from their respective countries and commented upon provisional and final outcomes. The text was provisionally placed in Cedefop's credit transfer virtual community for comments and suggestions, which were retained for a revision of this final version. This is now being provided as a hard copy publication in the Cedefop Reference series. We would like to thank all contributors to this work, particularly the respondents to the questionnaire and the members of the TWG for their eminent support.

We must thank above all the author and the staff of the Kassel centre for their excellent contribution. With this survey they have proven that VET and LLL domains are no longer distinct from their own concerns. ECTS and ECVET approaches are still distinct, though, this survey offers the view that this ought, within the foreseeable future, no longer to be the case. Outcome or output based approaches to measuring performance and achievements will have to become part of both, even if workload and institution based academic education and training does not become obsolete. What is needed is a convincing description of a taxonomy or typology of (outcome based) knowledge, skills and competences applicable in both domains, the academic and VET or LLL. That issue is already being pursued in another study recently launched by Cedefop.

Proposals and principles for realising a European system for credit transfer in VET were discussed and brought forward in formal and informal meetings with members of the TWG. They have been transferred for information to the Council of Ministers which discussed the interim outcomes in December 2004. They underlined the importance of this activity alongside the wish to come to an agreement on an open and flexible European qualification framework by the end of 2005. The credit transfer framework ought to be incorporated in a wider framework encompassing higher education and VET (LLL). This political task, expressed in the Maastricht Communiqué, should be implemented in most, if not all, Member States. This work should contribute significantly to implementing these wider policy objectives alongside the prime objective of supporting practitioners and training providers in the Member States in their day-to-day efforts on cooperation.

Stavros Stavrou, Deputy Director

Burkart Sellin, Project coordinator

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Executive summary

Purpose and scope of the research project

The origin of the survey was in the activities of the technical working group on credit transfer established in the context of the Copenhagen process. It is linked to a series of studies supported by Cedefop on issues such as mutual trust, qualification levels frameworks, typology of knowledge, skills and competences. The purpose of the study is to provide an assessment of the applicability of existing credit systems to national VET systems, thus contributing to the conception of a European credit (transfer) system for vocational education and training (ECVET).

From a scientific viewpoint, little has been written on the developing and implementing credit systems for education. The survey identifies the main constituents of credit systems in the context of describing national VET systems. Those constituents contribute to defining relevant characteristics and possible principles for the ECVET system. The scope of this project is directly linked to a broad definition of mobility, which is considered as having three dimensions: geographic (between or within national borders), vocational/occupational (vertical and horizontal perspective) and lateral (bridging formal and non-formal learning activities).

Method

This study is based on two main methodological approaches. There is an analysis of literature, covering current publications in English, French, German and Spanish on national VET systems, European education programmes and initiatives and recent VET research projects. Due to the existing credit system in higher education, the study also takes in the characteristics of the European credit transfer system for higher education (ECTS) and published reports and documents on this issue. Then there is a survey addressed to 360 VET experts in different European countries (plus Australia and the USA); these include national education and labour ministries, social partners, qualification authorities, VET providers, private firms and research/consultancy organisations. The experts were selected on the recommendation by members of the technical working group and on the basis of their membership of the virtual community on credit transfer operated by Cedefop. The survey follows an explorative strategy (based on open questions) not claiming to be representative. The validity of the results has been secured through feedback to experts.

The report starts by analysing characteristics and changes in national VET systems before concentrating on defining the functions of credit systems in education in a broad sense. Both elements allow for analysis of the constituents of credit systems in education and specifically for ECVET. The conclusions are drawn in terms of proposals for principles and experiments.

Results

Diversity and diversification of national VET systems

- Diversity and diversification apply to both institutional and individual levels. At institutional level, the governance structure is much the result of embeddedness in a given economic, social and political context. It greatly influences the mission statement and the scope of the involvement of stakeholders as the VET systems vary along the dimensions of centralisation, multipartism, standardisation and credentialism.
- National VET systems can be considered as learning systems which adapt to the requirements of the knowledge society at large and to the objectives set up within the Lisbon strategy. This becomes obvious by considering the recent legislative initiatives and the schemes developed.
- The individual or learner level is the core of credit system in education. The first evidences are that ‘the’ learner does not exist and that mobility with European VET is currently rather limited. From a learner viewpoint, three main types of VET system can be identified: apprenticeship or dual, school-based and competence-based systems. This confronts the learner with a broad variety of learning activities and settings which concerns the time allocated to single learning activities as well as the schedule of VET programmes.
- Both VET institutions and learners are engaged in a competence based approach to management and realisation of learning activities. This approach is linked, in most national VET systems, to the definition of vocational profiles established on the basis of exhaustive task analysis in real work situations.
- Knowledge, skills and competences (KSCs) are categorised in many national systems along the dimensions: professional, social and self KSCs. This has an influence on the concept of qualification, the definition of certification and validation procedures.

Patterns for credit (transfer) system

- The concept of credit system was introduced in the 19th century in the United States and in the 1980s in Europe for higher education (European credit transfer system, ECTS).
- The best way to approach this system is to define its functions. A credit system in education aims at facilitating mobility on a broad scale by offering mechanisms for transfer and accumulation of learning units. These correspond in VET to KSCs. A more detailed list of functions would include the support to recognition, transparency, and certification of individual KSCs.
- The ambitious spectrum of functions of credit systems has grown along the concept of lifelong learning. Demanding issues for ECVET and for ECTS are individualisation of the learning pathways and recognition of non-formally acquired KSCs.
- Originally conceived as a quantitative measurement of parts of higher education programmes, credit systems now have to meet requirements in terms of qualitative

statements. The quantitative approach is linked to considering the institutional and organisational setting and management of study programmes, the qualitative approach being oriented towards the learning outcomes of learning/teaching processes for learners.

- The range of variables for measuring credit encompasses workload and notional learning time in higher and adult education. Their definition is linked to conventional agreements. The reality of time organisation in VET calls for new conventional basis.
- A precise explanation and identification of credits (nature and type) should be part of a VET credit system, especially if ECVET intends to be applicable to lifelong learning. The lifelong learning perspective introduces the new issues of validity and sequence of credits.
- The issue of learning outcomes in relation to credit systems has recently been emerging for higher education and has always been essential to the development of ECVET. Learning outcomes represent the interface between educational/pedagogical logic and the labour market.
- Learning outcomes are linked to qualification standards definitions and occupational profiles which have been developed in most Member States, although using different templates.
- The accumulation and transfer functions of credit systems accompany the enlargement and enrichment of the learners' knowledge, skills and competences across professional/vocational specialisation and across levels of education and training systems.
- In HE, credit points are attributed to small, manageable and transparent units within study programmes. Although understanding modules varies is greatly between countries, and this aspect still requires much attention, the concept of modularisation is essential to ECVET as it allows blocks of KSCs, characterised in terms of logical sequence within vocational profiles, to be defined.
- ECVET is developing alongside the increasing attention given to formal and non-formal learning activities. It requires mechanisms for recognising mobile learners' prior learning or experiential achievements and flexible quality-assured certification processes. Allocation of credits might be part of recognition towards a certificate but it is no assessment or certification procedure.
- For its implementation, ECVET requires a compilation of different templates into a toolkit. Those templates should integrate the guiding and describing principles for ECVET to support cooperation and trust between the stakeholders (i.e. a template for agreement) and should be conceived as completion for the documents and templates included in Europass.

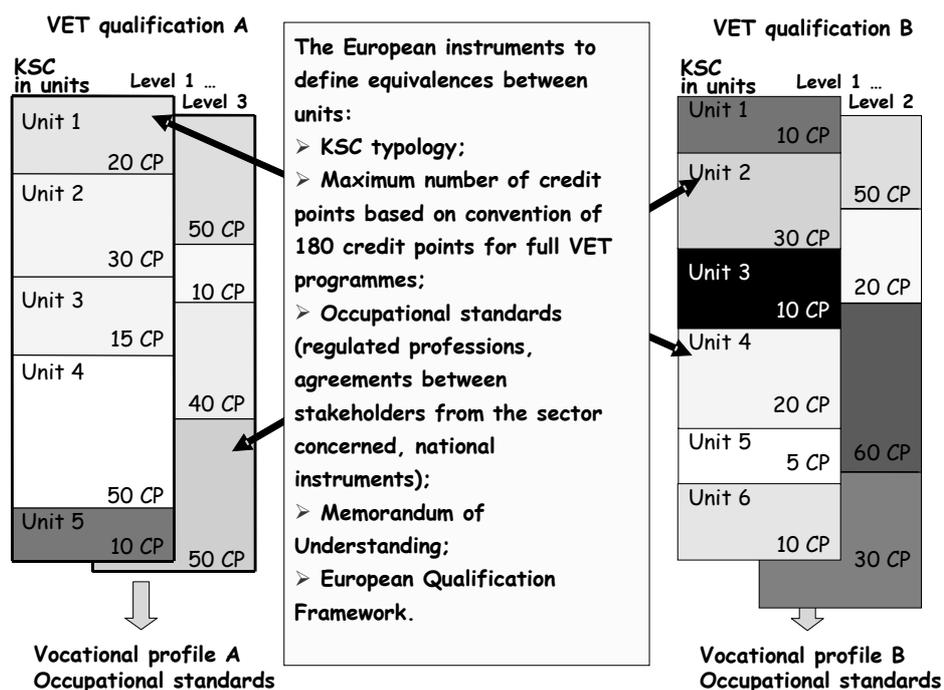
The pilot proposal

Based on European VET characteristics and the functions and expectations of a related credit transfer system, the proposed model aims to support the mobility of individual VET students (young and adult) by facilitating transfer and accumulation of individually acquired learning outcomes.

The overview of existing or emerging credit systems allows consideration of different issues related to a European credit system: levels and standards, modularisation and unitisation, recognition and validation procedures, principles, documentation, memorandum of understanding and the definition of credit points.

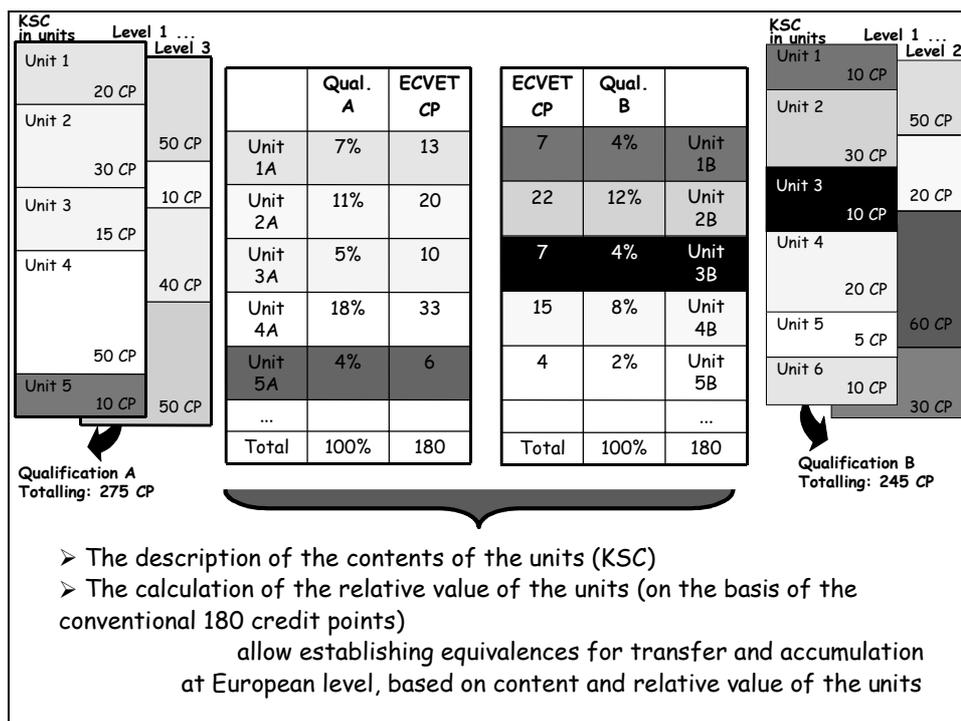
Some of these issues are clearly the responsibility of the national stakeholders and authorities (i.e. recognition, standards). Others, such as the principles, the documentation (including Europass) and the memorandum of understanding, belong to the European credit system. The issue of credit points has to be tackled considering both national and European levels. Credit points are allocated for the individual acquisition of KSCs aggregated into units. The units might reflect different levels of proficiency (i.e. of the emerging EQF) and combine in a given qualification (established by national standards). National authorities calculate the amount of credit points allocated to the units using two main approaches: the resources invested (i.e. notional learning time, workload) or the output achieved (i.e. KSCs). The rationales for both approaches are presented in the report. Further, ECVET is meant to encompass non-formal and informal learning activities: the results of learning efforts or working experiences which cannot be translated into a metric time system but use consideration of the KSCs acquired and methods for the validation of prior learning experiences (which have still to be introduced in some national VET systems). Consequently, a European credit system has to take into account competences (widely used in vocational education/training) and be compatible with existing credit systems based on workload (currently used in European higher education, and some national VET systems).

The role of credit points within ECVET is that of a common reference between different types of VET programme, leading to more or less equivalent vocational profiles. The issue of credit points is embedded into a set of European instruments as presented in the following figure.



A European credit system does not have an ‘administrative’ perspective but aims to support the assessment of equivalence between different qualifications and individually achieved learning outcomes in transfer or accumulation. Yet the central question is how to establish rules for transfer and accumulation of units (between different national VET programmes, corresponding to parts of qualifications). This can be done as follows, in accordance with the results of the survey:

- from increased proficiency through years of learning activities (i.e. the eight levels of the current European qualification framework proposal). The relevance of levels/sub-levels to a credit system for VET is in anchoring the credits;
- from generic KSCs (numeracy, literacy, etc.) and specific or vocation-oriented KSCs;
- a given combination of generic and specific KSCs belonging to different levels, corresponding to a vocational profile and/or a qualification;
- a vocational profile defined nationally (within repertoires or registers of vocational standards) and communicated to the partner institutions; some profiles might already be Europeanised within, for instance, the regulated professions;
- a given total number of 180 credit points for a full qualification which is agreed by convention.



Using the European convention on credit points it is possible to establish equivalences for the relative value of the units, making information on at least the three following issues indispensable:

- learning outcomes: the common understanding on KSCs linked to professional fields and qualification profiles, the mapping and tuning activities to define elements of comparability, the definition of equivalence between learning units;
- learning activities and timetable: synchrony and sequences between different VET programmes, the modules in ECVET, the regulations on certification, recognition procedures;
- financial arrangement for mobility within or without institutional arrangements.

The survey identifies vocational sectors for the experimentation: social and health care, tourism, chemistry, metallurgy, agriculture, catering, transportation, and information and communication technologies.

Conclusion

The results presented above lead to a concept of ECVET as specified in the last part of this report. It includes requirements linked to the structure and contents of VET programmes, the allocation mechanism for credit points to blocks of KSCs and mechanisms for transferring and accumulating credit points for mobility. Further research is needed on the single constituents of a credit system and on the issue of convergence of national VET systems in the perspective of developing an infrastructure for lifelong learning.

1. Introduction

1.1. Scope of the research study

1.1.1. Context

In 2002 the European Commission set up technical working groups to tackle the issues identified in the Copenhagen Declaration. The third priority is the further promotion of recognition of competences and qualifications. The mandate given to the technical working group on credit transfer was ‘Investigating how transparency, comparability, transferability and recognition of competences and/or qualifications, between different countries and at different levels, could be promoted by developing reference levels, common principles for certification, and common measures, including a credit transfer system for vocational education and training’. The work of the technical working group (TWG) is steered by the European Commission and supported by Cedefop, both of which contracted a number of external consultants on behalf of the TWG.

This research project can be considered as complementing the expertise on zones of mutual trust and qualification levels frameworks presented by Coles and Oates (QCA, 2004) which is currently in print by Cedefop. This proposes a possible European reference levels structure which may underpin the development of an overarching European qualifications framework. A further contract was awarded to the Toulouse based School for Higher Commercial Studies on a typology for knowledge, skills and competences. Finally a study on principles for certification to underpin ECVET was launched later in 2004 by the services of the European Commission.

I would like to express my thanks to Ulrich Teichler and Burkart Sellin for their support and to the members of the technical working group for their cooperation. Thanks to Patrick Werquin (OECD) and Mike Coles (OECD/QCA). I am also grateful to the national VET experts for their patience and transmission of their knowledge via the electronic survey. The responses and comments are so valuable to this study project and for the development of ECVET that they are all quoted in the annex to this report. References to the answers will be made in the text by quoting the table concerned.

1.1.2. Aim of the research

The purpose of the study is to provide an assessment of the applicability of existing (credit) systems to a European credit (transfer) system for VET. It draws from experience made at all levels and on mapping exercises (see below) that explore how far and under which conditions existing approaches to credit transfer may underpin the development of a European credit system for VET (ECVET) by enabling and increasing the use of credits and credit systems for

international and European mobility and cooperation. Even if in the first instance it concentrates on initial and formal VET provision, the outcomes of this study should deliver guiding principles for lifelong learning and accrediting non-formal and experiential learning.

The main outcomes are:

- a comprehensive overview of different applicable schemes and models for credit systems and transfer;
- a proposal for a set of common principles for a European credit (transfer) system (ECVET);
- proposals for an experimental programme and pilot experiments to be launched at bi- or multilateral level.

For these purposes the study analyses current developments in VET in selected countries: Germany, Spain, France, Ireland, Hungary and Finland. These countries illustrate varying stages of development within the respective VET system in implementing a credit system and a European credit transfer and qualification framework. This requires consideration of systems which are not per se comparable because of national traditions and priorities.

A national framework of qualifications has been introduced in Ireland. France has been experimenting with validation procedures allowing for the accreditation of prior learning. There is a strong tradition of competence orientation in Finland. In Spain and Hungary new regulations are emerging with new qualification laws, including national registers for occupations and qualifications. Germany is on the edge of renewing its legal basis for VET.

The intention of this report, however, is not to provide an exhaustive description of national VET systems, and of the emerging European VET system as a consequence. It is to describe and analyse a number of features relevant for the further development of a European credit (transfer) system in VET, which is open to all kinds of lifelong learning and takes into account the current European credit transfer system for higher education (ECTS). This latter is also in a stage of reform or extension in order to reconcile initial, further and higher education and to enable links with lifelong learning provision.

1.1.3. Methodology

This research design is based on two main methodological approaches: an analysis of literature covering current publications in English, French, German and Spanish and an empirical electronic survey addressed to 360 VET experts in different European countries. A total of 66 online validated questionnaires were received between 27 April and 20 May 2004, a return rate of 18.3 %. It does not correspond exactly to the number of experts engaged in this empirical study as many experts joined on behalf of their respective organisations specifically to respond to the questionnaire.

The research design was chosen by defining the survey objectives to develop hypotheses which require exploration and quality oriented methodology (as opposed to a quantitative approach). The empirical qualitative approaches use qualitative data to build hypotheses and models. This survey is designed as an expert survey with a non representative sample. Part of the results have been validated in the context of feedback to the technical working group members, especially on principles for ECVET, measurement and role of a credit (transfer) system in education and training (see also the respective elements in the virtual community made available by Cedefop on ECVET: <http://communities.trainingvillage.gr/credittransfer>).

Chapter 2 of the report deals with the characteristics of vocational education and training, crucial for defining a credit system and its functions, which are presented in Chapter 3. Chapter 4 presents an analysis of the main constituents of a credit system. Chapter 5 presents a tentative summary in terms of proposals for a set of common principles and for pilot experiments. Open questions and challenges will be summarised in Annex 1 and Annex 2 (the latter available online only, see p. 111 for link).

2. Characteristics of national VET systems

This chapter presents the main characteristics and innovations within national VET systems that are relevant to developing a credit system in education: the regulatory and legislative framework of the national governance structure, the heterogeneity of the stakeholders and the learning and training pathways. There is a special focus on the selected countries and the outcomes of the online survey are summarised. Whether the concepts existing in the HE system can be transposed to another context is assessed.

2.1. Regulatory and legislative framework

One fundamental aspect of any national VET system is its governance and regulation structure. As ECVET will require integration, it is worth from the start looking at the existing and evolving national governance and regulation structure. I understand governance as defined by Mayntz (1993, p. 11): ‘the social coordination of collective action by systems of norms and order’. The governance ability of public and private bodies is influenced by the available competences for policy-making. This is determined by the legislations and regulations at work, above all in the national context as far as VET is concerned. The comments of the experts on their national VET system (Table 11 – available online only, see p. 111 for link) bring evidence of the diversity of the national systems and of the diversification within them. The responses can be systematised as follows.

The governance structure is highly complex and in most of the countries is based on tradition and consensus between the different stakeholders. The survey highlights varying centralisation, with Cyprus, France, Luxembourg, Portugal and Turkey being considered as highly centralised whereas Germany, Spain, Austria, Finland and the UK are considered as decentralised systems and Hungary is engaged in a decentralisation process since the 1990s. The responsibilities for VET are divided in most countries into two parts, one falling within the competence of the Ministry of Education and the other being under responsibility of the Ministry for Labour or Economy (or both). In certain sectors like health or agriculture, a third Ministry might be strongly involved. The structure might be even more complex if one considers that in countries like Germany federal legislation applies for the company part and State (*Länder*-) legislation is in force for part-time school within the dual system. In the case of Belgium, parts of the system are organised by the public sector and others are left to the private sector. In Ireland, recent legislation has established three new statutory organisations (a national qualifications authority and two awards councils) which have the task of developing and implementing a national framework of qualifications based on standards of knowledge, skill and competence (OECD/NQAI, 2003). VET systems appear as highly regulated and, in contrast with higher education, their degree of autonomy is rather low, for instance in the case of Austria (Table 11 – available online only, see p. 111 for link).

One further essential aspect is the tripartite governance structure existing in many countries, as in Australia, Denmark, Germany and Austria where the social partners, the authorities (ministries, education boards at national and regional levels) and VET providers negotiate on the regulatory and legislative VET framework. In France, the diplomas are created after consultation with the social partners and sectoral commissions (Table 11 – available online only, see p. 111 for link). The French example shows that centralisation does not exclude tripartism in given VET fields. As underlined by the Danish VET expert, the recent development of a framework governed system, however, ‘has given greater autonomy and co-responsibility to the actors (schools, trade committees, local committees) in terms of defining details of content and execution of programmes and in terms of financial and quality management. These changes are part of strategy to ensure that the system can continuously respond proactively to changes in the labour market and the wider society without necessarily amending the legislative basis and to ensure better responsiveness to local conditions and the different needs of sectors and trades’ (Table 11 – available online only, see p. 111 for link).

2.1.1. Insights into recent changes in governance and regulation at national level

According to the study by Colardyn and Bjornavold (2003, p. 30) the Finnish VET system is characterised by its decentralisation. The training provided in vocational schools covers practically all branches of trade and industry (EVTA, 2001). A comprehensive reform of legislation governing basic education, secondary education (general upper secondary education and basic vocational education) and adult education came into force in January 1999. The new acts focus primarily on regulating educational objectives and contents, levels and forms of education, and students’ rights and responsibilities. The new legislation increases the powers of the providers of education and applies equally to municipal, state and private education (EVTA, 2001, p. 15-27). In Finland, according to the long-term (1999-2004) Development plan for education and research, the conception of VET relies strongly on acquired competences (Kärki, 2002). Further details will be presented later in this report (2.3 below).

In France, the last three decades have witnessed major changes in VET legislation, addressing both collective and individual levels and the importance of diplomas and degrees. VET is shared between many different ministries (agriculture, health, sports, etc.), the ministry in charge of national education having the main responsibilities. As indicated in the OECD French national report (2003a), whatever the sector or the activity concerned, the indicator of individual qualification at the end of a VET programme is the diploma and the diploma is consequently used for classification and access to the labour market (own translation). It is possible to identify a bringing together of the qualification and the adult education comp. lifelong learning systems. This is mirrored in the regulatory framework by the modernisation law from 17 January 2002 that introduced a national repertory of professional certificates (*répertoire national des certifications professionnelles*), an inter-ministerial national commission for certification (*Commission nationale de la certification professionnelle*) and further developments of arrangements for the APEL (see OECD, 2003a).

German VET has been regulated since 1969 by the Vocational Training Act (*Berufsbildungsgesetz*, BBiG) that was slightly modified in 2002. The Handicrafts Regulation Act regulates vocational training in the crafts sector, with close orientation to the Vocational Training Act. The dual system operates on this basis while the *Länder* are responsible for the vocational schools. The Vocational Training Act from 1969 (BBiG I S. 4621) introduced rules for general standards for occupational titles, training content and duration, and examination or assessment standards which stipulate the requirements to be met for certification and prescribe mechanisms, modalities and procedures for examination. The German dual vocational training system and the VET system in general are geared by the vocational principle (*Berufsprinzip*). As mentioned by online-experts ⁽¹⁾, the term profession is equated to the vocation, historically rooted in guilds (Table 11 – available online only, see p. 111 for link). The German concept of vocation not only lies at the heart of training delivered by the dual system but also underpins the multitude of leitmotifs and acts of legislation regulating the differentiated system of initial and further qualification in Germany. However, as mentioned by Kutscha (2003), the dual system of vocational training has long since been transformed into a plural system with a range of different functions which are steered by a complex mechanism of a mixed regulating system. The attractiveness of German VET is linked to the high level of portability of its qualifications: ‘a qualification from this system is the starting qualification for the German employment market (...) this portability is also achieved by involving employers and unions as central partners in the process of designing, implementing and monitoring training’ (Reuling et al., 2004, p. 19). New regulations have introduced a modular concept in the third year of apprenticeship (Cedefop Info, 2000).

In Hungary, the restructuring of vocational education and training has been an intrinsic part of the transition to a market economy. As a result of the complete overhaul in the 1990s, a system has been set up characterised by shared responsibility and local autonomy; it is one of Europe’s most decentralised systems according to Halász et al. (2001) while human resources development has also become more important (see Kopeczi, 2000). The Public Education Act (1993) defines the level of educational support, the programmes to be initiated, the core organisational and operational framework of education, and participant rights within education. This law called for the restructuring of curricular regulation, with the introduction of so-called two-tiered regulation, under which the school level organisation of teaching and learning is handled within the framework of nationally defined documents but on the basis of programmes prepared by schools and adopted at the local level (see Halász, 2001). After the introduction of the national register of vocational qualifications, national curricula were developed between 1996 and 1999. A law on adult education was adopted in 2001 and laid down the framework for the introduction of lifelong education in accordance with European Community proposals. In vocational training, a continuous process of standardisation and modernisation of the list of national vocational qualifications has been initiated (CEC, 2002b). There is, however, little consideration of credits in VET other than modularisation in the continuing reform of VET and growing attention to quality matters.

⁽¹⁾ Online-experts means those who participated in the online survey.

Granville (2003, p. 262) describes Ireland as a society attaching high importance to credentials. He sees this as due to the high social status and significance of educational achievement and the centralised, essentially unitary system of educational qualifications in the state. In the Irish context the notion of awards is essential. The Qualifications Education and Training Act, 1999, fully enacted in June 2001, aimed to establish and develop standards of knowledge, skills and competences, to develop a framework of qualification standards, to promote the quality of further and higher education and training, to provide a system for coordinating and comparing awards and promote access, transfer and progression for learners. This act also established the national qualifications authority (NQAI), as well as creating two new awards councils (HETAC and FETAC) (see Qualifications (Education and Training) Act 1999). It focuses on learning outcomes described in terms of knowledge, skills and competences. It also aims to promote lifelong learning (National Qualifications ..., 2003a). According to the OECD Ireland national report, the reform of the qualifications system embodies a significant rationalisation of the range of bodies that make awards in Ireland. The structural arrangements established under the 1999 legislation can be seen as a compromise between creating a system that would meet future lifelong learning demands, and maintaining the confidence of learners and employers in the value of the awards and their support structures within the existing system (OECD/NQAI, 2003, p. 66).

The 2003 OECD report on Spain stresses the implementation of a decentralisation *à l'espagnole* which specially has a strong impact on education matters. In the Spanish context this means 'on the one hand, a wider space for independent decisions on the part of the autonomic governments⁽²⁾ and, on the other, to keep the idea of a common nation and consequently a joint set of goals in terms of policy' (OECD, 2003b, p. 11). As stated by an online-expert, 'in organisational terms, the national qualification and training system takes as its starting point the spheres of power attributed to the General State Administration and Autonomous Communities and likewise the area for the participation of the social partners, as reflected in the makeup of the General Council on Vocational Training' (Table 11 – available online only, see p. 111 for link). The major development in VET in Spain is the law from June 2002 which aimed at modernising the VET system by introducing 'a set of instruments and schemes needed to promote and implement the integration of vocational training offers made through the National Catalogue of Occupational Qualifications' (Ley Orgánica 5/2002 Art. 2). The institutional backbone is 'the National Catalogue of Occupational Qualifications, the stated purpose of which is to facilitate the integration of the different forms of certification and accreditation of occupational skills and qualifications' (Table 11 – available online only, see p. 111 for link). A decree from September 2003 defines the national catalogue of occupational qualifications. Details of modularisation, competences, professional families and qualification levels will be presented later in this report.

(²) 'All Autonomous Communities have educational responsibilities but some are more developed than others, especially those called "historical" communities such as the Basque Country or Catalonia' (OECD, 2003a, p. 12).

2.2. Division of involvement and heterogeneity

2.2.1. The stakeholders

Developing and implementing a credit system in VET requires the cooperation of stakeholders from national VET systems. According to the Lindeperg survey on French VET (2000), initial and further VET are at the heart of economic development, labour market and social cohesion policies and require the definition of clear responsibilities and cooperation rules for the corresponding stakeholders. This complexity is, to some extent, a guarantee of quality but mostly an indicator of the complexity of the coordination tasks at national and European level. The main characteristic is the positioning of the VET system at the interface of both the labour/employment system and the education/labour system, with respective tasks as presented in the following table.

Table 1: Overview of the stakeholders

	Education/training system		Employment system	
National MACRO	student/parent organisations	administration of education and training organisations	employee organisations	employer organisations
Regional/local	association	bureaucracy	networks	association
Organisational MESO	student/parent representatives	education and training organisations	employee representatives	enterprises, firms
Individual MICRO	individuals households	teachers trainers	individual employees	individual employers
	demand for education and training	supply of education and training	supply of competences	demand for qualifications
	Education and training market		Labour market	
Quantitative coordination tasks	choice of studies, application	supply of studies Selection	supply of graduates of competences	labour demand selection of employees
Qualitative coordination tasks	influence on provision, selection	structure of studies pathways	structure of credentials	divisions of labour

Source: adapted from Descy and Tessaring, 2001.

The online survey brings evidence of different levels of influence among the stakeholders. In Germany for instance, ‘the influential stakeholders are chambers of trade, chambers of industry and commerce, trade unions’, the activities of these stakeholders are considered as ‘organising principles’ of the German VET system (Table 11 – available online only, see p. 111 for link).

Table 2: *Level of involvement of different stakeholders in selected activities*

Level of involvement of ...	National/ regional authorities/ bodies	VET providers	Employers' organisations	Employees' organisations	VET R&D institutes, experts	Learners and their families
the qualification standards	1.7	3.1	2.4	2.5	3.1	4.3
the study programmes (e.g. division into units)	1.9	2.8	3.0	2.9	3.0	4.3
the teaching-learning processes (learning environment)	2.6	2.0	3.6	3.3	3.0	3.9
the assessment and examination procedures	2.1	2.5	3.0	2.9	3.2	4.2
the recognition and certification procedures	2.0	2.9	2.7	2.9	3.3	4.5
Count	30	28	28	27	27	27

NB: Question 1.2 to 1.7 Within your national VET system, to what extent are national, regional authorities or bodies; VET providers; employers' organisation; employees' organisations; learners and their families involved in determining ...? Scale: 1=to a very high extent to 5=Not at all

Results of the online survey show that national and/or regional authorities and bodies are the stakeholders with the highest level of involvement. They are very involved in defining qualification standards and in the structure of the study programmes. Dependent on national tradition, the involvement of authorities and bodies oscillates between centralisation (France, Luxembourg, see Table 11 – available online only, see p.111 for link) and decentralisation/regionalism (Spain, see Table 11 – available online only, see p. 111 for link). Ministries of economy and education are most often quoted as involved, in relation to either the apprenticeship or the school-based part of the VET system. In Germany, the federal level is in charge of company-based VET and the State is in charge of the school-based system (Table 11 – available online only, see p. 111 for link). These bodies and authorities are less involved in pedagogical matters linked to the teaching-learning processes.

The employers' and the employees' organisations are heavily involved in determining the qualification standards (respectively notes of 2.4 and 2.5 on a scale from 1 to 5) and to some extent in determining recognition and certification procedures. One differentiation between national VET systems might be linked to the degree of apprenticeship, as in Austria (Table 17 – available online only, see p.111 for link). In some countries, such as Finland and the Netherlands, the involvement of the employers' organisation reaches the level of joint responsibility (Table 17 – available online only, see p. 111 for link). Both 'employers and employees are by law responsible for providing job competences profiles as base for qualification standards' (the Netherlands, Table 19 – available online only, see p. 111 for link) or 'they are dealing within the process of preparing and deciding qualifications, national

qualification specific core curricula and education provider's curricula. They organise and assess on-the-job learning and skills demonstrations at workplaces' (Finland, Table 17 – available online only, see p. 111 for link). Most of the comments made by the respondents stress the common practice of tripartite and the mix of bottom-up and top-down cooperation on the selected matters (see the comments in Table 17 and Table 19 – available online only, see p. 111 for link).

VET providers are closely involved in defining teaching and learning processes and the learning environment (mean of 2 on a scale from 1 to 5). According to the comments of the online experts, the VET providers seem to have greater autonomy in determining teaching-learning processes within the framework set by national legislation or ministerial decrees (depending on the state governance system) as in Finland where 'the National Board of Education outlines the national curriculum and the VET providers modify it to the local curricula' (Table 15 – available online only, see p. 111 for link).

Learners are less engaged, perhaps as a result of their low level of regulatory responsibilities in national VET systems. The examples of Austria (school committees), of Spain (learners' parents association), or Finland (learner as members of national and local board) show learners embedded in the consultancy activities of VET providers (see Table 23 – available online only, see p. 111 for link). In Denmark students have a close involvement with decision making.

The development of a European credit system for VET (ECVET) largely depends on the soft factor of mutual trust. Within higher education, trust has proven an essential key for developing the ECTS; it means the mutual acceptance and the equal assessment of learning achievements despite continuing structural differences. Historically it is possible to identify the process of trust building from individual agreement in the context of bilateral student exchange (in the framework of Erasmus/Socrates for instance) to European level which ensures accumulation and transfer of credits. Trust development occurs between stakeholders and relies heavily on the credibility and validity of the credit system in use. It is important to remember that at national level the administrative and regulatory framework sets the rules, whereas the use and development of a credit system at European level depends on voluntary participation of national stakeholders.

Horizontal zones are generally defined in the context of an individual higher education study programme. Accumulation within horizontal zones depends on the decision of the receiving institution. These zones may, therefore, be characterised as 'zones of mutual trust' which, in higher education, operate as networks of institutions determine mutual acceptance. Creating such zones of trust within 'grand' vertical levels reduces barriers to implement efficiently credit accumulation and transfer (Le Mouillour et al., 2003). The Coles and Oates study brings further evidence on the concept of mutual trust: 'A zone of mutual trust is an agreement between individuals, enterprises and other organisations concerning the delivery, recognition and evaluation of vocational learning outcomes (knowledge, skills and competences). ZMTs offer practical help with decisions about the value of qualification and certification, further

learning and recruitment into employment. They may be dynamic in nature and may become more or less formal in scope and form according to the mutual confidence and needs of the stakeholders involved' (Coles et al., 2004, p. 6).

2.2.2. The mobility issue

In all VET systems and in course of the development of the lifelong learning, the link with learners' individual needs and motivation is central to the development of credit transfer.

The heterogeneity of the learners is the result of many factors, such as the professional experience acquired, the employment situation (unemployed, long-term unemployed, atypical work experience or full-time employment), the nature of the work (routine, conceptual, managerial), gender, the motivation for starting or renewing a learning activity (update knowledge and competences, rejoin VET), the legal situation (migrants), the health situation (disabled people), the age and status (students, pupils, trainees, apprentices, adult learners, etc.). For instance, in Ireland, the individual student is central to the thrust and purpose of the Qualifications (Education and Training) Act 1999. Consequently, a learner can be someone in an educational or training institution or involved in what might be described as formal learning situations. Further, a learner is anyone who is acquiring or has acquired knowledge, skill or competences regardless of how, when or where that takes or took place. Learners, therefore, may be students in educational institutions, workers in the workplace, participators in community activity or independent learners (see Irish Qualifications (Education and Training) Act 1999). Statistical surveys account for at least 50 million people engaged in formal VET and HE (see Table 3).

Table 3: Overview of European VET and HE students (2000/01)

	General and vocational education	Vocational
ISCED 2	18 mio.	
ISCED 3	19 mio.	55.3 %
ISCED 4	Only vocational orientation = 0.8 mio. incl. adult education and preparation to ISCED 5B	
ISCED 5 (Tertiary level)	12 mio.	13 % (ISCED 5B)
ISCED 6	0.36 mio	

Adapted from Eurostat, year 2000-01

More students are enrolled in vocational education than in general education at upper secondary level (prevocational level is included with general). This pattern is particularly pronounced in Belgium, the Czech Republic, Liechtenstein, the Netherlands, Austria, Slovenia, Slovakia and the United Kingdom where more than two thirds of students are enrolled in vocational education. In Estonia, Greece, Spain, Italy, Iceland, Cyprus, Hungary Malta and Portugal, two thirds or more are found in general education (see CEC, 2002d).

To take full account of the individual, the learner's situation and background is linked to individual learner mobility. European labour mobility is still rather limited (Dinjens et al., 2002) and as statistical data sets on graduate mobility do not give much information on mobility schemes, the only assessment possible is that 4 % of graduates work outside their country of birth (Jahr et al., 2002). The online experts assess the frequency of international VET mobility with a mean of 4.02 on a scale from 1 for very frequent to 5 for very seldom (Table 78 – available online only, see p. 111 for link). VET sectors with a high mobility are, according to the experts: tourism, catering/restaurant, health care (hospitals), metal work, chemistry, agriculture, transportation, construction, ICT. The experts stress the importance of the Leonardo da Vinci programmes in supporting international mobility of trainees and employees (Table 79 – available online only, see p. 111 for link).

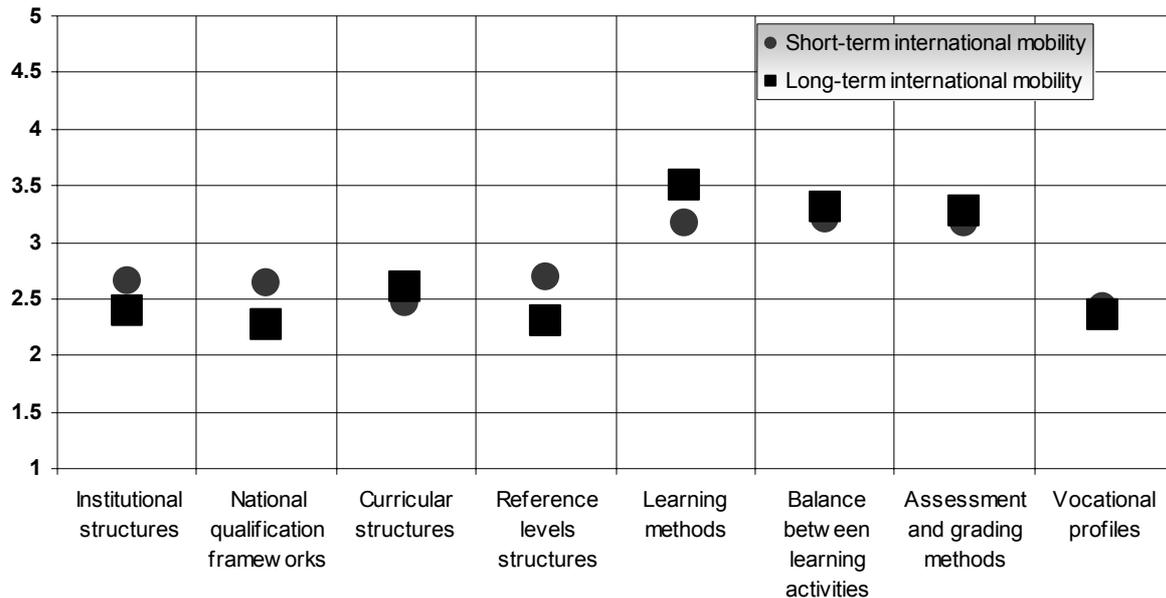
Mobility can be considered as:

- (a) geographical, between or within national borders;
- (b) vocational/occupational, in vertical and horizontal perspectives, between and within one vocational specialisation, within or between one/more skill levels;
- (c) interzone, between the informal/non-formal sector and the formal education and training sector.

Successful mobility schemes require two kinds of functionality for a credit system: transfer and accumulation. Mobility requires that the VET system ensures transferability, attained in many cases through modularisation of VET programmes, and employability, which considers the learning results in terms of competences and adaptability of the individual to the requirements of the labour market. The questions related to identifying the volume of vertical and horizontal mobility in VET did not offer further detail.

It is interesting which elements influence the acceptance of internationally mobile VET students from the viewpoint of the institutions (i.e. VET providers). Factors influencing this kind of mobility are presented in the following figure.

Figure 1: Factors influencing mobility between formal VET systems



Source: Question 4.6a To what extent do differences related to the following elements have an impact on the access of mobile foreign VET learners to your national VET system in case of short term/long term mobility? Multiple reply possible. Scale: 1=To a very large extent, to 5=Not at all. See also Table 84, Table 86 – available online only, see p. 111 for link.

Elements influencing the long-term mobility of international students are, in the context of reference level structures, national qualification frameworks and vocational profiles (mean of 2.3 on a scale from 1=To a very large extent, to 5=Not at all), followed by institutional and curricular structures (respective mean of 2.4 and 2.6). For short-term mobility, defined as less than a year, the main factors are curricular structures (mean of 2.46), the national qualification frameworks (mean of 2.63) and institutional structures (mean of 2.66). The data do not give evidence for those elements having positive or negative influences on the mobility.

An interesting concept which is not often used is that of professional mobility areas developed within the *Répertoire opérationnel des métiers et des emplois* (ROME). This concept defines neighbouring areas of professional specialisation, describing the KSCs required for mobility. It does not consider the issue of qualification levels but of professional specialisation in terms of horizontal and vertical mobility, i.e. an enrichment and enlargement of the KSCs acquired (see ANPE, 1993). In England, a comparable concept of proxy qualifications can define equivalences and supports eventual KSC transfer: ‘Proxy qualifications are those qualifications that have been agreed to assess the same knowledge and skills as aspects of the key skills. Because of this overlap, candidates can claim exemption from parts of the key skills when they are able to provide proof of achievement of the proxy qualification’ (QCA, 2003).

2.3. Learning and training pathways

2.3.1. Main types

Two main types of national VET scheme can be identified: apprenticeship or dual system and school-based system with combination of both or exclusivity of one. Some countries have also developed a competences-based system, complementary to the former alternative. In some Member States, one type might dominate (in Germany, apprenticeship represents 60 % of an age cohort, Table 11 – available online only, see p. 111 for link), or different types might cohabitate (Austria has both apprenticeship and school-based VET, which leads to combination where 70-80 % of time is spent in enterprise-based training and 20-30 % is spent at school; for more details, see Table 11 and Table 24 – available online only, see p. 111 for link). The understanding of any single type might also differ drastically, for instance Cyprus has a dual system in so far as ‘at the final third year one day is spent in industry’ (Table 24 – available online only, see p. 111 for link) or within the German dual system ‘some companies have a trial system, with school, company and additional training in the company for theoretical training and practical training’ (Table 11 – available online only, see p. 111 for link).

Kutscha (2003) points out that the German dual system has long been moving from a dual to a plural system of learning venues. Large-scale enterprises tend to decentralise training while developing new combinations of learning venue, and vocational schools try to replace traditional theory-oriented teaching by a new form of practice oriented teaching or combination of theory and practice. The complexity becomes obvious by considering further national VET systems and their main features. In Finland, all pupils who have completed the comprehensive school syllabus are eligible to study in vocational schools for three years. The pupils, normally aged 16 to 19, are selected according to criteria determined by the Ministry of Education: previous study record (average grade of all subjects and grades particularly in the relevant field), work experience and other entrance tests. The education includes both theoretical studies and practical instruction in institutions and work places (see EVTA, 2001). Both young people and adults (in the framework of adult VET) can also acquire a vocational qualification through apprenticeship training. In this, vocational skills are learned while working, supplemented by theoretical studies. Apprenticeship training comprises both initial and further vocational training for young people and adults. The French notion of *apprentissage* refers to dual training which aims at giving young learners (apprentices, above 16 years old) theoretical and practical training to obtain a professional qualification which will be recognised in form of a vocational national or higher education level diploma or a title from the Ministry of Labour (see OECD, 2003a).

2.3.2. Learning activities

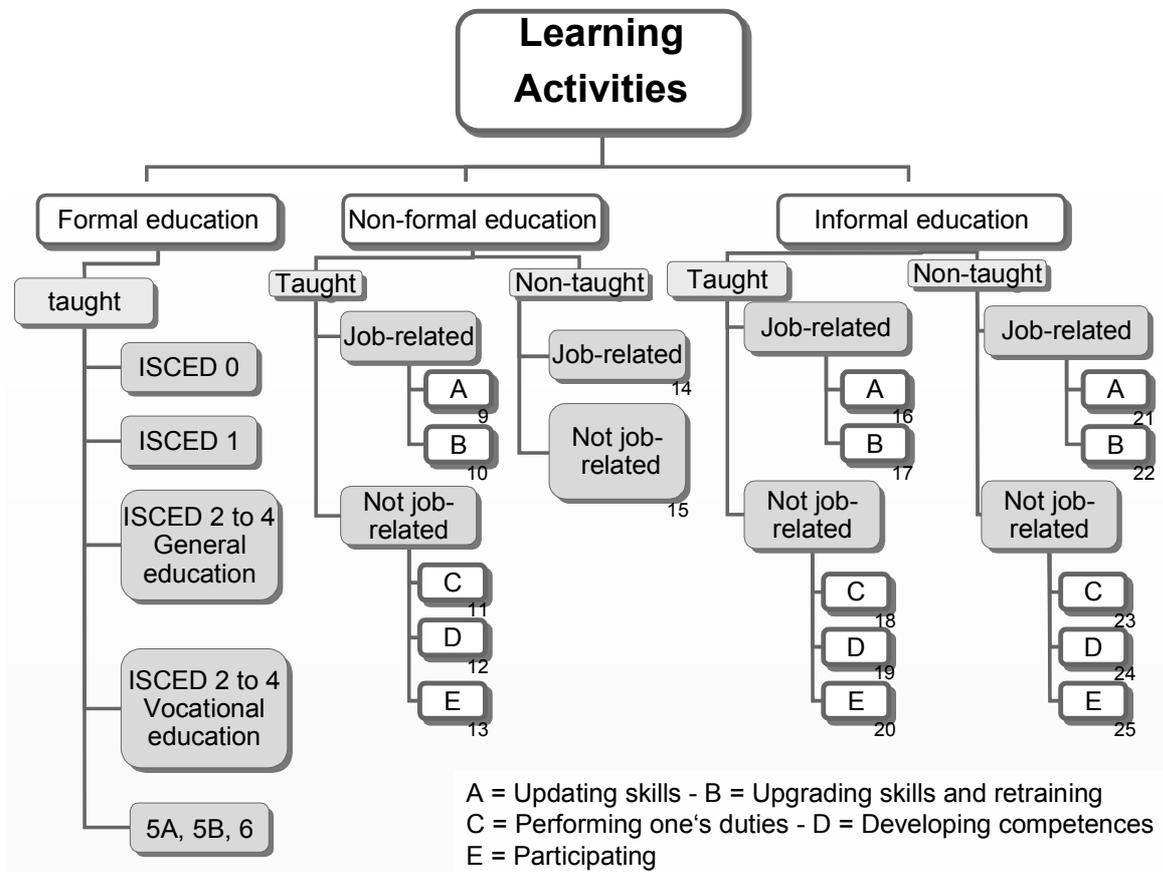
The type of VET, and the corresponding learning and training features, have a direct effect on learning activities. The Hungarian national qualification register states for each qualification (level) the proportion in terms of time spent of theoretical and practical training to be done (Republic of Hungary, 1993). European studies such as the harmonised list of learning activities are a useful reference to the variety of the learning activities. Considering the individual perspective and the mobility schemes mentioned above in relation to the criteria of contextuality and intentionality of learning processes, it is necessary to include formal, non-formal and informal learning as processes in acquiring knowledge, skills and competences when considering how to establish a credit system.

The learning activities quoted by Colardyn and Bjornavold (2003, p. 16) on the basis of the communication on lifelong learning (CEC, 2001) are as follows:

- formal learning is typically provided by an education or training institution, structured (in terms of learning objectives, learning time or learning support) and leading to certification. Formal learning is intentional from the learner's perspective;
- non-formal learning is not provided by an education or training institution and typically it does not lead to certification. However, it is structured (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner's point of view;
- informal learning results from daily life activities related to work, family or leisure. It is not structured in terms of learning objectives, learning time and/or learning support). Typically, it does not lead to certification. Informal learning may be intentional but in most cases, it is non-intentional (or 'incidental'/random). It is also called experiential learning.

One further step in the elaboration is to link learning activity 'intentionality and contextuality' with the existing reference levels (here ISCED levels), as elaborated in the harmonised list of learning activities (2002).

Figure 2: Harmonised list of learning activities



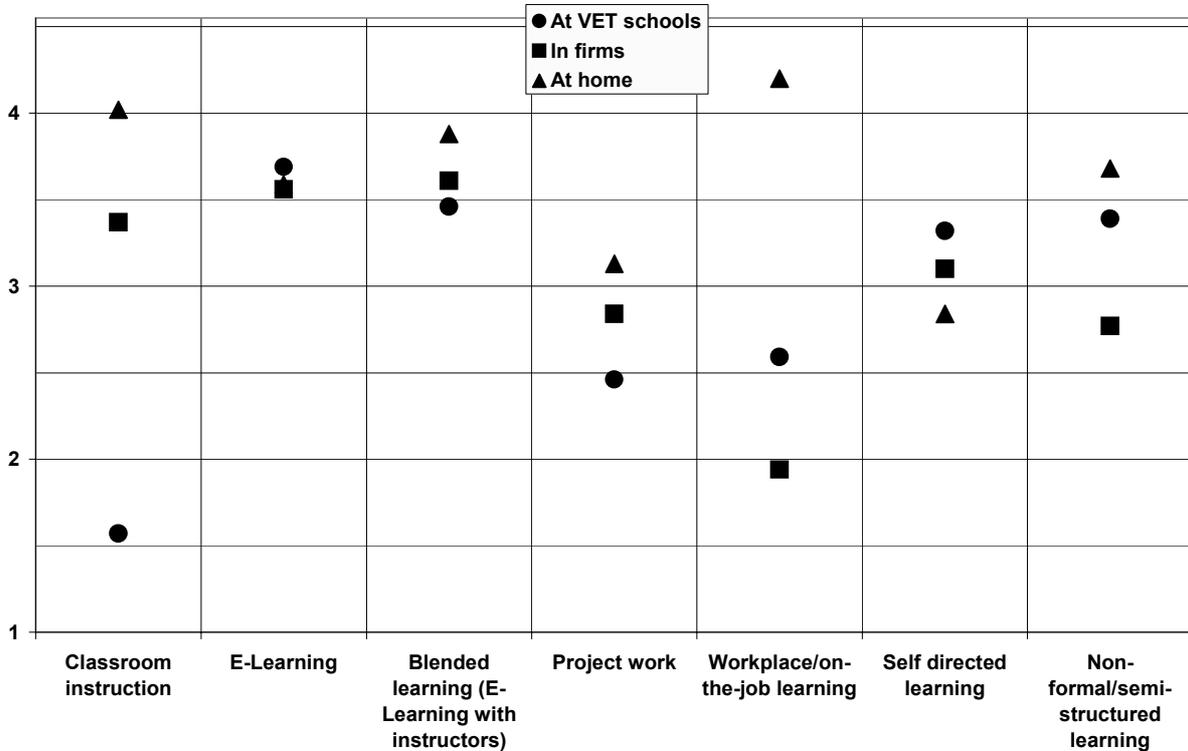
A = Updating skills - B = Upgrading skills and retraining
 C = Performing one's duties - D = Developing competences
 E = Participating

Source: Descy, 2002, p. 23.

The variety of learning activities seems to be endless. Formal learning activities can include: customised and active learning and pedagogy, traditional teaching, frontal learning, simple copying of behaviour at the workplace, self-directed learning/self-organised learning/self-regulated learning, work process learning. The learning locations might be in-company, schools/training organisations, apprenticeship, inter-company training workshops, on-the-job training, workplace training, in-house training, e-learning/distance learning, etc.

Based on previous research results, the online survey focused on identifying similarities in the learning activities and learning pathways across Europe (represented by the countries in the survey).

Figure 3: Frequency of diverse learning activities according to the learning locations (mean)



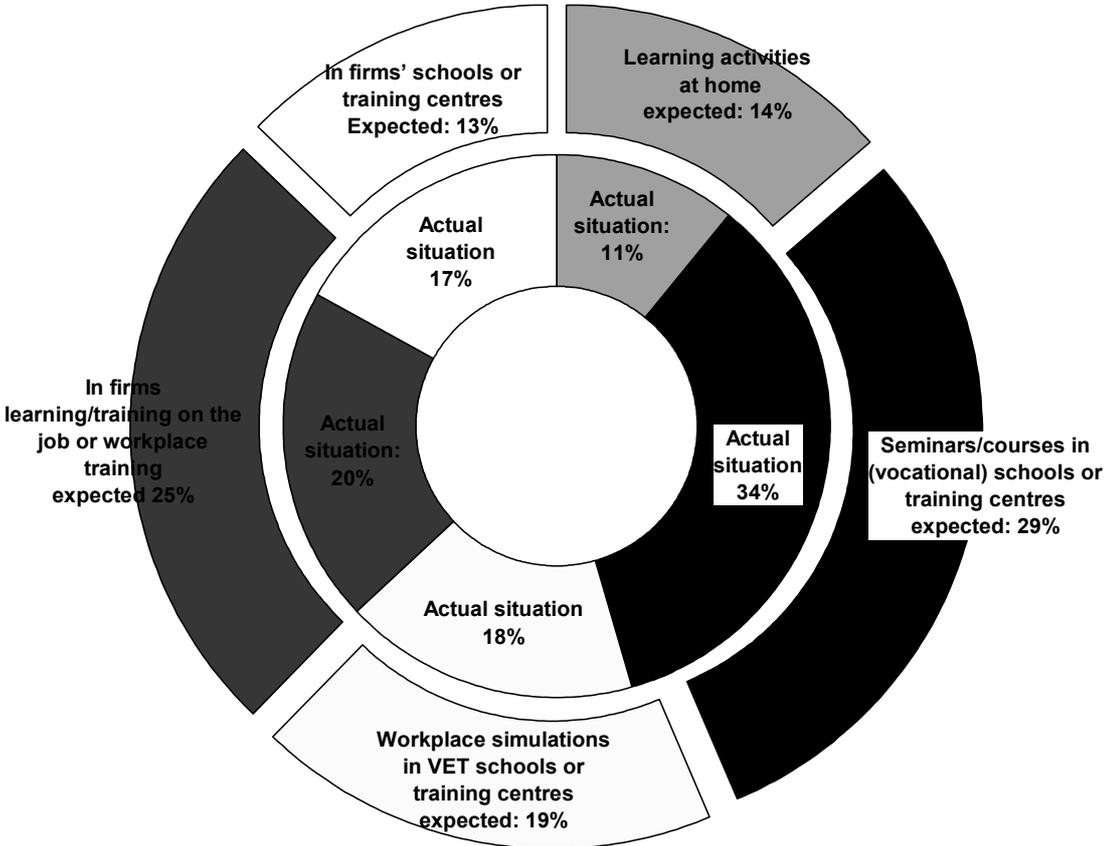
Source: Online questionnaire, Table 42, Table 44 and Table 46 – available online only, see p. 111 for link. Questions 2.11 to 2.13. How frequent are the following learning activities at VET schools/training centres, in firms, at home in your country? Scale: 1=Very frequent, to 5=Not at all. Non-formal/semi-structured learning (learning which is embedded in planned activities not explicitly designated as learning) Sample size: ‘at VET schools’: 43<N<46; ‘in firms’: 39<N<41; ‘at home’: 39<N<42.

According to the respondents, within VET schools/providers the most frequent learning activities are still classroom instruction followed by project work and on-the-job learning (respectively a mean of 1.57, 2.46 and 2.59 on a scale from 1=very frequent to 5=not at all). For learning in firms, the most widespread learning context is on-the-job (1.94) followed by non-formal/semi-structured learning (learning which is embedded in planned activities not explicitly designated as learning) and project work (respectively 2.77 and 2.84 on a scale from 1=very frequent to 5=not at all). The free comments on this question stress the existing differences according to the types of VET system and the occupational sector (Table 43, Table 45 – available online only, see p. 111 for link). Further, among the trends identified by the online experts in relation to the VET study programmes and learning activities (Table 48 – available online only, see p. 111 for link), it is worth mentioning the expected increase in self-directed learning activities (in Finland for instance), in distance learning, also mentioned as e-learning or blended learning (in most countries), and of project based working/learning.

It is relevant to come to an appraisal of the time spent on different learning activities as time is much mentioned, in some countries, in relation to VET study programmes, to the qualification

register and to credit systems. The online experts were asked to assess the time actually spent and the time they expect the learners to spend on average on different learning activities. An overview of the answers is presented in the following figure.

Figure 4: Actual and expected time allocation



Source: Online questionnaire, Table 37, Table 38 – available online only, see p. 111 for link. Question 2.9a & b: According to you, how much of their time do VET students spend/should spend on average on the following learning activities (in percentage, totalling 100 %).

According to the online experts, VET students spend a third of their time in seminars or courses, followed by a little less than a third in on-the-job training and equally in workplace simulations or training centres. The experts expect that learning activities on-the-job or at the workplace and at home will become a greater part of the time of the VET students and that the proportion of learning activities in vocational schools and training centres will reduce. These questions raised another aspect of the time consideration. As mentioned by an online-expert, ‘the time can vary enormously from one qualification to another’. This can be further specified: it depends on the type of the programme or course considered (3-year programme, 5-year programme, etc.), it depends on the sector considered (health care or commerce for instance), on the size of the VET provider, on the learning locations, etc. Details can be consulted in Table 36 and Table 38 – available online only, see p. 111 for link.

2.3.3. The competence based approach

The whole process of learning contributes to individual competence development starting with the key competences which should be considered as part of VET. Key competences are defined by the European Commission (2002, p. 15) as ‘a package of knowledge, skills and attitudes which all individuals need for employment, subsequent learning as well as personal fulfilment and development. They are a prerequisite for participation in lifelong learning (numeracy, literacy, learning to learn skills, etc.)’.

Among the changes expected and the actual characteristics of national VET systems, most online-experts mention the competences approach. This will be elaborated briefly here and in the perspective of the outcome orientation of credit systems below in this report. There are basically two ways of considering VET systems: either one concentrates on the pedagogical and organisational characteristics (i.e. VET programmes), or one concentrates on the objectives of the training programmes in terms of knowledge, skills and competences of the learners, for instance as mentioned in the ECVET progress report).

Competences are used in most VET national systems to describe the expected professional profile of the learners. The description of each competence varies; nevertheless Table 30 (available online only, see p. 111 for link) shows a high level of commonality between designations of competences. The experts agree that it is possible to find at least the three main categories in all systems: professional competences, social competences and self-competences. Professional competences are linked to the tasks that the learner will have to fulfil when holding a position in an enterprise and are directly linked to his job; these are also described as ‘occupational competences or professional-technical competences’. Social competences are those linked to labour, the workplace and the ability to work in a team and are closely linked to the notion of self-competences.

It is possible to identify two main approaches to categorising KSCs corresponding to diverging views on the context and arrangement of the KSCs. One approach promotes basic, generic and core KSCs in English-speaking countries and, to a less significant extent, in Germany, Finland, etc. This includes general elementary and/or cognitive competences required for all jobs (mathematics, reading, writing, problem-solving, social, communication and interpersonal competences) and the skills necessary for social participation (citizenship).

The second approach promotes transferable (key) competences and broad professional competences (Germany) and is based on a collection of competences transcending divisions of labour and traditional occupational profiles. It covers social and communication competences, problem-solving, organisation and leadership. There is no fundamental difference between these competences and those listed by supporters of generic skills. It is because they are regarded as dependent on a context or a range of situations that the didactics for their acquisition will be different (see Eurydice, 2001, p. 31 et seq.).

The concept of qualification has changed; it can be broadly defined as ‘the requirements for an individual to enter, or progress within an occupation’ (Tissot, 2003, p. 97). Changes in the

need for qualifications mean that competences have to be permanently and flexibly up-dated according to the workplace/labour requirements. Across the contributions to the online survey and a virtual discussion within the VC, it became obvious that competences are the major outcome and orientation axis of VET. In VET the focus is now more on competences (rather than specific skills); action-oriented skills seem to gain importance in contrast with the hitherto dominating knowledge-oriented skills. One important new aspect of the competences portfolio within VET is learning to learn.

The online experts stress that the VET programmes are increasingly competence-based (Table 24 – available online only, see p. 111 for link) used for assessment (in Greece for instance) and for organising VET in units (Spain). According to Colardyn and Bjornavold (2003) Finnish VET is characterised by its competence orientation, especially since the Development plan for education and research (1999-2004). Adult vocational qualifications are competence-based qualifications and can be obtained in a competence-based examination irrespective of how the competences assessed were acquired (EVTA, 2001, p. 15-27).

In France, the concept of competences has been developed since the 1970s by the ministry in charge of the education sector and the national employers' organisation, both following their respective objectives in terms of pedagogical aims and know-how in work situations. The concept of competences is tending to replace that of knowledge for certification procedures, especially since the ACAP 2000 agreement on competences in the metal industry. This idea of validating learning assets for obtaining a professional diploma is, in itself, a kind of cultural revolution (see Jacot et al., 2001).

The 2002 law on social modernisation introduced the term competences to VET for the first time, addressing two main topics: the validation of learning based on experience (APEL) and the offer of continuing and further training. Validation includes all professional competences wherever they have been acquired by the individuals and evaluates those competences with view to acquiring a full qualification in the form of a diploma (see Le Mouillour, 2002).

In Spain, the newly established National catalogue of vocational qualifications (Organic Law 5/2002) is based on competences linked to broader vocational families (further elements will be presented below in this report). The vision, values and principles that underpin the Irish qualification framework development process are based on a comprehensive definition of lifelong learning that includes 'all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective' (Behringer and Coles, 2003, p. 7). At this phase of modernisation of Hungarian VET, knowledge, skills and competences are entering the formal system (see National Institute of Vocational Education, 2001).

3. Definition of a credit (transfer) system

3.1. Background

Historically, the oldest credit system is the one introduced in the United States in the middle of the 19th century which started with a reform discussion about higher education (HE). In a European context credit systems are mostly linked to higher education; the European credit transfer system (ECTS) was introduced in 1989, within the framework of Erasmus (CEC, 2003a). This historical development may serve to conceptualise the work on ECVET. Some 53 % of the online experts also associate the term ‘credit’ with HE, as compared to 40 % with VET (Table 83 – available online only, see p. 111 for link). Few studies encompass all existing credit systems for education in terms of system evaluation. Dalichow (1997) identified in his typology of credit systems two main categories: transfer-oriented credit and accumulation-oriented credit. Whereas the former model was developed in Europe with the ECTS, the latter is mainly represented by the US. A third category called credit accumulation and transfer systems (CATS) exists which mixes transfer and accumulation functions and is to be found in the UK. Nowadays, credit systems are developed in many countries, in many cases within a broader framework of qualifications. Examples are the Scottish credit and qualifications framework (SCQF), the credit and qualifications framework for Wales, the Australian qualifications framework or the New Zealand register of quality assured qualifications which introduced 2001 a common credit currency for all qualifications (New Zealand Qualification Authority, 2002).

Whereas credit systems originally only concerned HE, most recent frameworks encompass the learning activities carried out in VET and HE and tend to cover all kinds of lifelong learning. The Scottish credit and qualifications framework has been in place since 2001. It encompasses further and higher education and includes all vocational qualifications (SCQF, 2003). The Northern Ireland credit accumulation and transfer scheme (NICATS) initiated in 1995 has developed a credit qualifications framework that encompasses further and higher education and work-based training (see NICATS, 2002). In Finland and Sweden, credits are attributed to learning activities and outcomes in VET and HE. The authors of the Irish OECD report (OECD/NQAI, 2003) mentioned that ‘there has until now been no legislative basis for credit arrangements for learning in Ireland, and no general or overall public policy in this regard (...) the national framework of qualifications will not be intrinsically credit-based (it will be based on levels and award-types); nevertheless, appropriate credit arrangements are considered to be an essential operating feature of the framework, particularly if the Authority is to fulfil its objectives in relation to Access, Transfer and Progression’ (OECD/NQAI, 2003, p. 21).

Roscher (2003) recommends differentiating between a credit system and a credit framework, thus defining what a credit system is: a credit system sets the rules for calculating the credit value of learning outcomes. Constituents of a credit system are the credits, levels, learning outcomes, modules, etc. A credit framework allows accumulation and transfer of credits and a

large degree of international compatibility. Each credit system is embedded in principles and rules determining the fields of application and of validity and the contents/processes of studying (particular contents, teaching, learning or examination styles, etc.) (see Schwarz et al., 2003).

One further trend is to consider credit systems as learning and evolving instruments. Concerning ECTS, the extension feasibility project comes to the conclusion that a number of adaptations and developments to the existing ECTS tools and procedures would be necessary for its application to lifelong learning (ECTS Extension feasibility project, 2003). Adam and Gehmlich (2000) suggest that the evolution of the ECTS system should lead to a set of arrangements for lifelong learning based on a system of credits, as simple and transparent as possible, taking into account, among other things, diplomas, professional knowledge and skills and the accreditation of prior experiential learning. This requires redefinition of the notion of credit, taking into account competences and outcomes. It also involves rethinking assessment procedures, introducing more qualitative approaches.

What is a credit system?

- According to the definition of the European Commission for ECTS (2003b), a credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits in higher education systems may be based on different parameters, such as student workload, learning outcomes and contact hours.
- Teichler (quoted in Schwarz et al., 2000) considers a credit system as a formal mechanism which allows transferring study activities in quantitative units and exchange or accumulation of those individual units. Under this perspective credit systems can be compared with a bureau de change (US: exchange booth).
- Credit accumulation and transfer system (CATS) is based on a set of agreed specifications and procedures, which facilitates learners to accumulate and transfer the credit they have gained within and beyond the providing institution, awarding body or qualification scheme (ELWA, 2002, p. 7).
- A credit framework is a set of specifications for valuing, measuring, describing and comparing learning achievement. It simply provides a standardised means of representing learning achieved, enabling comparison of learning required in different programmes and qualifications and thus facilitating the building up of credit by learners and/or the transfer of achieved learning between programmes and/or between institutions (see CQFW et al., 2001).
- At this stage of the report it is important to stress the difference between ‘credits’ and ‘credit points’ in the context of ECVET. The term credit points is used in reference to the numerical and accountancy system of points towards the value of a full training programme; the term credits refers to the content of a qualification, the acquisition of knowledge, skills and competences, i.e. the codified results of learning activities which might be aggregated in learning units. Credit points are based on a convention.

3.2. Functions

The various actors involved at political or research level in developing or applying credit systems have different opinions about the functioning and the core logic of credit systems; this is also true for the consequences of a credit system for teaching, study programmes, examination and structure for HE institutions (see Schwarz/Teichler, 2000). A review of the different existing credit systems (in HE and VET) indicates the following list of functions that are to be fulfilled by a credit system:

- transfer of learning outputs/outcomes within and between various national VET systems and between formal, non-formal and informal VET, providing bridging mechanisms between various learning pathways;
- accumulation and mutual recognition of training/education/learning activities (modules), or qualification units/programmes towards a partial or a complete qualification, by contributing to the definition, assessment and certification of parts or full qualifications; this is independent of when and where this learning has taken place;
- cooperation between training providers, teachers and learners beyond national frontiers;
- transparency of learning processes and outcomes in terms of knowledge, skills and competences acquired by the individual learners, of the structure of VET study programmes;
- mobility within training/education/learning processes and professional mobility by improving the description of complete qualifications;
- flexibilisation of learning periods, of content and of study programmes;
- simplifying certification and recognition procedures: possibility for partial/full certification, recognition of study performance in case of mobility.

Source: Le Mouillour, Jones, Sellin, 2003, p. 8; Hannken-Illjes, Lischka 2003; Schwarz, Teichler, 2000, report on NICATs 11.

In relation to the previous list, the online experts were asked to evaluate the importance of the emerging credit system regarding a set of tasks. Respectively 91 % and 95 % of the respondents (N=47/46) assess ‘promoting rules for transfer and accumulation of competences’ and ‘facilitating mobility between formal national VET systems’ as essential tasks of a credit system. Between 80 % and 90 % of the respondents support the further tasks for a credit system as stated in Table 4 and Table 94 (the latter available online only, see p. 111 for link).

Table 4: Expected tasks for credit systems

Tasks for credit systems	Rating
Increasing recognition of prior learning experiences for access to a higher VET level	1.5
Facilitating mobility between formal national VET systems	1.5
Promoting rules for transfer and accumulation of competences	1.5
Facilitating credit transfer for temporarily mobile students	1.6
Supporting the accumulation of assessment results in a lifelong learning perspective	1.6
Supporting the accumulation of competences within a VET programme	1.7
An incentive for adult VET learners to resume with their VET studies	1.7
Supporting the recognition of prior learning experiences that date back	2

Source: Question 5.2: How important is the emerging credit system in VET to fulfil the following tasks? Scale: 1=very important to 5=not at all (Table 94 – available online only, see p. 111 for link).

The definition of tasks for ECVET is much influenced by the tasks fulfilled by ECTS. According to 64 % of the online experts (N=66, Table 96 – available online only, see p. 111 for link) and in accordance with the mandate of the technical working group, ECTS and ECVET should be made compatible in the medium term. The online experts rate as important to very important the definition of qualification framework and reference levels which include VET and HE, the documentation of knowledge, skills and competences with the help of the new Europass, the consideration of workload as criteria to define VET credits and the formulation of principles similar to the ones available for ECTS. Further elements are available in the following table.

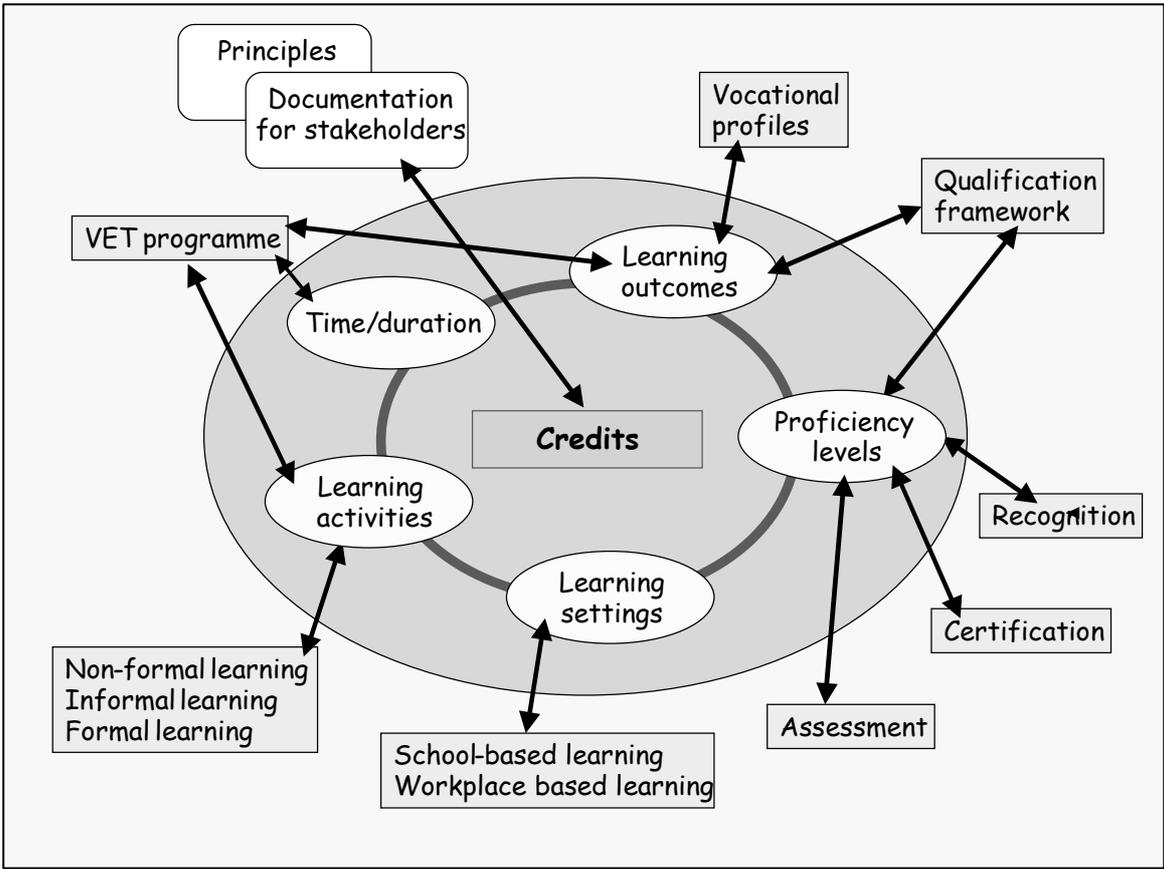
Table 5: Elements for compatibility between ECVET and ECTS

Elements for compatibility	Rating (mean)	Total (N)
The qualification frameworks have to include vocational education and training as well as higher education	1.63	43
The skills and competences obtained have to be documented via Europass	1.64	45
The reference levels have to include VET and HE	1.65	44
The ECVET has to include the notion of workload in the definition of credits	1.73	45
The principles for ECVET have to be similar to the principles for ECTS	1.89	46
The recognition rules for individuals have to be similar for VET and HE	2.02	45
Both credit systems have to be documented the same way	2.06	45
The learning activities within VET should be divided into theoretical and practical learning activities	2.81	44

Question: 5.4 According to you, how important are the following elements to support the compatibility between ECVET and ECTS ? Scale: 1=Very important, to 5=Not at all (Table 98 – available online only, see p. 111 for link).

According to the analysis of existing credit systems (for VET and HE) it is possible to identify a certain number of constituents of credit systems. At this stage, it is worth noticing that some authors see a difference between a credit system and a credit framework, thus reducing the number of constituents of a credit system. Central elements for developing ECVET are mutual trust, flexibility in accepting different methods and pathways of learning, and a clear definition of (outcome-based) knowledge, skills and competences. For the definition of principles and experimentation on ECVET, it is worth considering the constituents presented in the following figure.

Figure 5: Constituents of ECVET and related issues



Source: The author

All the constituents are interdependent and have a direct influence on the final shape of ECVET. The definition of credits concerns, on the one side, the definition of a measurement basis for credits (notional time, learning density, workload, outcomes, etc.), a decision about the validity, the nature and the sequence of credits. Credits are allocated to units representing knowledge, skills and competences, etc. therefore, it is necessary to have evidence on VET programme design existing in Europe. At the same time, the VET programme design contains elements of description of the learning content, on the existence of units, of the teaching-learning modi. For each learner, the end of a study programme is linked to assessment and certification patterns and procedures, which are a signal for the quality of the learning

activities and the acquisition of knowledge, skills and competences by the learner. However, the recognition of prior learning experiences in the perspective of lifelong learning is carried out thanks to recognition and validation procedures and measured in terms of credits when it comes for the learner to gain access to the formal VET system. This is used in the Scottish credit and qualifications framework (see SCQF, 2003). Study programmes are linked to a certain level of proficiency for which criteria are stated in qualification frameworks or occupational standards. The credits are linked to these levels as they are allocated to the knowledge, skills and competences described in occupational skills/qualifications frameworks. Further, to achieve the best possible recognition of learning outcomes and link them to (broad) professional or occupational profiles there is a need to reflect on the national qualifications framework. Such a framework allows an overview of the whole qualification process and ‘grading’ of the individual learning pathway in terms of learner’s KSCs and professional profile. The documentation and information elements support the transparency of ECVET and serve as an important basis for guiding and orienting learners, VET providers and other stakeholders. Major constituents will be analysed in the following section: characteristics of credit points, levels and standards, modularisation and unitisation, recognition and validation, and the implementation toolkit.

4. Constituents of a credit (transfer) system

The constituents of a credit (transfer) system have to be defined so as to be compatible with the national VET system regulations (incl. the newly introduced qualification frameworks) and with the existing ECTS in HE. The terms ‘accreditation, validation and certification’ are often used in a rather inconsistent way. This leads to much misunderstanding already at expert level. Therefore every element selected as belonging to a credit system will first be specified and then described in the view of its functions and use for ECVET.

4.1. Definition of credits

Credits are mostly meant to serve as quantitative measurement of parts within a whole (Le Mouillour et al., 2003). Within ECTS, the whole is defined as the study course or programme, the latter characterised by a certain number of resources invested in and calculated on the basis of student workload. In the ECVET basic approach, the focus is set on the objectives of a training programme allowing the learner to have a good command of a given combination of knowledge, skills and competences (KSCs) which correspond to a professional profile. Both might be considered as a quantitative approach although fundamentally different: ECTS focuses on the input perspective (resources) and ECVET focuses on the outcome perspective (KSCs). As a basis for the survey on introducing credits in VET we will use the definition of credits as smallest units of measurement of learning progress made. To design a credit system that encompasses all learning activities it is necessary to take into account the outcomes/outputs of the learning process (widely used in vocational education/training), to be compatible with a system based on workload (currently used in higher education) and to rethink assessment procedures, introducing a more qualitative approach. So far, only a few European education systems apply credits to vocational or professional training. Within traditional academic education there is a trend in many countries towards a more output-focussed, outcome-based approach such as in the UK. Hannken-Illjes and Lischka (2003) argue that as APEL procedures and lifelong learning mainly rely on a competence-based approach, credits have to be determined in more qualitative terms. Thus, the description of learning outcomes will gain over the precise assessment of the workload. Nevertheless, the authors warn of the risks of scattering and curricula splitting-up.

4.1.1. Characteristics of credit points

Learning activities within different national VET systems are characterised by variations in volume, the duration and the assessment methods, as described by the online experts (Table 34 – available online only, see p. 111 for link). This section provides an overview of variables usually applied in credit systems within HE to define the value of credits, that is the amount of credits allocated to modules or units within study programmes. It will be considered within section 4.1.4 on learning outcomes.

In credit systems, calculation rules offer mainly guidance, relying on agreements (Schwarz et al., 2000). Those agreements are primarily linked to variables such as workload, notional time and duration as well as further aspects such as their validity, sequence and mapping, which will be discussed below.

4.1.2. Workload, notional time and duration

Within ECTS, 60 credits represents the workload of a full-time student during one academic year. The student workload for a full-time study programme in Europe is usually 36/40 weeks per year with one credit standing for 24 to 30 working hours; a semester counts for 30 credits. This is clearly a quantitative approach. As mentioned by Dalichow (1997) this norm is the result of negotiation. The workload embraces all learning activities related to the study programme: it includes the time spent in attending lectures, seminars, independent study, preparation for, and taking of, examinations, etc. Credits are allocated to all educational components of a study programme (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires in relation to the total quantity of work necessary to complete a full year of study (CEC, 2003a). The workload concept is linked to the American definition of a ‘Carnegie unit’ which corresponds to five week-hours in a year, a minimum of 14 Carnegie units being necessary for college access. The American system actually embraces information on the kind and quantity of knowledge.

An interesting aspect of the use of the workload concept in HE is the link to the issue of learning outcomes. As stated by Reichert et al. (2003), ECTS is a student-centred system based on the student workload required to achieve the objectives of a programme. On the one side the report brings evidence of variation in the attribution of ECTS credits for first HE cycles (variation between 180 and 240 credits) while on the other side, it stresses that the basic [ECTS] principle is to complement workload definition by specifying level, contents and, finally, also learning outcomes of a given unit in relation to a degree programme. ECTS requires not just calculation of each unit workload and an according number of credits but also, and this aspect has often been neglected, a detailed description of the course offer of the institution; this requires information on contents, teaching methodologies, assessment methods of the courses, as well as of support services for international students’ (Reichert et al., 2003, p. 69). The different ways to allocate credits within national credit systems gives rise to problems as stated within the ECTS feasibility study (see CEC, 2003a). One pragmatic result of this research could be as mentioned, by Reichert (2003), a call for support and advice in relation to the consideration of learning outcomes, workload definition, and the use of ECTS for credit accumulation.

‘In the UK adult education sector, credits use the concept of ‘notional time’, which is based on the amount of time the average learner would take to achieve learning outcomes at a particular level given specified starting points. This is similar to student workload but is detached in principle from any curriculum – it attaches only to learning outcomes – and which operates as a currency or unit of measurement across any domain of knowledge or

competence’ (Transfine, 2003, p. 56). This can be thus specified as follows: ‘Notional learning time is not the actual time that any particular learner needs to spend in order to achieve the learning outcomes. The actual time will vary according to the individual capability, degree of prior experiential or other learning and the mode of learning’ (NICATS SEEDS, 2001, p. 5). It includes all learning relevant to achieving the learning outcomes, such as directed study, essential practical work, project work, non self-directed private study and assessment. Within the Scottish credit and qualifications framework (2003) one credit equals the outcomes of a notional 10 hours of learning time. González and Wagenaar (2003) comment on this notion within the Tuning project as follows: ‘The notional learning time depends on tradition, curriculum design and context, coherence of curriculum, teaching and learning methods, methods of assessment and performance, organisation of teaching, ability and diligence of the student and financial support by private or public funds’ (González et al., 2003, p. 48). ‘Taught or contact time will vary according to the mode of delivery, but notional learning time will not. All learning relevant to the learning outcomes should be considered when notional learning time is being estimated. Consideration should also be given to the level at which the learning is being offered when reaching this judgement. This measure of Learning Time is termed notional because it does not measure, or determine the time actually taken by any individual learner. This Notional Learning Time should include all the learning activities which it is expected that the learner will undertake in order to achieve the learning outcomes including, as appropriate’ (ELWA, 2002, p. 10 et seq.).

One aspect related to defining notional time is to consider the learning density of various activities, something the online experts were asked to assess. Although, as remarked by some experts, the notion of learning density is not usual in national contexts, the responses make evident that evaluating learning density is rather difficult; the mean of the responses is between 2.20 and 2.88 on a scale from 1=very high density to 5=very low density (Table 40 – available online only, see p. 111 for link). It is possible to identify a fixed global duration of the different VET study programmes according to the experts questioned (Table 24 – available online only, see p. 111 for link). However, the duration varies between two and four years in most cases and sometimes the volume of learning varies according to the professional field studied (as in Australia, Table 24 – available online only, see p. 111 for link). In Hungary, the concept of individual VET programme duration is stated in the national qualifications register as follows: ‘in the spirit of transparency, the Register includes the number of years, thus indicating the length of the training, while for training courses outside the regular school system, the maximised number of hours means that the duration of the training can be determined for individuals – on the basis of their prior knowledge, skills and experience’ (National Institute ..., 2001, p. 7).

The responses to the question on the time organisation in VET programmes (total=82) show that for most programmes the year is the timescale used as reference (45 %), followed by term and week (Table 33 – available online only, see p. 111 for link). The responses also show that a VET programme covers as a mean 3.53 years, 10.46 terms, 15.30 months and 52 weeks (Table 34 – available online only, see p. 111 for link). These numbers underline the complexity of the time issue in VET and the difficulty in easily agreeing a common

denominator. The online experts have been asked to rate the use of different time-based variables as a calculation basis for ECVET. Among the 97 responses, 38 % would like notional learning time to be taken into account in calculating credits, 20 % the hours at workplace, 17 % the marks or grades and 15 % the classroom hours (Table 67 – available online only, see p. 111 for link). All these elements (except the grades or marks) are related to evaluating notional learning time. The online experts further recommend considering learner proficiency (mostly in terms of reference levels within a qualification framework), information on VET programme learning contents (competences or outcomes), and information on programme duration (Table 68 – available online only, see p. 111 for link). Asked to rate the different elements carrying qualitative information on the vocational study profiles, approximately a third of the responses (total 144 multiple reply) stress information on the outcomes (expected skills and competences) and individual proficiency (assessment results, grades); 20 % refer to the allocation within the national qualification framework (Table 69 – available online only, see p. 111 for link).

4.1.3. Numbers, sequences and types of credits

The experience in HE shows that the total number of credits allocated to a full qualification (BA or MA within the Bologna process) varies between the Member States (Reichert et al, 2003) and, as mentioned by Dalichow (1997), a common number is no guarantee of a functioning system in terms of supporting transfer and accumulation of units, and so mobility of learners, as happens in the United States. The online question on the number of credits allocated in the existing credit framework and/or qualification framework generated no evidence on this issue. In most existing credit systems, a number of units is set based on time (40 credits per year and one credit equals 40 hours of a student workload in Finland, 1 credit per 10 notional learning hours in Scotland) or on lessons (1 credit per 30 lessons in Hungary) (Table 73 – available online only, see p. 111 for link).

The precise explanation and identification of credits and their nature, type and level should be part of any credit system that intends to encompass all aspects of lifelong learning. For VET learning activities, it is worth examining the issues of credit validity and sequence. Many experts emphasise that VET programmes rely on the idea of progression in one vocational field as ‘each year has to be passed successfully’ (Table 24 – available online only, see p. 111 for link) and is consequently linked to the delivery of certificates, reference levels and enlargement and enrichment in terms of knowledge, skills and competences for the individual learner. González et al. (2003) presents an indicator of the status of course units in HE programmes in terms of core units (major course unit), related unit (unit providing instrument/support) and minor unit (optional course unit).

Different credit typology schemes exist. Within Finnish VET, credits are allocated to study modules. The modules, and thus the credits, are called vocational credits (as they correspond to vocational specialisation) core credits (as they correspond to core KSCs such as languages or mathematics) and free-choice credits (for those chosen by the learner in a field which is not

related to the vocational specialisation and for those elaborated at the end of the study programme). Depending on the vocational specialisation, the learner is able to choose between compulsory units and elective units to build an individual professional or study profile. A further aspect is the existence of specific rules which prescribe the 20 credits to be acquired during on-the-job learning activities in companies (see Kärki, 2003). Credits already allow for transfer and accumulation as the length of the apprenticeship is reduced by giving adults credits for their prior learning and work experience (see EVTA, 2001, p. 15 et seq.).

Two separate types of Italian credit, one workload-based and one competence-based, coexist. While there is no general credit system in German VET, ordinances on crediting learning at full-time vocational schools establish criteria for shortening training periods following successful completion of full-time vocational school (BMBF, 2003b).

Table 6: Overview of selected existing credit systems in education and training

Name	Technical specifications	
European credit transfer system (ECTS)	Measurement of credit points	60 credits represent the workload of a full-time student during one academic year. The student workload of a full-time study programme in Europe amounts in most cases to 36/40 weeks per year and in those cases one credit stands for 24 to 30 working hours.
	Key variables	Workload, working hours, Notional time
	Fields of application	HE
	Functions	Transfer and meanwhile accumulation
Scottish credit and qualifications framework (SCQF)	Measurement of credit points	1 credit corresponds to the outcomes of notional 10 hours of learning time. The number of credits is worked out on the basis of the amount of time that an 'average' learner at a specified level might expect to take to achieve the outcomes.
	Key variables	Notional learning time
	Fields of application	VET and HE e.g. the achievement of an Honours degree requires the accumulation of 480 credits, at least 90 of which must be at level 10, while an SQA higher course requires the accumulation of 24 credits at level 6 (SCQF, 2003).
	Functions	Accumulation and transfer

Swedish credits	Measurement of credit points	<p>One week of study corresponds to 25 credit points</p> <p>A 100 credit point course will then usually take a student four weeks to complete</p> <p>The system of credit points is used for core subjects (Swedish, English, civics, etc.), common programme specific courses and for courses in branches. There is also a project work of 100 credit points</p>	
	Key variables	Student workload	
	Fields of application	Upper secondary school (<i>gymnasiepoäng</i>)	
	Functions	Gives a structure to different programmes and information on the 'competence' structure of an individual after completion of a programme.	
ECTS application in the Italian academic framework	Measurement of credit points	<p>60 credits for one academic year. One credit stands for 25 work hours</p> <p>Credits are classified according to: Lecture (e.g. 1 cr = 10 class h), Tutorial (e.g. 1 cr = 15 class h), Lab (e.g. 1 cr = 20h). A further classification (in this case according to the law) is made referring to the scientific areas supporting the course</p>	
	Key variables		
	Fields of application		Workload
	Functions		HE
Credit and qualifications framework for Wales (CQFW)	Measurement of credit points	<p>One credit equates to learning outcomes achievable in 10 hours of learning time</p> <p>Credit level descriptors have been developed to promote a more generic understanding of level as an indicator of the demand, complexity, depth of study and the autonomy expected of the learner</p>	
	Key variables	Learning time	
	Fields of application	All post-16 and higher education in Wales	
	Functions	Credit is: 1) a currency for learning achievement that provides a measure of learning outcomes achievable in learning time at a given level; 2) an award made to a learner in recognition of the verified achievement of designated learning outcomes at a specified level	

Australian qualifications framework (AQF)	Measurement of credit points	Credit value (termed credit level in the AQF) is ‘generally based on a content relationship in which parts of one qualification are recognised as having equivalence with ... (parts of) another qualification. The instrument used to determine the content relationship is the relevant components of the VET training package and/or accredited course curriculum which are related to and assessed against the learning objectives and/or subject/unit descriptions of the relevant higher education qualifications.’ There are recommended credit levels, which function as a guide to determining credit transfer, but they apply to only three of the thirteen qualifications in the AQF. They are expressed as percentages: 50 % credit from an advanced diploma towards a three-year bachelor degree (37.5 % towards a four-year bachelor degree) and 33 % credit from a diploma towards a three-year bachelor degree (25 % towards a four-year Bachelor degree)
	Key variables	The credit value will vary with each link and is dependent on the level of agreed overlap and equivalence as determined by the organisation issuing the end-point qualification
	Fields of application	VET and HE
	Functions	Articulation and transfer
Credit matrix (Australia)	Measurement of credit points	Credit value is assigned using one of eight levels (complexity of learning) and a number of points (volume of learning, based on average learning time in hours, divided by 10)
	Key variables	Credit value is assigned to units. Whole qualifications are assigned a credit profile (expressed in terms of the minimum total number of points required at one or more levels to gain the qualification)
	Fields of application	Senior secondary, VET and HE
	Functions	<p>make the qualifications system easier to understand</p> <p>allow for the design of more flexible qualifications that include new and different kinds and combinations of learning</p> <p>provide a single and uniform way of describing qualification requirements and of recording achievement in them</p> <p>make it easier to keep track of learning achieved and to plan ahead – for individuals, providers and employers, as well as the system as a whole</p> <p>help ensure that learning already successfully achieved need not be repeated</p>

Northern Ireland credit accumulation and transfer scheme (NICATS)	Measurement of credit points	One credit is awarded for 10 notional hours of successful learning activities. Credit provides a means of quantifying learning outcomes achievable in notional learning hours at a given level The amount of credit attached to a particular unit is quantified as its credit value and should always be expressed in terms of a number of credits at a specified level
	Key variables	Notional hours of successful learning activities
	Fields of application	further and higher education and work-based training
	Functions	accumulation and transfer credit-based resourcing credit provides the basic language for recognising achievement credit is a measure of the level of demand of the learning and the amount of learning achieved

Source: Demartini et al., 2004; NICATS, 2002.

4.1.4. Learning outcomes

As a conclusion of his study on learning outcomes in the Bologna process (from an HE perspective), Adam (2004) observes a considerable positive Europe-wide movement toward defining and adopting the learning outcomes approach and emphasises at the same time the possible confusion existing between learning outcomes, objectives and aims. The growing focus on the learner draws attention to qualitative aspects within credit system and especially to its accumulation function. The main aspect is then the anticipated or actually achieved outcome.

According to Cedefop (Tissot, 2003, p. 79), the learning outcomes are a ‘set of knowledge, skills and/or competences an individual acquired and/or is able to demonstrate after completion of a learning process’. This definition focuses on achieved learning outcomes in respect of employability and the labour market. It can be differentiated from the expected or anticipated learning outcomes based on a given VET study programme or an education and training process. In Tissot’s definition, learning outcomes are a precise statement of what a learner can do once credits have been successfully gained.

- (a) Outcomes can be considered (and are, in an Anglo-Saxon tradition) as anchored in a qualification framework that defines levels. It could then be appropriate to anchor the credits or minimum numbers of credits to certain levels within a given qualification framework. This would have direct consequences on the rules for accumulation of credits while introducing a new qualitative (level) dimension in the credit definition.
- (b) Outcomes can also be considered from the viewpoint of acquired individual proficiencies. This is traditionally expressed with grades and is used (under the specific conditions of the system genesis) in the US with the concept of grade-point-average (see Dalichow, 1997).

The online experts stress the importance of considering learning outcomes and present some possibilities for their categorisation and thus of the relevant KSCs. Learning outcomes are considered from the viewpoint of the vocational area, the (future) professional profile of the learner and the occupational standards fixed by external authorities who may, however, complicate the identification of clear categories of learning outcomes. In Ireland, the national framework of qualifications (2003) considers three categories of learning outcomes: knowledge, know-how and skill, and competence. These are defined as follows:

- knowledge: cognitive representation of ideas or events;
- know-how and skill: performance of a task, know-how being the procedural knowledge required to carry out a task;
- competence: effective and creative demonstration and deployment of knowledge and skill in human situations (National Qualifications Authority of Ireland, 2003/3, p. 21 et seq.)

In Spain, the definition of occupational qualification is as follows: ‘The set of occupational skills with meaning for the occupation that can be acquired through training in modules or other types of training and through on-the-job experience’. Consequently occupational skill is ‘the set of knowledge and abilities that enable one to exercise the occupation pursuant to the demands of production and labour’ (Art. 7, Ley Orgánica 5/2002). In Germany the BMBF mentioned in its 2003 report the contribution of VET to the acquisition of knowledge corresponding to the skills needs of the employment system and the need to support the holistic personal development of young people (including personal skills such as independent work, communication skills, teamwork and citizenship) (see BMBF, 2003a). The VET study programmes contribute to the development of self-competences such as the willingness to learn. ‘Under a framework agreement on vocational schools (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) of 14/15 March 1991), about two-thirds of instruction should be vocationally oriented, and one-third should provide general education or be applicable to a broad range of occupations’ (BMBF, 2003c, p. 35). This allows for extrapolation of the KSC profile presumably acquired by the learner.

Nonetheless, the online experts mentioned three components in their responses on the description of VET programme outcomes: knowledge, skills and competences. The spectra of KSCs for a vocational or occupation profile are set in different ways corresponding to the respective tradition. In apprenticeship training in Austria it is possible to associate an occupational or job profile (*Berufsprofil*) with a combination of skills and knowledge oriented towards the expected vocational profile. In Finland ‘The objectives of the study modules have been determined as a high level of competences that is required for functioning in working life and for its development. The core contents have been defined in terms of core functions and tasks, which will have to be mastered in each area of operation. Additionally, a satisfactory level has been determined, which means such competences that all those who have completed a qualification must at least achieve, in order to find employment’ (Table 29 – available online only, see p. 111 for link).

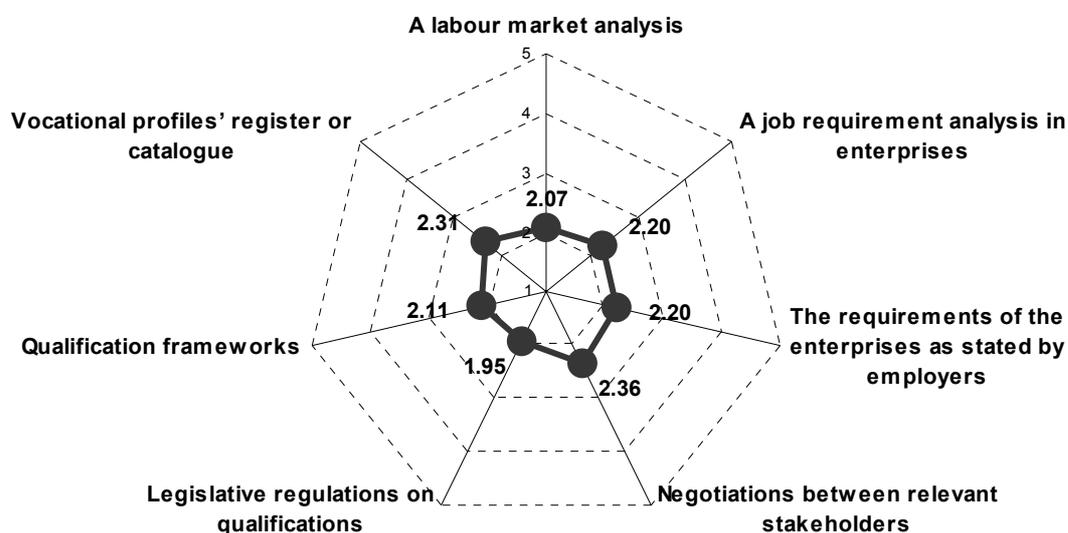
In most of these cases the outcomes are formulated in the curricula in terms of goals or learning targets and are defined according to the tasks and responsibilities expected to be undertaken by the learner in his future professional activity or career. Within the context of VET programmes, the outcomes are described in most of the countries with a performance descriptor, as in Italy. According to the online experts, in some countries such as the Netherlands or Hungary, the outcomes are going to be described in terms of competences as one result of ongoing reforms (in the Netherlands from 2005 onwards, see Table 29 – available online only, see p. 111 for link).

Learning outcomes are at the core of an emerging European credit system as they represent the interface between the educational/pedagogical logic and the labour market logic and can be described without necessarily relating to existing structures. They will be defined in rather abstract terms and necessarily be decontextualised. Depending on the perspective chosen in each country or context, the more detailed definition of KSCs and levels vary. The responses of the online experts can be summarised as follows:

- professional/occupational competences are defined on the basis of tasks inventory of experienced workers. They are defined in terms of (occupational) standards;
- learning outcomes are described in terms of knowledge, skills and competences (KSCs), which are attached to programmes, modules or units of learning and may be attached to reference or education and training levels (frameworks);
- learning outcomes are specified in terms of levels of proficiency corresponding to an increasing complexity of tasks to be mastered;
- learning outcomes (KSCs) are subject to certification and quality assurance, a minimum number of KSCs has to be acquired to obtain credit points and/or a certificate;
- for further details: Table 29 and Table 30 – available online only, see p. 111 for link.

One interesting aspect of facilitating KSC transfer between different vocational profiles (on the basis of credit points) would be to assess the commonalities between different vocational profiles in terms of KSCs. This approach has been followed by the project on the accreditation system and suggests a classification in a larger subject-area related to specific competences (to a field of study/work) and generic competences (common for degree course for instance) (see EVTA, 2001). It has also been surveyed in the online study in terms of the elements required and the content combination for defining VET programmes. The experts evaluate all the selected elements as highly important in defining VET programmes, especially the legislative regulations on qualifications as shown in the following chart.

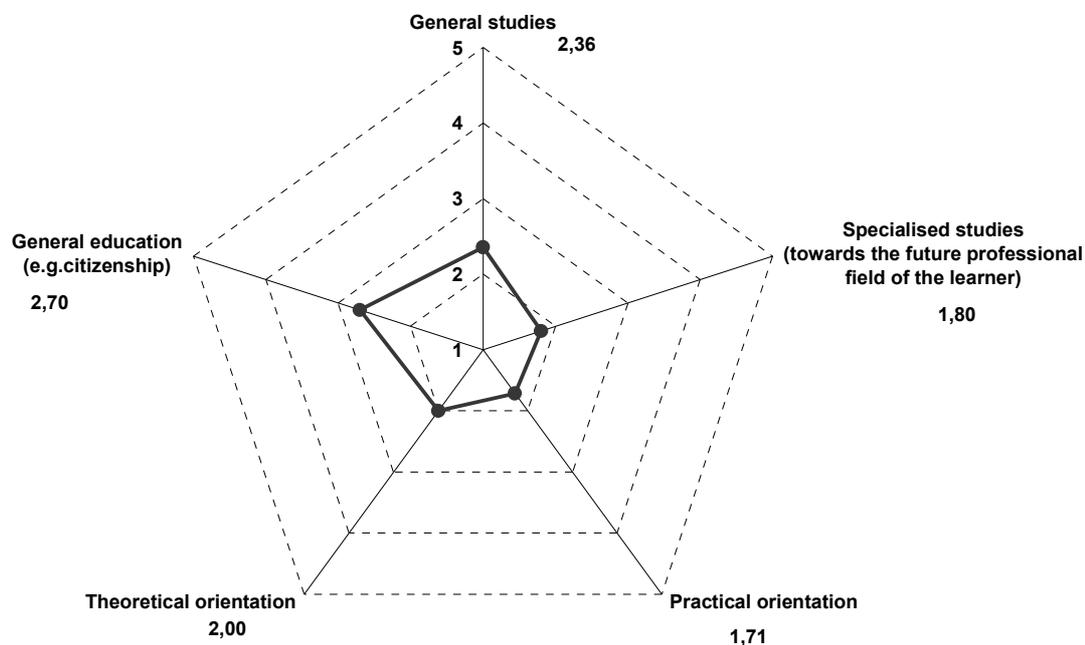
Figure 6: Importance of selected elements for VET programmes content specifications (mean)



Source: Question: 2.2: How important are the following element for the contents of VET programmes in your country? Scale: 1=to a very high extent, to 5= Not at all. Details are presented in Table 25 (available online only, see p. 111 for link).

The online experts stress the relevance of the labour market especially in defining competence profiles (Finland, the Netherlands) and the role of, or wish for more cooperation between, the stakeholders in defining VET programmes and objectives (Table 28 – available online only, see p. 111 for link). The study programmes seem to be traditionally a combination of general education, occupation-related theory and practice, in diverse proportions depending on the overarching scheme of the VET system as mentioned in Table 28 – available online only, see p. 111 for link.

Figure 7: Mix of VET programme specifications



Source: Question: 2.3: According to you, how significant are the following elements in the specifications of the Vet programmes? Scale: 1=to a very high extent, to 5= Not at all. Details are presented in Table 27 (available online only, see p. 111 for link).

For most of the experts, practical orientation (87 % of the experts) and specialised studies oriented towards the future professional field of the learners (85 % of the experts) are very important (mean of respectively 1.7 and 1.8 on a scale from 1 very significant to 5 not at all significant). Less significant is the general education part which is only mentioned in the free answers by representatives of the Nordic countries. Further comments on the national VET systems are available in Table 24 (available online only, see p. 111 for link).

4.2. Levels and standards

4.2.1. Relevance to ECVET

Within each national VET system it may be possible to determine credits corresponding to levels and to the existing qualifications defined as ‘the requirements for an individual to enter, or progress within an occupation’ (Cedefop, Tissot, 2003, p. 96). The continuum of learning

throughout life as formulated in the lifelong learning memorandum (EC, 2000) accompanies enlargement and enrichment of proficiency in terms of individual's KSCs. In higher education 'the Ministers encourage the Member States to elaborate a framework of comparable and compatible qualifications [...], which should seek to describe qualifications in terms of workload, level, learning outcomes, competences and profile. They also undertake to elaborate an overarching framework of qualifications for the European Higher Education Area' (Berlin Communiqué, 2003).

National VET programmes are characterised and stratified in levels either using the International Standard Classification of Education (ISCED, Unesco, 1997) or a national level reference such as in France (*nomenclature interministérielle des niveaux de formation*). According to ISCED 'The notion of levels of education is taken to be broadly related to gradations of learning experiences and the competences which the contents of an educational programme require of participants if they are to have a reasonable expectation of acquiring the knowledge, skills and capabilities that the programme is designed to impart' (Unesco, 1997, p. 10). The first mention of vocational education in the ISCED classification starts at level 2 'education designed to lead participants to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation or trade' (Unesco, 1997, p. 20) to level 4 (post-secondary non-tertiary education).

However, the descriptors of the KSCs needed to carry out professional activities are presented in so-called registers, the precise denomination of which varies between countries. In Spain it will be called the national catalogue of vocational qualifications and in France the national repertory of qualifications. In Germany such information is available in the training regulations, in Hungary the national instruction register and in Ireland the national framework of qualifications. According to Adam, a qualification framework is 'simply a systematic description of an education system's qualifications where all learning achievements are measured and related to each other' (Adam quoted in Bergan, 2003, p. 6).

Both the reference levels and the qualification frameworks are relevant to establishing a credit system in training and education. The online experts emphasise the relevance of both devices to mobility, as in Australian cross-sectoral mobility: 'we see the absence of generic levels and level descriptors as a major impediment to progression in a context where students increasingly need and choose to study whole qualifications or units from them which are not drawn from the one sector' (Table 11 – available online only, see p. 111 for link). For institutions levels are an indicator of the relative demand, complexity, and depth of learning and learner autonomy (see Tait, 2003). The accumulation and transfer functions of credit systems call for horizontal and vertical movements of learners (more precisely an enlargement and enrichment of their knowledge, skills and competences) across professional/vocational specialisation and across levels of education and training systems. Educational systems normally distinguish between cycles using such terms such as 'first cycle, second cycle and third cycle' studies. Credit systems can further divide these cycles in terms of 'level(s)' within each cycle. ECTS does not attempt to define European levels. However, when it is used as an accumulation system, each participating institution will need to indicate the level and 'credit

value' of each of the units in its programmes of study. For the purpose of recognition, mobility and transparency, credits have to be linked to an explanation of their nature and level (CEC, 2003a).

The national contexts are quite different. In some countries like Germany there is currently neither an overarching qualification framework nor sector specific frameworks, with the exception of the ICT, whereas in France or Finland it is possible to find frameworks linked to the development of certification procedures or occupational profiles. ECTS credits are today directly linked to university course structures and especially the unified BA/MA structure intended to be established Europe-wide within the Bologna process. ECVET has to cope with the diversity and disparity of national systems and with no harmonisation or convergence in terms of diploma except for bilateral agreements (i.e. between Germany and France). An in-depth elaboration on the topic 'reference levels, qualification frameworks and their linkages to a system of ECVET' was undertaken by Mike Coles and Tim Oates (2004, *op. cit.*).

The following section will present aspects of qualification frameworks and reference levels relevant to ECVET, trying to assess the experiences made in the selected countries.

4.2.2. National experiences

The Irish national framework of qualifications is defined as 'the single, nationally and internationally accepted entity, through which all learning achievements may be measured and related to each other in a coherent way and which defines the relationship between all education and training awards' (National Qualifications ..., 2003e, p. 3). This framework is a new development and is not just an amalgam of existing awards and systems. It is 'a framework for the development, recognition and award of qualifications in the State, based on standards of knowledge, skill or competence to be acquired by learners' according to the 1999 Qualifications Act (National Qualifications ..., 2003e, p. 5). The relationship between credit system and qualification framework is clearly defined as 'the national framework of qualification will facilitate the development of a system of credit accumulation and transfer based on learning units' (National Qualifications Authority of Ireland, 2003/3). Both instruments are inter-related but not necessarily dependent on each other in their implementation. The framework comprises 10 levels, as a series of sequential steps. Each level sets out a range of standards of knowledge, skill and competence to be acquired by learners. Levels are not, in themselves, standards but indicators of a range of standards. They can be described in an ordered sequence. Level indicators are set out in the grid of level indicators (which was determined by the authority in October 2002 and is available on its website). These indicators form the principal elements of the framework in terms of overall standards associated with awards to be made available at each level (see National Qualifications ..., 2003e).

The Finnish Adult Vocational Education Act (631/1998) defines three different forms of qualification: vocational qualifications (corresponding to upper secondary education at youth level); further vocational qualifications (vocational expertise required of a professional in the

field); and specialist vocational qualifications (mastering more demanding tasks) (see EVTA, 2001-FI, p. 1527). Outcome orientation in Finland is linked intrinsically to the definition of credits. On-the-job, core subjects and free choice credits have been granted for acquired KSCs within the framework of vocational qualifications since 2001. The framework curriculum in vocational education conveys the objectives of educational policy and indicates the requirements for national, uniform vocational expertise and core skills, among which are competences such as learning to learn and making an active contribution to society. There are 52 vocational qualifications with 113 related study programmes. These initial vocational qualifications are modular, flexible, and allow different choices in meeting the requirements of local working life and following the particular needs and future plans of individual learners. This enables students to select their own specialisation and plan their careers from a lifelong learning point of view. More common and general education objectives are well met, but practical professional skill objectives receive more attention than basic and social skills in some institutions (EVTA, 2001).

In France two complementary instruments are used to obtain a certificate: the *référentiel des activités professionnelles* (RAP, catalogue of professional activities) and the *répertoire national des certifications professionnelles* (national repertory of professional certification). The catalogue of professional activities is directly linked to the main characteristics of the professional activities which are certified in a diploma. The structure of the catalogue offers much information for defining standards. It contains details of the field of activities (summary of the objectives of the vocational activities and professional situations, tasks and activities in firms and economic sectors concerned, boundaries and proportions of tasks, functional situation of the activities and importance), on the activities themselves (functions regarding the organisation and structure of the firm; tasks, foreseen and carried out by the person in each of the functions; conditions of exercise of the activity: means and resources, expected results, autonomy and responsibility). This description is based on analysis of tasks fulfilled by experienced workers and a prospective study of the evolution of the respective activities (see OECD, 2003a, p. 18 et seq.). Each vocational profile is located at a given reference level and gives information about the certificates or diplomas which might be prepared by the learner. One important aspect of this catalogue is the use of the term 'activity' which could be related to the learning outcomes through the way in which they are formulated: Activity is a group of tasks fulfilled by the employee which have a logical coherence within an occupation. They are identified using verbs (i.e. to sell a product, to manage a budget) (see OECD, 2003a, p. 62). The complementary national repertory of professional certification (*répertoire national des certifications professionnelles*) aims at keeping individuals and enterprises informed on VET diplomas and certificates as well as on the list of qualification certificates established by the paritary joint national sector commissions (Commission Nationale ..., 2004). For a certification or diploma to be registered in this repertory, information is required *inter alia* as a description of the competences, skills and knowledge for each candidate associated with a qualification and necessary for carrying out a profession, a function or an occupation (J.O., 2002). For the time being some 300 specialities of professional title do exist which correspond with same number of qualifications (OECD, 2003a, p. 23).

In Germany about two thirds of young people complete a traineeship (apprenticeship) in one of the 330 existing standard training occupations recognised by the Federal Republic (see Kutscha, 2003; BIBB, 2003, p.134). For each of them a special training regulation (*Ausbildungsordnung*) exists. These regulations are based on the 1969 Vocational Training Act and have to specify as a minimum: the name of the training occupation, the period of training (two to three years), skills and knowledge to be imparted in the course of training (occupational description), an outline of the syllabus and timetable (training plan) and the examination standards (see BIBB, 2003). Training standards describe learning objectives and content as well as the duration and organisational structure of the training. Training standards work as a link. On one side they make sure that the principles of initial vocational training and continuing training as anchored in the educational system are put into practice. On the other they take into account the labour market with its orientation towards the needs of the economy and the companies (see BIBB, 2004), this being ensured by a regular updating of their content or profile. Therefore the *Berufsprinzip* is still defended today by both German employers' associations and trade unions as a model for regulating training contents and qualification levels (Reuling, 1997, p. 29). One aspect which should not be underestimated is the societal meaning of the vocation: the 'attainment of a skilled worker qualification within a recognised qualification and subsequent employment in a related vocational sector are the basis for the classification in the wage system and for measures of social security' (Ertl, 2002, p. 57). 'Models such as initial training on a modular basis involving credit schemes and staggered qualifications are regarded as likely to "dilute" this principle and are therefore strictly rejected' (Kutscha, 2003, p. 26.). In the German debate on modernising VET, additional qualifications have, since the mid-1990s, been touted as instruments for greater flexibility, differentiation and individuality. Additional qualifications are generally defined by the fact that a link is established between learning in formal, non-formal and informal surroundings on the one hand and the officially recognised national qualifications of VET system on the other hand (see Reuling et al., 2003). An additional qualification is an extension of a standard qualification, ranging from quite detailed additional units to hybrid and double qualifications (BMBF, 2003a). Since 2002 the IT field has had a comprehensive qualification framework which allows further education and training leading to recognised standards on the intermediate and higher level of achievements based on both formal and non-formal learning and experience at the workplace.

One of the most significant reforms in professional education of the last decade was undertaken in Hungary in 1993 with the creation and introduction of the national qualifications register (*Országos Képzési Jegyzék, OKJ*), which covers all occupations or professions for which any kind of education can be organised, either inside or outside the school system. This register also contains stipulations for entry into this education, the allocation within ISCED levels, the time needed for the instruction, and the basic requirements to pass an examination or test. The social partners representing the labour market have played an important role in defining the latter, (see Halász, 2001, p. 14). Around a quarter of the nearly one thousand skills figuring in the OKJ can only be obtained in school based education, while qualifications for most professions can also be obtained outside the school system. (60 % of the latter require prior accomplishment of general education, and less

than 50 qualifications can be obtained without any formal precondition.) (see Eurydice, 2001). The OKJ was amended in 2001 (National Institute ..., 2001) clustering vocational groups or families. The 21 vocational groups comprise four professional fields – human, technical, business and services, and agriculture – that are capable of offering a fundamental orientation even at the level of elementary training (elementary school) (National Institute ..., 2001, p. 4). For instance the professional field ‘human’ is subdivided into five occupational clusters: health care, social services, education (teaching, education), art, public education, communication (music, dance, fine arts, applied arts, acting and puppetry, theatre, press, public education) and other services (personal, security, civil guards, policing services, national defence, fire protection, health and safety, small-scale industry, crafts). Each occupation is further specified with a number corresponding to an ISCED level and a number corresponding with a description of the content of professions issued in the uniform classification system of professions (the so-called FEOR 93).

Two instruments were introduced recently in Spain which are directly linked to the issue of developing standards: the organic law (5/2002) aiming at the development of a national qualifications and vocational training system and the national catalogue of occupational qualifications (2002). The national catalogue of occupational qualifications is based on the definition of 23 vocational families, on five qualification levels and on the description of the competences and knowledge required by the labour market (Ministerio de Educacion, Cultura y Deporte, 2003). It retained the following definitions:

- an occupational qualification is a set of occupational skills with meaning for the occupation that can be acquired through training in modules or other types of training and through on-the-job experience;
- an occupational skill is a set of knowledge and abilities that enable one to exercise the occupation pursuant to the demands of production and labour;
- a unit of competence is understood as the minimum of occupational competences, susceptible to be aggregated for recognition and assessment;
- competences are understood as a set of knowledge and capabilities that allow an individual to carry out a professional activity according to the exigencies of the production system and labour market requirements (see Ley Orgánica, 5/2002 and Ministerio de Educacion, Cultura y Deporte, 2003, own translation).

4.3. Modularisation and unitisation

4.3.1. Meaning of the study programme design

In his report on ECTS Dalichow (1997) pointed out that the definition of small, manageable and transparent units can be considered as positive for the implementation of credit systems. In the context of ECVET, some attention must be paid to the definition of manageable units. The following aspects can be considered: the size of the units, their anchoring in VET

programmes (for a formal system) or in the vocational profile concerned (especially when it comes to the recognition of non-formal and informal learning or working experiences), their sequences along the reference levels (as it has a direct link to the enrichment or enlargement of the KSCs spectrum of the learner) and the link between the modules and the learning settings (workplace-oriented or school-oriented learning). The next part of report deals with the design VET programmes in terms of modules and/or units. The parallel use of both terms is due to diverging understanding in the national systems. For the online experts the structural patterns of the study programmes are courses, units or modules. The responses do not indicate a clear structural pattern (Table 31 – available online only, see p. 111 for link). Considering the time patterns and the timescale of the VET programmes, it is apparent that VET programmes are mainly organised in years, 45 % of the 82 multiple responses (Table 33 – available online only, see p. 111 for link). The issue of the structural pattern in terms of modularisation or unitisation is complex and the responses suggest this should not be left out but looked at from the viewpoint of the selected countries.

At European level, for ECVET, the key components of a credit transfer system have been identified as units and modules. A unit is intended to mean the elementary (or smallest) part of a curriculum, and is outcome-oriented; a module is understood to mean the elementary (or smallest) part of a learning pathway, and is process-oriented (Le Mouillour et al., 2003). In higher education, student transfer between university and extra-university institutions has been greatly facilitated by modular credit-based courses, (see Eurydice, 2000).

Three basic variants of modularisation may be distinguished:

- the modules as self-contained, partial qualifications which are described by learning outcomes or competences and which are finally examined and certified individually; the acquisition and linking of modules are bound to given combination of standards (as within the UK NVQ system);
- the modules can rely, from a curricular-didactical point of view, on the learning settings; they have no value as separate modules because they are not partial qualifications (as within the French model);
- the modules are related to a competence and work context as didactic units and certified individually. However, they always remain a part of a whole as they are designed to lead to an established qualification. Individual modules can be components of several qualifications and be combined (as within the Finnish model) (see Rützel, 2000).

4.3.2. A unified definition for ECVET?

This approach is a pragmatic one. If modularisation is so important to a credit system, it should be possible to develop a common understanding on the characteristics of modules/units. This is attempted here on the background of the selected countries and online survey results. Modularisation is discussed in many countries from Austria (Table 24 –

available online only, see p. 111 for link) to Denmark (Table 11 – available online only, see p. 111 for link); reading through the responses, it is possible to draw a portrait of a module:

Table 7: Characteristics of modules

Characteristics	Explanation	Examples
Multiple relevance	Modules might be relevant for more than one occupational area	
Closed	Modules are logical in themselves and are presented as a block of KSCs	ES, FIN
Quantitative aspect	Modules are linked to the acquisition of a specific number of KSCs	
Adaptability	Modules can be combined and selected according to the learner's previous KSC profile	FIN
Sequence	Modules might be combined in a logic of increasing requirements in terms of KSCs (linked for instance to the reference levels) The curriculum might be organised in a progression logic (even if modules do not yet exist, as in Austria)	F (no sequence) DK
Mapping	Occupation, related or specific modules and general modules	FIN

Source: The author

4.3.3. Role of modules in national VET systems

Ireland bases its VET on a modularised system, a factor which seems to support rapid and large scale introduction of methodologies and institutions (Eurydice, 2001). At the senior secondary education level, Irish VET offers two kinds of certificate based on modules: the leaving certificate vocational programme (LCVP) and the leaving certificate applied (LCA). The LCVP is based on three general subjects and two chosen from a set of vocational subjects, a recognised course in a modern European language, and three mandatory link modules. The LCA is a two-year student-centred programme involving a cross curricular approach rather than a subject based structure. It consists of a number of modules grouped under three general headings: general education (at least 30 % of the time), vocational education (at least 30 % of the time), and vocational preparation (at least 25 % of the time) (see National Centre for Guidance in Education, 2002). The awards system of the Further Education and Training Awards Council (FETAC) is based on a system of modules which can be accumulated into awards. In higher education the accumulation of credits and certification of subjects (ACCS) process enables learners to accumulate credit towards awards on a gradual basis (see OECD/NQAI, 2003).

In Spain the modularised study catalogue (*Catálogo Modular de Formación*) is used in combination with the national catalogue of vocational qualifications as it presents the modules which constitute VET programmes in terms of competences, the basis for the assessment and

evaluation. Education modules are defined as ‘coherent blocks of training associated to units of competences which in turn form the qualifications. This represents the basic unit of a professional training so as to determine the vocational titles and certificates (...). Every module is characterised by the specifications of the training which includes: the denomination, the level of qualification concerned, a alphanumeric code, the unit of competences to which it is associated and the duration of the training expressed in hours’ (see *Ministerio de Educacion, Cultura y Deporte*, 2003, own translation).

In Finland, the curricula are divided into modules based on a vocational task analysis. However, in this system, questions of assessment and certification are not yet solved. The problems are the combination of theoretical (VET institution-based) learning and of on-the-job learning as well as the definition of employability or actual requirements for the workforce in a sector-based education and training system (EVTA, 2001, p. 15 et seq.). ‘The adult apprenticeship is then tailor-made to the profile of the individual apprentice who can take the modules and practical training necessary to fill his/her skill gaps and acquire an apprenticeship qualification, which is the same as the vocational qualification provided by vocational institutions to youth’ (Eurydice, 2001, p. 38). ‘Vocational study modules have been composed on the basis of the functional modules of working life. The names of the study modules describe activities in working life. The core contents have been defined in terms of core functions and tasks, which will have to be mastered in each area of operation. In addition, a satisfactory level has been determined, which means such competences that all those who have completed a qualification must at least achieve, in order to find employment. Working on the premises set out above, the educational institutions determine the educational contents and specify the assessment criteria in education provider's curricula and students' study plans’ (Table 29 – available online only, see p. 111 for link).

In Hungary, there is, at present, little consideration of credits in VET but some for modularisation in the continuing reform process of VET and increasing attention to quality. ‘The changes in school structure and the increasing efficiency of training are linked to the *introduction of modularity*, which – in several vocational groups – means the same modules for several vocations, thus facilitating the drafting of textbooks, methodological knowledge, and – later on – the taking into account of previously acquired knowledge and skills. Since the State has a fundamental interest in the changes in school structure, the (404) vocations marked “A” make possible the occupation of several positions, thereby providing individuals with greater employment opportunities. A further goal is to improve the competitive position and to realise the efficient specialisation that is demanded by the economy’ (National Institute ..., 2001, p. 4).

In France VET diplomas are structured in units and much importance is laid on the fact that unitisation allows for individualisation of the learning pathways. The units can be accumulated over time up to the amount and combination of KSCs which are required to obtain the diploma. The modularisation is normal in adult VET but rarely implemented in initial VET where it exists only as far as the description of resources, validation procedures are concerned.

One striking element in this system is that the units are not embedded in a logic of pedagogical progressiveness in terms of levels of requirements. Further ‘the unit is defined indeed by its contents which associate in a coherent way typical competences as set in the reference frame of occupational activities. The units are built primarily starting from the occupations. They consist of competences described in the reference frame and must account for the real occupational activities by balancing between aggregation and granulation of the occupational activities that would make any evaluation difficult. The number of units is variable from one diploma to another’ (OECD, 2003a, p. 20 et seq., own translation).

In Germany, little progress has yet been made in developing modular structures (Cedefop, 2000, p. 6). The reason for this seems at first glance to be unclear but the major focus of the debate on modularisation seems to be driven by educational policy rather than by arguments concerning pedagogical aspects or the teaching/learning process (Ertl, 2002, p. 56). Further, one common hypothesis is that modularisation might lead to a reduction in the quality of VET. New approaches based on modularisation have been introduced in the formal VET system such as divided training (*Stufenausbildung*), satellite model or part-qualifications (see KWB, 2004). In the satellite model the qualification programme is divided into a professional core and individual qualification units; this forms the basis for the VET agreement between the learner and the VET provider (see BLK, 2003). The German IT sector follows innovative pathways and defines qualifications based as a relatively stable core of vocational knowledge and skills, which make up the mandatory units. These are linked to optional units which, depending on the occupational field, account for between one third and half of the overall qualification (see Reuling et al., 2003), thus introducing the idea of units that can be changed and combined to create differentiated profiles along three career levels (specialists, operative professionals, strategic professionals).

4.4. Recognition and validation for individual certification

4.4.1. Individualisation

This approach to validation and certification focuses on the individual as actor and subject of the credit system. It concerns the recognition of prior learning/working experience at the edge of formal, non-formal and informal learning processes, with certification processes and procedures at national level and within the context of European mobility. This issue is strongly linked to the regulations in use in the national context, to the issue of the *acquis communautaire* in terms of European mobility of the learners and the citizens and to European instruments such as Europass.

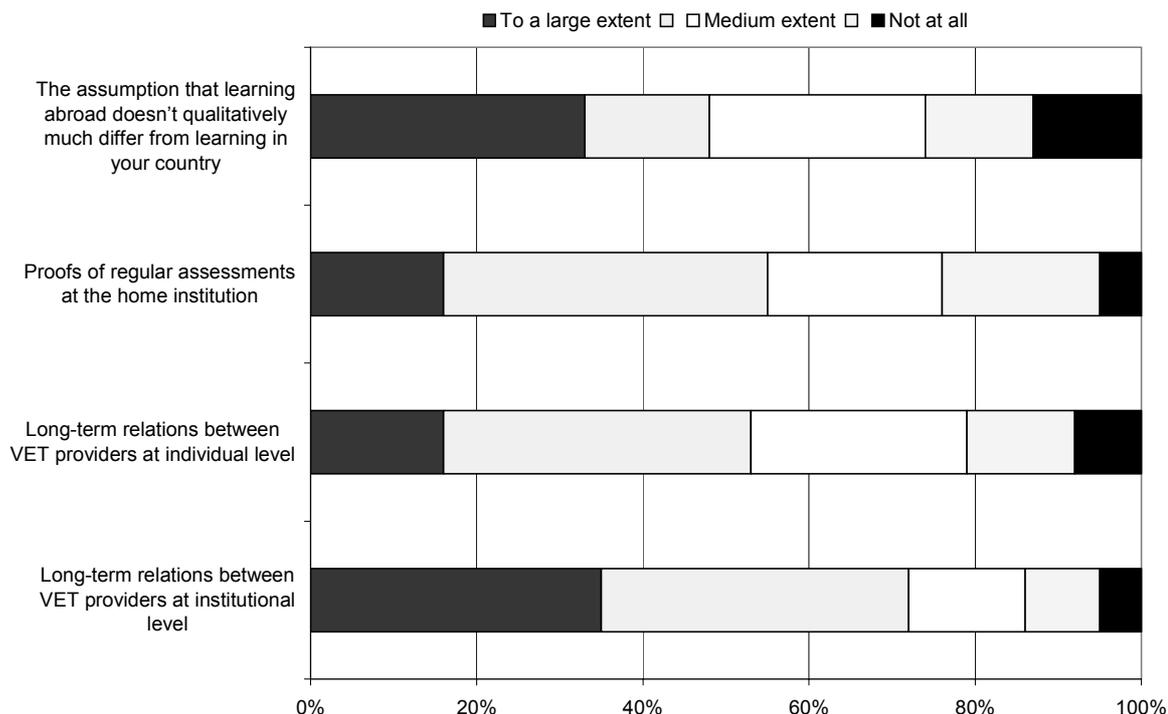
One major obstacle is the use of similar terms in different languages. For instance, the *validation des acquis de l'expérience* in the French context is equivalent to the accreditation of prior learning in the UK, having nothing to do with the accreditation procedures, a term mainly linked to legal and quality management at institutional and/or programme level. In this

report the term validation is used as in the common European principles for identifying and validating non-formal and informal learning: ‘validation is based on the assessment of the individual’s learning outcomes and may result in a certificate or diploma’ (Council of the European Union, 2004, p. 2). This can be further specified: ‘for Member States (...) validation is a process concerning skills and competences acquired inside as well as outside formal education and training, concerning non-formally as well informally acquired learning outcomes’ (Colardyn et al., 2003, p. 20). Following the phases of assessment and validation, the KSCs of individuals might be recognised. In this approach Tissot differentiates formal and social recognition: ‘The formal recognition is the process of granting official status to KSCs either through the award of certificates or through the grant of equivalence, credit units, validation of gained skills and/or competences whereas the social recognition is the acknowledgment of the value of skills and/or competences by economic and social stakeholders’ (see Tissot, 2004, p. 126). Usually, a learner will receive a diploma or certificate valid within a national, regional or sectoral setting, the credibility and transferability of which will vary considerably (see Colardyn et al., 2003). To summarise, the issues of recognition, validation and certification are inscribed in the threefold logic of education and lifelong learning (including career guidance), a labour market and an economic or commercial environment, and within a trust building process for learners.

According to the study of Dinjens et al. (2002), the major obstacle to mobility is the lack of transparency and mutual recognition of vocational training, because every Member State has its own educational system and traditions. Any VET credit system rests on the hypothesis that KSCs acquired outside the VET system can be somehow recognised, assessed and combined with the standards of VET. In some countries, for instance in France or in the United Kingdom, assessment methods such as a competences portfolio or APEL enable integration of those competences in the occupational profiles and reintegration in qualification standards. Conceiving such an assessment scheme and defining equivalence to credits are problematic. In Spain the system based on professional/occupational profiles might represent a solution, as well as the systems developed in Italy (Decree No. 174 of 31/05/2001) or Portugal (since 1993 for initial VET).

Recognition, as Andrejs Rauhvargers pointed out, is about assessing a foreign qualification with a view to finding a correct place and path in another country’s education or employment system (quoted in Bergan, 2003, p. 16). Asked to evaluate the elements influencing the recognition of mobile learners’ achievements, the online experts rate as very important the assumption of an existing qualitative equivalence between learning abroad and in one’s own country, as well as the existence of long-term relations between VET providers at institutional level. Both elements might be considered as constituents of the zone of mutual trust which facilitates European individual mobility. Further results are available in the following chart.

Figure 8: Elements influencing the recognition of mobile learners' achievement



Source: online survey. Question 4.7: To which extent do the following elements influence the recognition of international mobile VET learners' achievements through VET providers? Scale: 1=To a very large extent, to 5=Not at all. (Table 88 – available online only, see p. 111 for link).

The answers to the question on the existence of a recognition instrument for prior learning in the respective country show that 1/3 of the experts wish to have such a device in their country, 1/3 believe that such an instrument does not exist and 1/3 did not answer the question (Table 90 – available online only, see p. 111 for link). Such an instrument exists mainly for access to higher education and to some extent to further VET (Table 91 – available online only, see p. 111 for link).

4.4.2. Assessment

The allocation of credits depends on assessment of the learner's KSCs proficiency in comparison to the requirement set within a qualification specified in a VET programme. Assessment means 'the sum of methods and processes used to evaluate the attainments (knowledge, know-how and/or competences) of an individual, and typically leading to certification' (Tissot, 2004). In higher education, credits in ECTS can only be obtained after completion of the work required and appropriate assessment of the learning outcomes achieved (CEC, 2003b). Also, the performance of the student is documented by a local/national grade. It is good practice to add an ECTS grade, in particular in case of credit transfer. The ECTS grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance is a prerequisite for applying the ECTS grading system. Grades

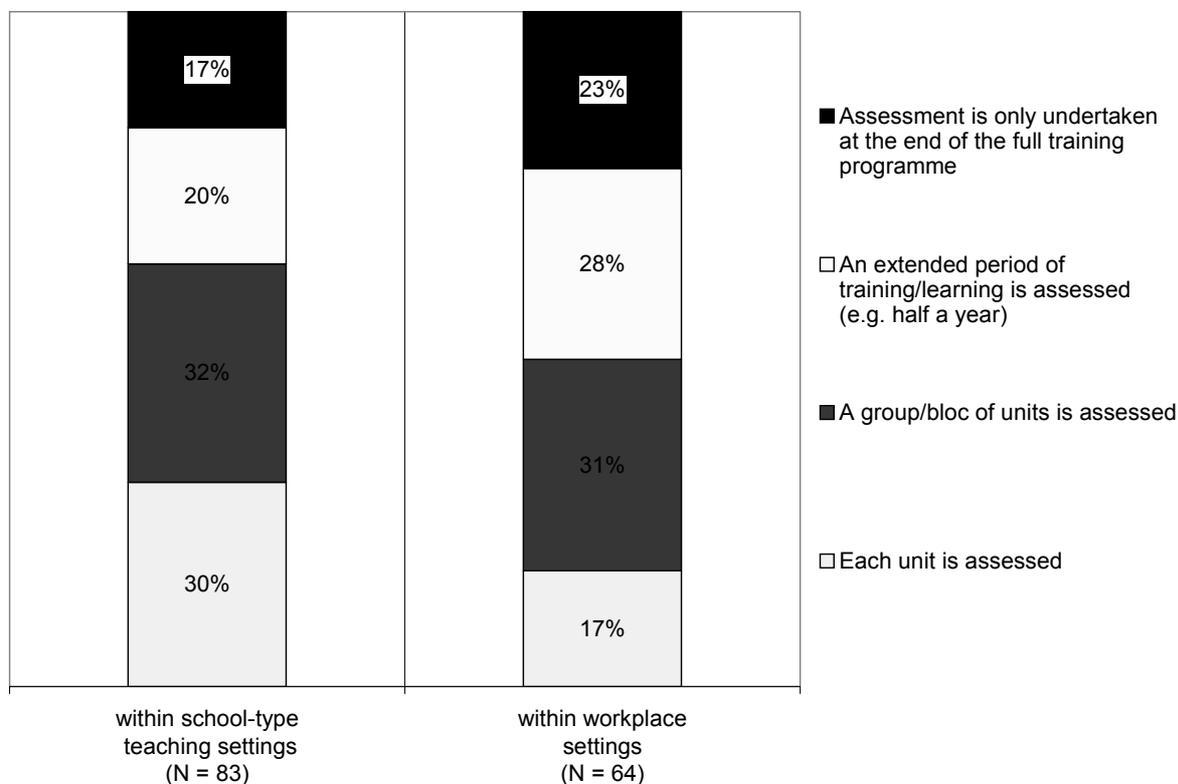
are assigned among students with a pass grade as follows: A best 10 %, B next 25 %, C next 30 %, D next 25 %, E next 10 % (CEC, 2003a). In the context of developing ECVET, the smallest unit of assessment has to be defined. According to Tait (2003) a ‘unit of assessment is a coherent and explicit set of learning outcomes with associated assessment criteria, having a title, credit value and level’ and obey certain rules regarding what the learner is expected to demonstrate (assessment criteria).

It is relevant to identify the assessment processes for VET student mobility and the development of ECVET. According to the responses to the questionnaire, the processes can be summarised as follows: final or continuous assessment, final and continuous assessment, only final assessment, with different emphasis given to one or the other of the methods. For example, in Austria, ‘the most relevant assessment is the final exam in front of the commission’ (Table 24 – available online only, see p.111 for link). The online survey concentrated on the organisation and the basis of assessment to identify common practices in the countries involved. Among the 52 answers given, almost half identify units as basis for assessment, 25 % the courses and 17 % the modules (Table 49 – available online only, see p. 111 for link). This might be specified with the answer to the online question on the characteristics of the smallest element of the assessment within a VET programme:

- in Finland VET programmes are divided into modules and every module (equalling between 5 and 40 credits) is assessed on the basis of the national core curriculum concerned; the grade is specified in the certificate and depends on the assessment of the single units, with units varying in size;
- in Spain, a module is the associated learning scheme corresponding to a unit of competences. It constitutes the minimal unity accreditable in VET. A normalised form exists comprising, among other aspects, identification, capacities and skills to be acquired, contents, methods, basic requirements of the learning setting of training and indications on workplace training;
- further national systems are described in Table 50 (available online only, see p. 111 for link).

An overview of the basis of assessment in relation to the teaching settings is presented in the following figure. These results suggest that within school-type teaching settings the assessment takes rather place at the level of units than when the teaching is organised at workplace (30 % against 17 % of the responses). For workplace teaching and learning activities, assessment seems to cover longer (at the end of the whole VET programme or calendar year for instance).

Figure 9: Basis of assessment within school-type and workplace teaching settings



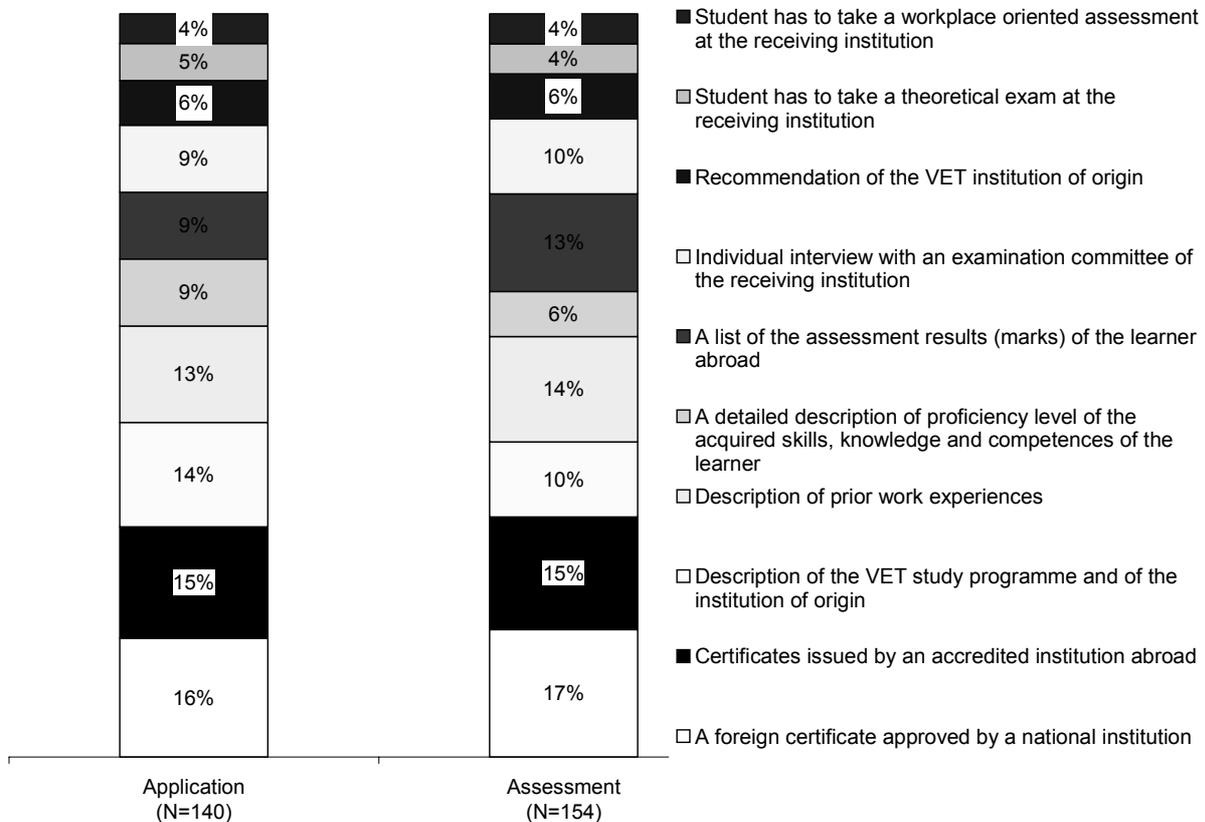
Source: Online survey Questions 3.2 and 3.3: On which basis does assessment take place in school-type settings (seminar, classrooms) resp. workplace settings? Please tick the relevant boxes. Multiple reply possible, Table 51, Table 53 (available online only, see p. 111 for link).

The mode of assessment covers, according to the online experts, the whole range of proposed schemes: written exams (mean of 1.54), demonstration at an artificial workplace in a vocational school or training centre (mean of 2), workplace observation during a practical phase of the VET programme (mean of 2.19), oral exams (mean of 2.27) and demonstration at a workplace in a firm (mean of 2.59) on a scale from 1 (very usual) to 5 (not at all) (Table 55 – available online only, see p. 111 for link). In view of testing the potential to organise credit transfer and accumulation between two VET programmes, it is useful to know whether partial or full examinations are usual. Both intermediate and final examinations take place (respectively 56 % and 58 % of positive answers, see Table 57 and Table 60 – available online only, see p. 111 for link). The most useful form of examination is written (a mean of 1.56 in the case of an intermediate exam and 1.31 in the case of the final exam on a scale from 1=very usual to 5=not at all, followed by the oral exams in both cases (Table 58 and Table 61 – available online only, see p. 111 for link). This issue depends much on the profession, the VET routes, etc. (Table 59 and Table 62 – available online only, see p. 111 for link).

The final grade given to the learner relies, according to 38 % of the online experts, on the accumulation of all grades acquired; according to 27 % of the online experts it is on the final examination or exclusively on the final examination (17 % of the answers). For 18 % of the online experts the final grade relies on a selection of major grades referring to group of units or modules (multiple reply possible, Table 63 – available online only, see p. 111 for link). Some 73 % of the 45 online respondents indicate that the grades are expressed with a detailed scale (Table 65 – available online only, see p. 111 for link) which in most cases has five-steps (Table 66 – available online only, see p. 111 for link). The importance of grading in relation to credit systems has been analysed within the Transfine project which came to the following conclusion: ‘The grading scale of ECTS is however very problematic for the recognition of prior learning since it is norm referenced: the marks/grades assigned to an individual are referenced to the group or cohort of students taking the same course. Clearly in the assessment of an individual’s prior learning there is no group that has followed the same route, which can be used as a reference point so assessment must be criterion referenced rather than norm referenced. If the criteria for achievement in any course are clearly specified then it is possible to assign a grade based on a matching of the candidate’s prior experiential learning against the criteria for a particular unit, module or course. In this way the final diploma can be accompanied by an overall grade of some kind, usually in broad bands (...) although as yet there has been no attempt to obtain any consensus on what they might be (Transfine, 2003, p. 48).

Besides the technical aspects of assessment and certification, Mike Coles and Tim Oates analysed the importance of trust. In the online study we had a look at the documents and procedures which might nurture trust in the context of individual international mobility. The results below show the elements required for the application and for the assessment of learners, ranked in decreasing order of their relevance.

Figure 10: Application and assessment elements by international VET mobility



Source: Online survey Question: 4.5a/b In case of international mobility: If a VET student with prior learning experiences wants to join a study programme in your national VET system, which of the following elements are required to apply/to assess the proficiency of the candidate? Please tick the relevant boxes, Total 100 % (Table 80 and Table 82 – available online only, see p. 111 for link).

4.4.3. Certification

The issue of certification has been dealt by the Forum on transparency of qualifications and the Forum on quality of VET as well as in some European projects such as the Transfine project. Certification bodies verify individual competence conformity in terms of KSCs, learning settings or assessment results depending on the national VET regulations or using international norm ISO/IEC 17024. Certification and examination arrangements can be defined as all norms or procedures used by Member States to control the evaluation of learning processes and outcomes, the validity and reliability of personal learning efforts according to fixed standards for educational and training goals (De Rozario, 2002, p. 8). This can be covered by the Transfine specifications which include non-formal and informal learning: certification will then be used to denote the awarding of credits, a qualification or part of a qualification on the basis of non-formal or informal learning following a form of assessment (see Davies, 2003). Further, it is important to consider the development and implementation of the Europass framework in Europe. Mentioned by the Council of the

European Union (2004b), Europass is a portfolio of documents which include the common European format for curricula vitae, the diploma supplement (used in higher education), Europass training, the certificate supplement and the European language portfolio. It is meant to be an evolutionary framework to include relevant templates to support the aim of mobility and transparency of qualifications and competences. Europass will be put in place in Hungary and others in 2005 in the context of the revised national qualification register.

Much of the certification discussion relating to credit allocation and validation procedures is linked to the basis for certification: should it be carried out at the end of a VET programme (i.e. certification of qualification) or at the end of each module or set of KSCs? German initial VET has certificates for the full qualification; only in the margins is there movement towards certification of units (sub-certification) to lower the threshold (Reuling et al., 2003). Qualifications can be subdivided into modules which could be certified. The best way should be to have a set of competences to be verified in order to assess the amount of credits associated to the module for formal pathways. According to Tait (2003) certification and credit/s can only be awarded for achievement of a unit (or module) of assessment. The module specification can be applied to all types and levels of achievement. The unit specification is assessment only which can be 'nested' within delivery modules or learning programmes. The specification itself is totally free of descriptions of delivery or assessment methods. Within the Basicon project (Zukunftsbau, 2001), for instance, modules are subdivided into smaller learning units that do not necessarily have to follow a chronological order and are individually certified.

The competences acquired outside the formal VET context should be assessed in terms of equivalences to modules. A subcertification under discussion in Greece relates to ICT basic skills (for example the European computer driving licence). At that point, the certification of competences is made by the organisation which accepts the student in order to find which he possesses. This presupposes the existence of a competence set for professional profiles (such as the ones defined in the career space project for instance). One suggestion is to establish certification for qualification, modules (which could be called sub-certification) and credits, the so-called certification 'light'. This view is mainly based on constructing a working model linking qualification, competences, modules and credits, assuming that a qualification can be defined in terms of competences which can be distributed in a set of modules whose value is represented by a number of credits (Demartini, 2003).

Traditionally, certificates are granted after examination in a VET institution. Certificates are not an alternative to examinations but examination procedures are part of the certification basis. Some qualifications can be certified without having to pass classical examinations. Certification may be similar to that used for language knowledge. In the context of transnational transfer it is all about trust in value which can be gained by relating certification to recognised qualifications and/or common standards for certification procedures. To nurture trust we need some standards such as a map of equivalence of certificates or a typology of pathways to certification. A basic seems to be a common understanding of qualification, learning activities and competences. The workplace learner has to have a document describing

the competences acquired. One solution could be to define job profiles to which the learning refers, linked to required competences. We have already two examples at our disposal: the *commission nationale d'homologation des titres* (France) and the vocational certification standards (Portugal). The *commission nationale d'homologation des titres* registers all the existing certifications, designs a common guide for each one and organises links between systems when possible. The Portuguese vocational certification standards form, with the occupational profiles, the basic elements of reference for certification.

4.4.4. National perspectives

In France the organisation of study programmes in units and modules is oriented towards the mechanisms of certification rather than answering pedagogical logic. The OECD national report (2003a) mentions that the references used are rather oriented towards the description of recognised 'parts', their meaning and conditions of use, in a given employment situation or transversal to many occupational fields. The experts emphasise the continuous restructuring of the certification procedures in France since 2002. This process is oriented towards lifelong learning and opening up individual choice in terms of combination of modules, units and credits; consequently certification might be considered as an indicator of the individual qualification whereby the repertory of professional certificates and the principles offer guidance to recognition of KSCs acquired in different learning and working settings. According to Charraud (1999), for validation, a double process is carried out which consists in fixing a 'value' compared to reference frameworks and in following a whole set of established procedures guaranteeing the reliability of the act. The 'validation of the assets' adds to the step recognising the assets and their positioning within a reference framework. The evaluated assets are located and measured according to a framework (diploma requirements, or a whole series of assets which an individual must acquire during a training scheme). It is the stage which consists in determining if the candidate has sufficient assets to obtain the certificate, the title or the diploma that it seeks. In France, the certification patterns are plural; besides the rules stipulated in the law on social modernisation as stated above, regulations and three registers of certification exist in France in parallel: the diplomas delivered by the Ministries, and the titles delivered by organisations which are either public, attached to Ministries or private (see OECD, 2003a, p. 11, own translation).

One innovative aspect of the French qualification system and recognition procedures is the consideration of non-formal and informal learning as well as the potential to use 'bridges' to foster horizontal mobility; these two aspects are central to the development of ECVET. Since 2001, opportunities to move from one kind of courses to another have been introduced to facilitate enrolment for both initial and in-service training; multidisciplinary schemes of a vocational nature have been extended to make pupils more aware of the interaction between general and vocational subjects in developing vocational qualifications (see Eurydice, 2001). There are a number of further steps in this development.

The opening up of the national VET system for competences acquired outside formal institutions is one. Since 1992 vocational diplomas (under the responsibility of the Ministries in charge of education, agriculture and sport) can be achieved (to various degrees) on the basis of assessments of non-formal and prior learning. From this standpoint, the 20 July Law 1992 on this kind of validation has introduced an all-important innovation in the award of technological and vocational diplomas and similar qualifications. All those who have followed a form of professional activity corresponding to such a qualification may obtain exemptions from the qualifying examinations on the grounds of experience. The activity concerned may have been pursued in more than one capacity such as that of salaried employee, craftsman, self-employed person, etc. An individual response to adults involved in active life who wish to obtain formal qualifications, the validation of professional expertise is an inevitable aspect of the entire lifelong education issue (see Eurydice, 2001b, p. 100-101).

The skills record (*bilan de compétences*) was introduced in 1985 to support the employer/employee in identifying and assessing professional competences. This was mainly to support individual career development (individual right) and consequently enterprise-internal utilisation of competences (Le Mouillour, 2002).

Accreditation of work experience (*validation des acquis professionnels*) was composed of two successive parts which were quite different. The first, adopted in 1985, was aimed at permitting wage-earners and the unemployed to gain access to HE training programmes (DEUG; *maîtrise*, DESS) in the absence of the required diplomas by submitting an application package which details their work itinerary and highlights the elements allowing a committee to assess their 'success potential' for the desired training. The second part of VAP, adopted in 1992, is applicable to all diploma levels delivered by the Ministry in charge of education (VET and HE). It permits candidates to obtain certification units for a diploma on the basis of their application packages rather than classic examinations. This application package is required to provide precise descriptions of concrete work situations encountered by the candidate and corresponds to the guideline for targeted certification units. The number of applications went from 900 in 1995 to more than 4 600 in 2000 in vocational and technical education (Labruyère et al., 2003, p. 1).

The validation of the achievements of experience (VAE) is a further development in the field of validation and certification of competences acquired through work experience and outside formal education and training (see Le Mouillour, 2002).

The Irish Qualifications (Education and Training) Act, 1999 rules 'the establishment and promotion of the maintenance and improvement of the standards of awards of the further and higher education and training sector, other than in the existing universities as well as the promotion and facilitation of access, transfer and progression throughout the span of education and training provision'. The National Authority of Ireland is in charge of implementation in cooperation with the awards Councils on issues of validation, award making and quality assurance processes. According to Eurydice/Cedefop (2001), there is a strong acceptance of an output-oriented, performance-based model of education and training

as well as non-formal and informal learning as a valid and important pathway to competences. This collidates however with the issue of the quality of the standards is crucial.

Hungarian VET regulations envisage the recognition of prior learning/working experiences. ‘The presentation of vocational qualifications (in the restructured National Qualification Register) in groups and the construction of a modular system of vocational qualifications establishes the possibility of taking into account previously acquired skills and the development of a system of vocational qualifications that serve as building blocks. With the modernisation of the vocational structure, it will be possible to establish an integrated system of vocational qualifications that are based on short training courses outside the regular school system. In the next few years, this integrated system can be expanded into a modular-structured system based on modular training programmes’ (National Institute ..., 2001, p. 7).

According to the German Federal Ministry for Education and Research, certificates attesting the successful completion of vocational training fulfil an important information and orientation function for and in the labour market. They make the labour market transparent both for young people seeking a traineeship and employers seeking skilled labour (BMBF, 2003c). One typical aspect of most qualifications in Germany is that it is not merely the learning goals and the method of verifying them that are specified. It is also stipulated how these goals are to be achieved. In particular, the content and duration of teaching/learning programmes as well as the learning location are specified. In other words, Germany largely pursues a process-based approach towards formal recognition of learning, with a concluding verification of learning success (see Reuling et al., 2003). The discussion on recognition of non-formal learning in Germany is closely linked to the discussion on flexibility of education and training. Since 2003 the Federal Ministry for Education and Research has supported the modernisation of the national VET system by updating examination procedures. Among others, the external examination (*Externenprüfung*) is the possibility for experienced workers to sit a journeyman’s exam without having attended regular training. It is a permanent element of the dual system. It is perhaps the most important single element bridging non-formal and formal learning (see Colardyn et al., 2003). The registration procedure to the normal final examination (which takes place twice a year) is fixed within the vocational training law, No 40. It includes:

- work experience in the occupational field concerned for a duration of minimum twice the length of time as prescribed for the relevant training (this must be proven by certificates of employment);
- proof of proficiency and acquisition of the knowledge and skills required by means of references, certificates of employment or demonstration;
- advisory interview on the results of the document analysis which ends with a demand for further work experiences, attendance of a preparatory course or registration.

The examination certificate is the same as that received by trainees and those retraining after passing the examination (e.g. the certificate of proficiency).

In Spain, the Organic Law 5/2002 on Qualifications and Vocational Training has established a national system of qualifications and vocational training with the purpose of facilitating the integration of the different forms of certification and accreditation of occupational skills and qualifications. The institutional backbone of the system is the national catalogue of occupational qualifications. In the Spanish VET subsystems, we find two basic official award forms:

- vocational training diplomas, corresponding to the initial, intermediate and advanced levels of formal vocational training (technician and advanced technician, 142 professional profiles, 22 vocational training families);
- certificates of occupational standards (130 certificates, 25 vocational training families), corresponding to the continuous training (labour market and in-company trainings).

The act establishes that vocational training diplomas and certificates of occupational standards constitute vocational training offers as per the catalogue of occupational qualifications, that they are official and valid throughout Spain and issued by the competent administrations. It must be added that the two share the basic concepts of unit of competence and modular organisation, facilitating equivalences between them. Recognition, evaluation, accreditation and recording of occupational qualifications encompass the evaluation and accreditation of occupational skills acquired through on-the-job experience or non-formal training.

The national catalogue of occupational qualifications and the regulations on recognising prior learning experiences (established in both areas) allow for partial recognition of occupational skills and completion of education and training activities towards a proper diploma or certificate. The catalogue is now in an advanced process of preparation, with a final forecast of around 620 qualifications (ordered in vocational training families (26) and three qualification levels) for the end of 2005/beginning of 2006. The catalogue will be updated continuously. The act also considers the training offers not linked to it, so as to incorporate them under specific conditions giving way to the proper accreditation of the occupational skills acquired through these training schemes.

4.5. Implementation toolkit

4.5.1. Principles

ECVET has to be positioned in relation to existing national qualification frameworks for credit-based qualifications and the existing ECTS in higher education. It also has to take into account the impact of challenges linked to lifelong learning and overall EU objectives for education and training in view of the objectives of the Lisbon agenda. As stated in the progress report on the credit system for VET, ‘the development of a coherent European credit and qualifications framework must be guided by a set of principles, in order to support the

acceptance and trust of such a framework in participating countries' (Le Mouillour et al., 2003, p. 20).

The principles are linked to three main specifics of VET that should be especially acknowledged while conceiving ECVET: the heterogeneity of the learners (biographies), of their learning pathways (formal/informal) and motivation (acquisition of skills and competences, employability); the multiplicity of the stakeholders (education and training and labour market or political, administrative and private spheres); the diversity of mobility schemes; and the structure of the education and training offer (public, private, oligopolistic or monopolistic structure). One complementary aspect for the development of principles is that they are as good in implementation and enabling the system to evolve as seen by the European Commission in HE: 'The current state of the ECTS is relatively healthy and buoyant. It is accepted and used by over 1 000 higher education institutions. The tools it uses are tried and tested and have been shown to be effective. The principles on which it is based are sound. However, it does require further embedding within institutions. For the current purposes of credit transfer ECTS works well. In this context no changes to its procedures and processes are necessary. The principles that underpin ECTS (as a credit transfer system) will also serve to underpin a broader European credit (accumulation) system. However, a number of adaptations and developments to the existing ECTS tools and procedures would be necessary for its application to lifelong learning' (see CEC, 2003a). Further recommendations for formulating the principles are as follows: principles should be simple, be clear and transparent, be cost-effective, involve as little bureaucracy as possible, and be comprehensive (see National Qualifications ..., 2002).

The review of existing credit systems and qualification frameworks for HE and VET (including the Northern Ireland credit and accumulation system, the Irish national framework of qualifications (2004), the principles for a credit framework for England (2004), the principles stated in the Spanish Organic Law (2002), the principles for ECTS along with the principles for validation of non-formal and informal learning (2004)) allows identification of three categories of principles linked to ECVET in terms of its functioning and implementation:

We may have to distinguish:

- operating or guiding principles (how to do it), i.e. the Irish national framework of qualifications or the European principles for validation of non-formal and informal learning;
- describing principles (what it means), i.e. NICATS.

The existing principles might be read from the viewpoint of the stakeholders concerned as presented in the following table.

Table 8: Principles in national context

Stakeholders	The principles should secure that the credit system contribute to ...
Learners and citizens	Personal development; Free choice of a profession or trade; Right to work; Equal access to the different modes of vocational training; No discrimination, adequate/equal access; Right to obtain all necessary information
The VET providers	Facilitate the design and/or redesign of learning units and awards Maintain the quality
The authorities The social partners	Participation and cooperation in VET policies; Adjustment of training and qualifications to European Union criteria (single market and free circulation of workers); Provision of guidance and support.
Social and economic system	Contribute to economic development and adjustment Facilitate the development of education and training
For all stakeholders	Understandable at institutional (national, European) level; Confidence and trust, good faith; Impartiality; Credibility and legitimacy; Cost-effectiveness; In line with the rightful responsibilities of the stakeholders; Facilitate the design and/or redesign of VET programmes (units, certificates); Quality assurance; Obligation to provide all necessary information to the learner and to other stakeholders; Recognition procedures to be carried out rapidly and transparently.

Source: the author, based on Ley Orgánica 5/2002; National Qualifications ... 2003c; Council of Europe/Unesco 1997; Council of the European Union 2004.

The principles developed for the national qualifications framework or the credit system have been communicated in brochures, websites, etc. This leads to a further aspect in the development of ECVET which is documentation.

4.5.2. Documentation

In higher education, documentation is broadly related to all information on content, academic level or quality of the programme of a specific course. This may be linked to a certification process. Moreover, documentation helps reinforce credit transfer through, for instance, cooperation contracts between institutions of higher education involved in an international mobility programme, an information package about the study provisions and conditions, or the settlement of a study contract for the student prior to the study period. In VET, some instruments have been developed to increase the transparency of the learning process, such as the Europass but their diffusion in VET has not been surveyed.

The decentralised character of ECVET calls for the use of standards and regulations in force at national level as well as the existing documentation and/or information structures. The overview of national systems allows quoting of VET programme specifications, VET regulation laws, different existing registers and catalogues (*Berufsbilder* in Germany, *Catálogo Nacional de Cualificaciones Profesionales* in Spain, the *répertoire national des certifications professionnelles* in France, the OKJ in Hungary, etc.). At European level the recommendations for validation, the standards and regulations on certification and the standards for quality assurance are core elements of the VET information system. This information is available in form of templates, documentation packages, etc. (i.e. the Europass framework). Yet the question is how much information the stakeholders need to implement and use ECVET.

Information is required at least on the three following issues:

- learning outcomes: the common understanding on KSCs linked to professional fields and qualification profiles, mapping and tuning activities to define elements of comparability, the definition of equivalence between learning units;
- learning activities and timetable: synchrony and sequences between different VET programmes, the modules in ECVET, regulations on certification, recognition procedures;
- financial arrangement for mobility within or without institutional arrangements.

The evaluation of the online experts stresses the need for documents such as certificates issued by an accredited institution abroad, a foreign certificate approved by a national institution, the description of prior work experience, the description of the VET study programme and of the institution of origin, and a list of the assessment results (marks) of the learner abroad (Table 80, Table 82 – available online only, see p. 111 for link).

That information is compiled in the following key documents within ECTS:

- the regular information package/course catalogue of the institutions which contains information for host students from abroad;
- the learning agreement which contains the list of courses to be taken and agreed upon by the student and the academic body of the institution concerned. In case of credit transfer, the learning agreement has to be agreed upon by the student and the two institutions concerned before the student's departure and to be updated immediately when changes occur;
- the transcript of records documents the performance of a student by showing the list of courses taken, the credits gained as well as the local grades and possibly ECTS grades awarded. In case of credit transfer, the transcript of records has to be issued by the home institution for outgoing students before departure and by the host institution for incoming students at the end of their period of study;

- the diploma supplement is a document attached to a higher education diploma providing a standardised description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the graduate (see CEC, 2003b).

For VET, the new Europass is expected to come into force in the first quarter of 2005. It is a framework of documents and templates to secure transparency of qualifications and competences and quality within the European VET context. It contains the following elements:

- the Europass-CV gives information on personal matters, language proficiency, work experience and educational and training attainments, additional competences held by the individual, emphasising technical, organisational, artistic and social skills;
- the Europass-mobility records periods of learning attended by holders (whatever age, educational level and occupational status) in countries other than their own;
- the Europass-diploma supplement relies on the same template as the diploma supplement within ECTS as it provides information on its holder's educational achievements at higher education level;
- the Europass-language portfolio contains information about the language proficiency of the learner;
- the Europass-certificate supplement is attached to the VET certificates and describes the competences and qualifications acquired by the learners. In detail this means that the Europass-certificate supplement provides information on the skills and competences acquired, the range of occupations accessible, the awarding and accreditation bodies, the level of the certificate, the different ways of acquiring the certificate, and the entry requirements and access opportunities to next level education (see Council of the European Union, 2004c).

5. Conclusions and challenges

5.1. The challenges

Developing proposals to implement ECVET relies on analysing the main constituents of existing and emerging credit systems, also in relation to national qualifications framework. It is linked to evolving national VET systems in the context of the Lisbon strategy and the development of lifelong learning. To assess those changes in terms of possible scenarios, the online experts were asked to react to a selection of hypotheses for expected changes in relation to ECVET. This allows assumptions to be made with possible characteristics and specifics of a credit (transfer) system for VET and lifelong learning. To maintain a pragmatic approach to developing a credit system for VET, this will be completed with proposals for principles and guidelines.

The online experts agree that implementing ECVET will be a major challenge for European VET; it is expected to support transparency, compatibility and mobility between formal national VET systems while increasing their attractiveness. They also agree that greater transparency might bring more competitiveness and disadvantage less qualified people in national labour markets and reduce the variety of programmes in national VET systems. The reform process at European level is positively viewed as it respects the national legislations and supports the quality of national VET systems. Detailed results are presented in the following table.

Table 9: Evaluation of expected effects of ECVET

Assumptions	Mean
1. The development of ECVET is the European challenge for the next 10 years in VET (N=48)	1.45
2. ECVET will allow for a greater transparency of qualifications (N=46)	1.53
3. ECVET is supporting the needed compatibility between national VET systems (N=48)	1.77
4. ECVET will boost international mobility for VET students between formal national VET systems (N=47)	1.93
5. ECVET will allow for a greater transparency of qualifications and as a consequence increase the competitiveness between qualified workers, and be disadvantageous to less qualified people within national labour markets (N=46)	2.47
6. ECVET will reduce the spectrum of the VET study programmes in each VET national systems as it will be easy to access to study programmes offered abroad (N=47)	3.4
7. ECVET will undermine the national legislative VET regulations (N=46)	3.71
8. An external process is artificially pushing reforms which are not genuinely needed (N=45)	3.77
9. ECVET will undermine the quality of your national VET system (N=46)	3.83
10. The logic of the national VET systems will not be respected within ECVET (N=46)	3.86
11. We do not need ECVET as mobility between VET national systems is already taking place successfully (N=47)	4.08
12. The national VET systems will loose their attractiveness if they follow European standards (incl. credits) (N=46)	4.26

Source: Online survey. Question 5.6: The implementation of a credit system for VET (ECVET) will bring some changes in the national VET systems. What do you think about the process? Scale: 1=I fully agree, to 5=I fully disagree. Assumptions 6 to 12 are negatively formulated.

The development of ECVET and its expected influence on the national VET systems and the European education area can only be considered with a review of the key national initiatives or reforms that are relevant to defining a credit system in VET (Table 93 – available online only, see p. 111 for link). Those initiatives can be summarised as follows:

- developing modularisation/unitisation;
- developing a qualifications framework;
- outcomes orientation (knowledge, skills and competences) of VET programmes;
- developing recognition procedures and bridges between VET and HE;
- quality assurance;
- developing transparency instruments for foreign and national VET stakeholders;
- developing schemes for accreditation of prior learning/working;
- adapting to individual learners' situation;
- developing national occupational standards;
- intensifying cooperation between all institutional stakeholders.

5.2. Proposals for pilot experiment

5.2.1. No all-encompassing scheme

Developing a 'fixed' and 'all-encompassing' single model of credit system seems to be a questionable aim as:

- (a) it is unrealistic to reach a consensus over the far-reaching scientific and didactic implications of such a system;
- (b) such a system is feasible only under restriction of freedom within individual institutions and study programmes for a high range standardisation of contents and processes;
- (c) in case of innovative and adaptive necessity such a system would produce unexpected rigidity (see Schwarz et al., 2000).

Further, this study presents a selection of constituents which can be considered as core elements of credit system. An agreement on those elements among the stakeholders would allow for transfer and accumulation of individually acquired KSCs.

5.2.2. A flexible, guiding scheme

The diversity of national VET systems and lifelong learning strategies calls for a flexible guiding scheme. The following suggestions are in line with development of the basic ECVET model and rely on the definition of units and modules stated in the ECVET paper (2004) which might differ from understanding in the respective national context as follows:

- unit means the elementary (or smallest) part of a qualification or of a curriculum, and is outcome-oriented;
- module means the elementary (or smallest) part of a learning pathway, and is process-oriented. It corresponds to a specific way of organising resources, workload and learning time to reach certain objectives (CEC, 2004).

5.2.3. KSC based scheme

The challenge of developing an ECVET system can be seen as being to develop a credit system in a lifelong learning perspective. Decisions have to be taken on the granulation degree of the knowledge, skills and competences considered i.e. what is the smallest size of KSCs which makes sense in a specific professional context and within a transfer and/or accumulation process. This decision should be taken in the context of sectoral dialogue.

5.2.4. Credit point calculation

Credit points are allocated for individual acquisition of KSCs aggregated in units. The further challenge is to find a common stable and compatible reference for the calculation of credit points. This research project came across two major approaches in terms of resources invested (i.e. time) and output achieved (i.e. KSCs).

Time is a traditional way of measuring learning efforts (e.g. the ECTS in higher education). It corresponds to a resource management view of the learning processes, as in the facility management of VET providers or time management of learners. If it comes to time as a reference, then there will have to be a decision about which understanding of time is appropriate (for instance notional learning time) and on how to establish a parallel between the time to obtain a professional title via the formal VET system, in a continuing VET programme, and the time to obtain it within the non-formal system (APEL). It must be noted at this stage that methods of assessing prior learning experiences are still to be developed or implemented.

The proposals for pilot experiments rest on some hypotheses as to the organisation of the VET programmes that are emerging from this survey report. Those hypotheses concern VET programmes (content description and outcomes), agreement between the stakeholders (information, goodwill and trust), the active role of the learners (including the motivation to renew with learning activities), and the agreement of European stakeholders on measurement of credit points. Extensive presentation of learning outcomes is in consideration of the learner

at the heart of the VET system and as the actor responsible for elaborating his vocational profile in terms of employability. Individualisation of VET programmes means a personal combination of KSCs to reach a given level of proficiency in a given professional field. Both elements link the issue to the existence of reference levels and vocational profiles, which are developed in many countries. The role of credit in this context is to free up mobility (in all meanings of the word) while supporting transfer and accumulation of KSCs which are grouped into modules/units.

One must differentiate between national and European levels to tackle the issue of the total amount of credit points to be allocated to a VET qualification. The issue here is not the calculation of credit points as such but the development of an instrument for the transfer and accumulation of credits. This should lead to recognition of learning achievements, KSCs, acquired outside the formal VET system and/or outside the national VET system. Thus the role of credit points is that of a common reference between different types of VET programmes leading to more or less equivalent VET qualifications. A convention of 180 credit points for full VET programmes (across different levels of proficiency depending on the national description of VET qualifications) would be viable.

5.2.5. VET programme structure and content

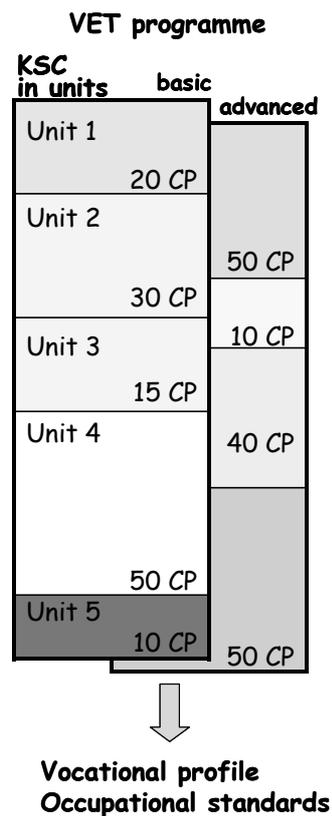
VET programmes are differently organised, but follow the same objective of contributing/supporting the development of knowledge, skills and competences of the individual learners. The learning/teaching activities might be organised as initial, further, continuing, etc. VET programmes. VET programmes might include units belonging to different levels of proficiency.

The hypotheses linked to the contents can be formulated in accordance with the results of the survey as follows:

- increasing demand on KSCs along the years of learning activities. For the sake of understanding internal mechanisms of credit system, this model will be simplified to two levels of proficiency (basic and advanced), the concrete definition of the levels being at the time discussed as part of the European qualification framework issue and usually extending over at least five to eight levels. The relevance of levels and/or sublevels for the VET credit system is to anchor the credits;
- generic KSCs (numeracy, literacy, etc) and specific or vocation-oriented KSCs;
- combination of generic and specific KSCs belonging to different levels corresponds to a vocational profile;
- a vocational profile is defined nationally (within repertories or registers of vocational standards); some profiles might already be Europeanised within, for instance, regulated professions.

The objectives of VET programmes can be structured in units, with generic and specific KSCs gathered into respective units. The units will be weighted in credit points as presented in the following figure (numbers being fictitious) and have a minimum size answering a logic block of KSCs. As mentioned in the 2003 report ‘units are conceived to build part or the totality of a qualification on the basis of a coherent combination [of KSCs]’ (Le Mouillour et al., 2003, p. 11).

Figure 11: VET programme structure



Source: The author

The KSCs might belong to different vocational profiles and correspond with different levels of proficiency depending on occupational standards. It is however possible to identify different categories of KSCs:

- general transferable KSCs (especially generic KSCs);
- occasionally transferable KSCs in the case of neighbouring vocational field;
- not transferable KSCs as some KSCs might correspond to a national technological, handicraft or technical tradition; this would lead to the existence of free KSCs or units, representing specificity in the professional profile of the learner.

5.2.6. Allocation of credit points to units

Credit points allow, first and foremost, quantitative measurement of learning achievements at individual level with the aim of facilitating transfer of part or full qualifications. Credit points are allocated to units and the measurement basis for credit points in most of the existing credit systems is a combination of workload and time. The time dimension is broken down from years (the duration of a full VET study programme) to weeks. It represents the time spent by learners in VET schools, training centres and firms, as well as the time they spend preparing for courses or seminars.

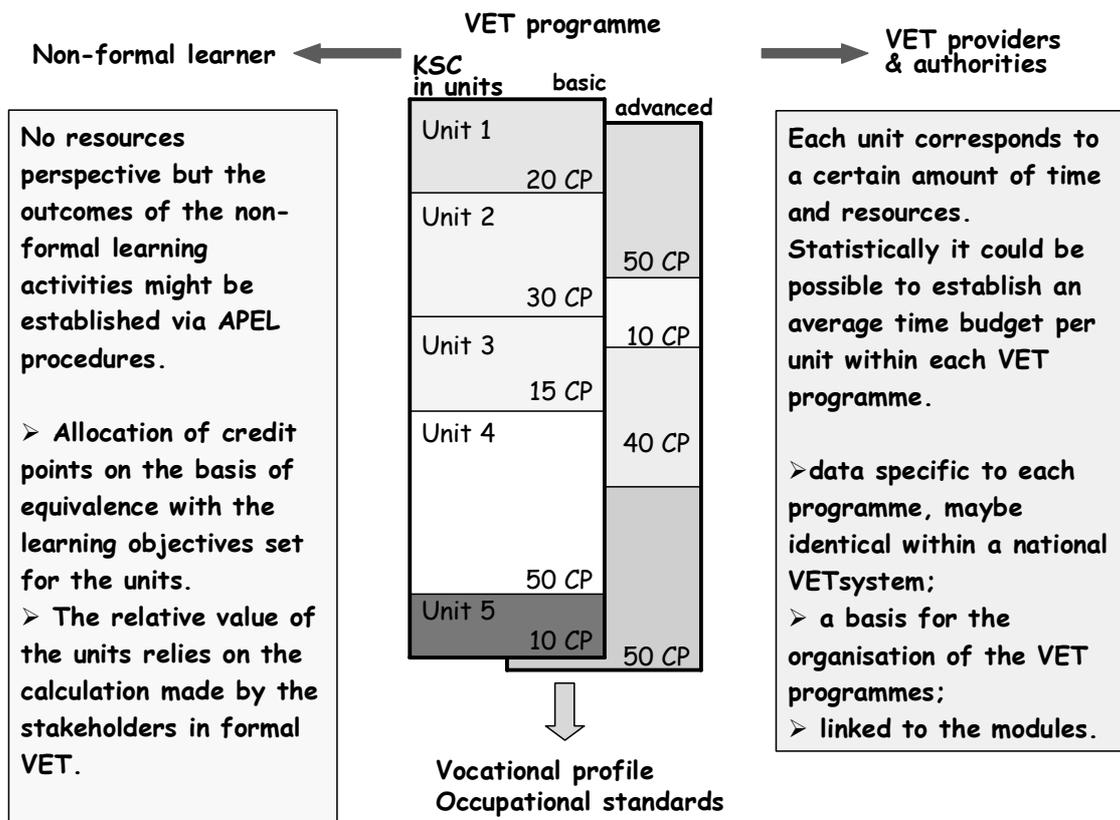
One main assumption is that learning activities are equal, whatever the settings (workplace learning, seminar learning, e-learning). However the survey brought evidence of difficulties in using the notion of learning density or notional learning time for all countries, even if they are in use in some existing credit and/or qualification frameworks.

The qualitative approach for calculating credits is not an intrinsic aspect of credit systems. Speaking of the qualitative aspects of the credit value widens the discussion to the idea of a credit framework as this allows accumulation of credits, transfer of credits and international compatibility of VET systems. It is linked to the concept of credit and qualification framework as developed in some countries and could be linked to an emerging lifelong learning credit and qualification framework at European level. The qualitative aspect is linked to the quality of the learner's profile at the end of the study programme, not in terms of assessment but of the range of KSCs acquired.

There is a need to develop a credit system that takes into account competences (widely used in vocational education/training) and that is compatible with a credit system based on workload (currently used in higher education). The latter approach used by ECTS should not be viewed as contradicting the first, but rather as enriching it, because it would combine the objective of the educational/training experience (the competences to be acquired) with the effort required to acquire it. The development and testing of a definition of credits capable of being more focused on outputs and outcomes is not necessarily such a radical proposal, since this approach is already being adopted in Italy and the UK. Further, within traditional academic education there is a trend in many countries towards a more output-focused, outcomes-based approach.

The temptation to mix both approaches comes from two perspectives. On the one hand, ECVET is meant to encompass non-formal and informal learning activities, that is to say the results of learning efforts or working experiences which cannot be translated into a metric time system, instead using consideration of acquired KSCs and the use of methods for validating prior learning experiences. On the other hand, the approach of the VET providers and many stakeholders to the issue of VET programmes is based on a managerial viewpoint in terms of resources (finance, human resources, facilities, etc.). The solution could be to consider those two perspectives in parallel as presented in the following figure.

Figure 12: Allocation of credit points

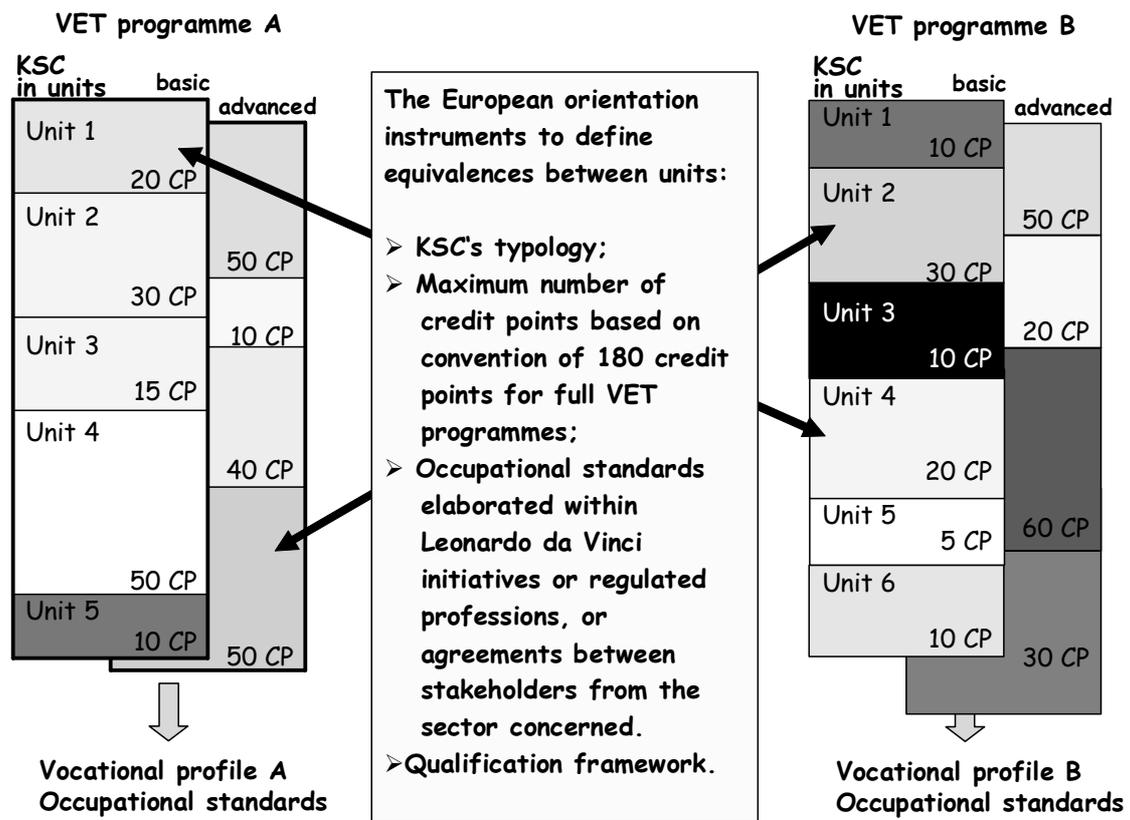


Source: The author

5.2.7. Transfer and accumulation for mobility

VET transfer and accumulation functions rely on defining units and the corresponding KSCs. The KSCs are grouped into occupational standards and can be systematised in generic and specific KSCs on the one hand, basic and advanced on the other. One further assumption is that they are assembled into units which correspond to a given number of credit points. Units have a relative value, the total value being the total credit points allocated to a VET programme. The total value in terms of credit points might vary for similar VET programmes from different countries. Yet, the definition of a convention on the total credit points for a European VET programme eases the calculation of the relative value in credit points of units when it comes to transfer and/or accumulation of KSCs.

Figure 13: Equivalences between VET qualifications



Source: The author

The definition of equivalences is based on the KSCs acquired by the learners in different settings, from their non-formal, formal and informal learning activities. Credit points are allocated to units or blocks of units on the basis of the KSCs. The notional learning time dimension is an internal managerial tool for national stakeholders in planning their teaching offers and organising VET programmes, mentioned in the ECVET basic scheme as a characteristic of the modules.

5.2.8. Vocational fields for experimentation

According to the online experts (question 4.4), their experiences or knowledge about continuing cooperation projects (i.e. Leonardo da Vinci), and experimentation with ECVET should take place in the following vocational fields:

- social and health care,
- tourism (hotel),
- chemistry,

- metallurgy,
- agriculture,
- catering,
- transportation,
- ICT.

5.3. Proposal for a set of common principles and guidelines for ECVET

It is useful to think of the principles and of the credit systems in terms of their functions in the wider context of a European education area. Usually actors, norms, rules and/or conventions have different functions which can be listed as follows (see Lindeperg, 2000):

- regulatory,
- normative,
- guidance and expertise,
- control,
- promoting,
- securing social and economical equality.

The principles for ECVET have mostly guidance and promoting functions and that linked to securing social and economical equality within the European Community for VET learners at large. As mentioned in the progress report, ‘the development of a coherent European credit and qualifications framework must be guided by a set of principles, in order to support the acceptance and trust of such a framework in participating countries. Such a set of principles should be based on best practice and could guide the development of credit systems and qualifications frameworks at national, sectoral and European levels, by specifying, for example, basic characteristics, purpose and benefits. This would in turn contribute to a better mutual understanding of different national qualification systems’ (Le Mouillour et al., 2003, p. 20). ECVET has to be positioned in relation to existing national qualification frameworks/frameworks, for credit-based qualifications, and existing ECTS in higher education and it has to take into account the impact of challenges linked to lifelong learning and overall EU objectives for education and training with regard to the Lisbon objectives.

Table 10: Overview of principles

Categories	Guiding	Describing
	How to do it? How it should be done?	What does it mean?
	Fundamental rules, guidelines	Key constituents
Principles	No discrimination, adequate/equal access Procedures and criteria are transparent, coherent, reliable Personal vocational and social development Individual free choice, individual rights, free circulation of workers Economic development Understandable at institutional (national, European) level Confidence and trust, good faith Impartiality Credibility and legitimacy Recognition	Definition of credits Relationship between curriculum, units, notional learning time, level descriptors, learning outcomes, modules → see CEC, 2004
Responsibilities Rights	Definition of the rights and responsibilities between the stakeholders in respect of national regulations	Memorandum of understanding

Source: The author

These principles will be completed in the schedule of the survey on the ‘common principles for certification’, the results are expected at the end of January 2005. Putting ECVET in place also depends on the documents and templates available to secure the readability of the agreement on the equivalences and allocation of credits to mobile learners within and between the country’s borders. The Europass certificate supplement summarises information on the KSCs acquired and the learning/teaching processes that are useful to ECVET and this supplement, with other documents within the Europass framework, should be considered for ECVET.

Further documents needed are linked to ECVET functions, such as the calculation basis for credit points, the VET programme structure underlying the ECVET model, the role of the stakeholders and the relationship between ECVET and non-formal and informal learning activities. One specific ECVET instrument will be the template for the agreement between stakeholders which should concern mobility as well as credit transfer and accumulation and should be recognised and honoured by all parties (providers and learners, stakeholders in the host and home countries). This agreement concerns the specific objectives in terms of knowledge, skills and competences, duration, responsibilities, rights and obligations to be

followed during a period of time or within an exchange programme. The amount of knowledge, skills and competences will become a guarantee value in terms of credit points and is oriented towards fulfilling the requirements for a given profession or registration for examination.

The European credit system for VET stands out in the European lifelong learning strategy as the instrument for encouraging the development of individual learning pathways across and within national VET systems. It offers opportunities that will further need to be developed at national levels (i.e. the financial aspects which have not yet been considered in/for implementation of ECVET). This survey also stresses need for further research on national and European mobility in VET and on individual learning strategies as a contribution to the Lisbon goals.

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List of abbreviations

Abbreviations	Full words
AQF	Australian qualification framework
CVT	Continuous vocational (education and) training
ECVET	European credit system for vocational education and training
FETAC	Further Education and Training Awards Council (Ireland)
HE	Higher education
HETAC	Higher Education and Training Awards Council (Ireland)
ISCED	International standard classification of education
ISCO	International standard classification of occupations
I-VET	Initial vocational education and training
KSCs	Knowledge, skills and competences
NQAI	National Qualification Authority Ireland (Ireland)
OKJ	Országos Képzési Jegyzék (Hungary) National qualification register
PLAR	Prior learning assessment and recognition
FEOR	Foglalkozások Egységes Osztályozási Rendszere (Hungary) Uniform classification system of professions
R&D	Research and development
VET	Vocational education and training
CQFW	Credits and qualifications framework for Wales project
NICATS	Northern Ireland credit accumulation and transfer system
NUCCAT	Northern Universities Consortium for Credit Accumulation and Transfer
SEEC	Southern England Consortium for Credit Accumulation and Transfer
F	France
UK	United Kingdom
HU	Hungary
FIN	Finland
IRL	Ireland
I	Italy
ES	Spain

Annex 1: The online questionnaire

**European approaches to credit (transfer) systems in VET:
an assessment of the applicability of existing credit systems
to the development of
a European credit (transfer) system for vocational education and training (ECVET)**

Dear Madam, dear Sir,

I would ask you to give us an appraisal and analysis of your national vocational education and training system and context in view of the development of a European Credit Transfer System in Vocational Education and Training (ECVET). As you will note, the questionnaire puts special emphasis on different elements which are considered as constituents for an ECVET.

Our survey is directed at selected stakeholders and experts for VET in the European Member States. You have been recommended by a member of the Copenhagen Technical Working Group on Credit Transfer or you are a member of the experts' virtual community on Credit Transfer.

The information you provide will be used as part of the study on Credit System for VET which was commissioned by Cedefop and is directed by Isabelle Le Mouillour of the Centre for Research on Higher Education and Work (University of Kassel, Germany). The findings will serve as basis for the conception of a credit system for VET at European level.

I assure you that any information you provide will be handled strictly in accordance with data protection regulations and only made available in an aggregated and anonymous form.

Should you wish to contact me, do not hesitate to send a mail to: LeMouillour@hochschulforschung.uni-kassel.de or phone to: 00 49 561 804 2047.

Please fill in this questionnaire online until the 29 April 2004.

You have received a personal PIN code per mail which gives you access to the online questionnaire.

Now, open the questionnaire using the following address: _____ and your PIN.

Thank you very much for your kind cooperation.

Isabelle Le Mouillour

The vocational education and training system in your country

The first part of this questionnaire focuses on the general features of the vocational education and training (VET) system in your country and on its stakeholders.

1.1 Which are the main characteristics of the VET system in your country? (e.g. dual system, regulations)

1.2 Within your national VET system, to what extent are national, regional authorities or bodies involved in determining ... ?

To a very high extent						Not at all
1	2	3	4	5		
<input type="checkbox"/>	the qualification standards					
<input type="checkbox"/>	the study programmes (e.g. division into units, possible pathways)					
<input type="checkbox"/>	the teaching-learning processes (learning environment)					
<input type="checkbox"/>	the assessment and examination procedures					
<input type="checkbox"/>	the recognition and certification procedures					

1.3 Within your national VET system, to what extent are VET providers involved in determining ... ?

To a very high extent						Not at all
1	2	3	4	5		
<input type="checkbox"/>	the qualification standards					
<input type="checkbox"/>	the study programmes (e.g. division into units, possible pathways)					
<input type="checkbox"/>	the teaching-learning processes (learning environment)					
<input type="checkbox"/>	the assessment and examination procedures					
<input type="checkbox"/>	the recognition and certification procedures					

1.4 Within your national VET system, to what extent are employers' organisations involved in determining ... ?

To a very high extent						Not at all
1	2	3	4	5		
<input type="checkbox"/>	the qualification standards					
<input type="checkbox"/>	the study programmes (e.g. division into units, possible pathways)					
<input type="checkbox"/>	the teaching-learning processes (learning environment)					
<input type="checkbox"/>	the assessment and examination procedures					
<input type="checkbox"/>	the recognition and certification procedures					

1.5 Within your national VET system, to what extent are employees' organisations and/or social partners involved in determining ... ?

To a very high extent						Not at all
1	2	3	4	5		
<input type="checkbox"/>	the qualification standards					
<input type="checkbox"/>	the study programmes (e.g. division into units, possible pathways)					
<input type="checkbox"/>	the teaching-learning processes (learning environment)					
<input type="checkbox"/>	the assessment and examination procedures					
<input type="checkbox"/>	the recognition and certification procedures					

1.6 Within your national VET system, to what extent are VET research and development institutes, experts involved determining ... ?

To a very high extent						Not at all
1	2	3	4	5		
<input type="checkbox"/>	the qualification standards					
<input type="checkbox"/>	the study programmes (e.g. division into units, possible pathways)					

<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

the teaching-learning processes (learning environment)
 the assessment and examination procedures
 the recognition and certification procedures

1.7 Within your national VET system,
 to what extent are the learners and their families involved in determining ?

To a very
 high extent

Not at
 all

1	2	3	4	5
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

the qualification standards
 the study programmes (e.g. division into units, possible pathways)
 the teaching-learning processes (learning environment)
 the assessment and examination procedures
 the recognition and certification procedures

VET programmes and learning/teaching settings

This part of the questionnaire deals with the organisational patterns of VET programmes (structure, time-scale) and the characteristics of the learning and teaching activities.

2.1 Which are the main characteristics of VET programmes in your country? (e.g. time-scale, assessment methods, learning settings)

2.2 How important are the following elements for the contents of VET programmes in your country?

Very
 important

Not
 important at
 all

1	2	3	4	5
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

A labour market analysis
 A job requirement analysis in enterprises
 The requirements of the enterprises as stated by employers
 Negotiations between relevant stakeholders
 Legislative regulations on qualifications
 Qualification frameworks
 Vocational profiles' register or catalogue
 Other element(s):

.....
 (please specify)

2.3 According to you, how significant are the following elements in the specifications of the VET programmes?

Very
 significant

Not at all

1	2	3	4	5
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

General studies
 Specialist (towards the future professional field of the learner)
 Practical orientation
 Theoretical orientation
 General education (e.g. citizenship)
 Other:

(please specify)

2.4 How the expected outcomes are described in the VET programmes specifications in general?

2.11 How frequent are the following learning activities at VET schools or training centres in your country?

Very frequent	Not at all		Not applicable			
1	2	3	4	5	6	
<input type="checkbox"/>	Classroom instruction					
<input type="checkbox"/>	E-Learning					
<input type="checkbox"/>	Blended learning (E-Learning with instructors)					
<input type="checkbox"/>	Project work					
<input type="checkbox"/>	Workplace/on-the-job learning					
<input type="checkbox"/>	Self directed learning					
<input type="checkbox"/>	Non-formal/semi-structured learning (learning which is embedded in planned activities not explicitly designated as learning)					
<input type="checkbox"/>	Other: (please specify)					

2.12 How frequent are the following learning activities in firms in your country?

Very frequent	Not at all		Not applicable			
1	2	3	4	5	6	
<input type="checkbox"/>	Classroom instruction					
<input type="checkbox"/>	E-Learning					
<input type="checkbox"/>	Blended learning (E-Learning with instructors)					
<input type="checkbox"/>	Project work					
<input type="checkbox"/>	Workplace/on-the-job learning					
<input type="checkbox"/>	Self directed learning					
<input type="checkbox"/>	Non-formal/semi-structured learning (learning which is embedded in planned activities not explicitly designated as learning)					
<input type="checkbox"/>	Other: (please specify)					

2.13 How frequent are the following learning activities at home in your country?

Very frequent	Not at all		Not applicable			
1	2	3	4	5	6	
<input type="checkbox"/>	Classroom instruction					
<input type="checkbox"/>	E-Learning					
<input type="checkbox"/>	Blended learning (E-Learning with instructors)					
<input type="checkbox"/>	Project work					
<input type="checkbox"/>	Workplace/on-the-job learning					
<input type="checkbox"/>	Self directed learning					
<input type="checkbox"/>	Non-formal/semi-structured learning (learning which is embedded in planned activities not explicitly designated as learning)					
<input type="checkbox"/>	Other: (please specify)					

2.14 Which changes do you expect in the structure of the most frequent VET study programme and in the related learning activities within the next five years?

Measurement of skills, knowledge and competences- Assessment/Examination

The third part of the questionnaire concentrates on the outcomes of the learning processes in VET and the assessment or examination procedures.

3.1 How is the smallest element of assessment within a VET programme called in your country (e.g. unit, module, and course)? Please describe shortly the characteristics of this element.
Only one answer

1	<input type="checkbox"/>	Units,	please	describe	shortly:
.....					
2	<input type="checkbox"/>	Modules,	please	describe	shortly:
.....					
3	<input type="checkbox"/>	Courses,	please	describe	shortly:
.....					
6	<input type="checkbox"/>	Other:			
.....					
.....					
(please specify)					

3.2 On which basis does assessment take place in school-type settings (seminar, classrooms)?
Please tick the relevant boxes.
Multiple reply possible

<input type="checkbox"/>	Each unit is assessed
<input type="checkbox"/>	A group/block of units is assessed
<input type="checkbox"/>	An extended period of training/learning is assessed (e.g. half a year)
<input type="checkbox"/>	Assessment is only undertaken at the end of the full training programme
<input type="checkbox"/>	Other:
.....	
.....	
(please specify)	

3.3 On which basis does assessment take place in workplace settings?
Please tick the relevant boxes.
Multiple reply possible

<input type="checkbox"/>	Each unit is assessed
<input type="checkbox"/>	A group/block of units is assessed
<input type="checkbox"/>	An extended period of training/learning is assessed (e.g. half a year)
<input type="checkbox"/>	Assessment is only undertaken at the end of the full training programme
<input type="checkbox"/>	Other:
.....	
.....	
(please specify)	

3.4 How usual are the following assessment procedures for units or modules within VET programmes?

Very usual									
1	2	3	4	5					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
					Demonstration at an artificial workplace in a vocational school or training centre				
					Demonstration at a workplace in a firm				
					Written exams				
					Oral exams				
					Workplace observation during a practical phase of the VET programme				
					Other	assessment			form:
.....									
(please specify)									

3.5 Is there an intermediate examination (corresponding to a group of units/modules)?
Only one answer

1	<input type="checkbox"/>	Yes
2	<input type="checkbox"/>	No. Please go to the question 3.7

3.13 Which elements would you select to give qualitative information about the individual vocational study profiles?
Please tick the relevant boxes.
Multiple reply possible

- Individual assessment results (e.g. individual proficiency level, grades)
- Content of the VET study programme (e.g. expected skills and competences)
- Allocation within your national qualification framework (reference levels)
- Learning settings (e.g. in VET schools/training centres, in firms, at home)
- Learning activities (e.g. seminars, E-Learning, workplace learning)
- Other:
(please specify)

3.14 In which context is the term 'credit' already in use in your country?
Please tick the relevant boxes.

- Multiple reply possible
- Higher Education
 - Further vocational education and training
 - Initial vocational education and training
 - Not at all
 - Other context:
- (please specify)

3.15 If the VET study programmes in your country are subdivided, how many credits are granted for each subdivision (i.e. units, modules)?

Mobility and recognition

This fourth part of the questionnaire deals with the mobility schemes in the national and international contexts as well as with the recognition issue.

4.1 In your country, how frequent are the following vertical mobility schemes for individuals within and from/to the VET system?

Very usual						Very seldom		Not applicable	
1	2	3	4	5			e		
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	During the VET study, access to the next higher VET level				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	During the VET study, change of the vocational orientation and access to the next VET level				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	After a work experience period, to resume studying within the VET system at a higher level than before the interruption of former learning activities				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Other mobility scheme:				

(please specify)

4.2 In your country, how frequent are the following horizontal mobility schemes for individuals within and from/to the VET system?

Very Usual						Very seldom		Not applicable	
1	2	3	4	5			e		
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	During the VET study, change of the vocational orientation at the same level				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	During the VET study, change of the vocational orientation and access to the next VET level				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	After a work experience period, to resume studying within the VET system in another vocational specialisation than before the interruption of former learning activities				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Other mobility scheme:				

(please specify)

4.3 In your country, how frequent is international mobility between VET systems?

Very usual Very seldom Not applicable

1 2 3 4 5

International mobility:
During the VET study, period of VET study abroad

4.4 Please quote vocational sectors for which you know of mobility schemes and which are according to you very successful.

4.5 In case of international mobility:

If a VET student with prior learning experiences wants to join a study programme in your national VET system, which of the following elements are required to apply and to assess the proficiency of the candidate?

Application			Assessment	
Required	Not required		Required	Not required
1	2		1	2
<input type="checkbox"/>	<input type="checkbox"/>	Certificates issued by an accredited institution abroad	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	A foreign certificate approved by a national institution	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Description of prior work experiences	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Recommendation of the VET institution of origin	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Description of the VET study programme and of the institution of origin	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	A detailed description of proficiency level of the acquired skills, knowledge and competences of the learner	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	A list of the assessment results (marks) of the learner abroad	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Individual interview with an examination committee of the receiving institution	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Student has to take a theoretical exam at the receiving institution	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Student has to take a workplace oriented assessment at the receiving institution	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Other:	<input type="checkbox"/>	<input type="checkbox"/>

(please specify)

4.6 To what extent do differences related to the following elements have an impact on the access of mobile foreign VET learners to your national VET system in case of short term resp. long term mobility?
Multiple reply possible

Short term mobility (less than a year)						Long term mobility (over a year)				
To a very large extent		Not at all				To a very high extent		Not at all		
1	2	3	4	5		1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the institutional structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the national qualification frameworks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the curricular structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the reference levels structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the learning methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the balance between the various learning activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the assessment and grading methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Differences in the vocational profiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(please specify)

4.7 To what extent do the following elements influence the recognition of international mobile VET learners' achievements through VET providers?

To a very large extent Not at all

1	2	3	4	5
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

- Long-term relations between VET providers at institutional level
- Long-term relations between VET providers at individual level
- Proofs of regular assessments at the home institution
- The assumption that learning abroad doesn't qualitatively much differ from learning in your country

Other element, please specify:

(please specify)

4.8 Do you have a national scheme for accreditation of prior learning experiences or prior learning?

Only one answer

1 Yes

2 No. Please go to

4.9 Please describe in a few sentences your national scheme for accreditation of prior learning experiences or prior learning, and how prior learning activities are documented?

Future trends

This last part focuses on your expectations towards a credit transfer system for VET in the context of lifelong learning as well as the expected developments in the VET system in your country.

5.1 Please state the key national initiatives or reforms that you consider as relevant to the definition of a credit system in VET?

5.2 How important is the emerging credit system in VET to fulfil the following tasks?

Very important Not at all

1	2	3	4	5
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

- Facilitating credit transfer for temporally mobile students
- Supporting the accumulation of assessment results in a lifelong learning perspective
- Supporting the accumulation of competences within a VET programme
- Increasing recognition of prior learning experiences for access to a higher VET level
- Supporting the recognition of prior learning experiences that date back
- Facilitating mobility between formal national VET systems
- An incentive for adult VET learners to resume with their VET studies
- Promoting rules for transfer and accumulation of competences
- Other:

(please specify)

5.3 Should there be compatibility between the credit transfer system for VET (ECVET) and the credit system in Higher Education (ECTS)?

Only one answer

1 Yes

2 No.

Please specify:

(please specify)

5.5 According to you, how important are the following elements to support the compatibility between ECVET and ECTS?

Very important					Not at all	
1	2	3	4	5		
<input type="checkbox"/>		The ECVET has to include the notion of workload in the definition of credits				
<input type="checkbox"/>		The skills and competences obtained have to be documented via EUROPASS				
<input type="checkbox"/>		The qualification frameworks have to include vocational education and training as well as higher education				
<input type="checkbox"/>		The learning activities within VET should be divided into theoretical and practical learning activities				
<input type="checkbox"/>		Both credit systems have to be documented the same way				
<input type="checkbox"/>		The recognition rules for individuals have to be similar for VET and HE				
<input type="checkbox"/>		The principles for ECVET have to be similar to the principles for ECTS				
<input type="checkbox"/>		The reference levels have to include vocational education and training as well as higher education				
<input type="checkbox"/>		Other element, please specify:				
(please specify)					

5.6 Any further remarks you want to make:

5.7 The implementation of a credit system for VET (ECVET) will bring some changes in the national VET systems. What do you think about the process?

I agree					I fully disagree	
1	2	3	4	5		
<input type="checkbox"/>		The development of ECVET is the European challenge for the next 10 years in VET				
<input type="checkbox"/>		ECVET is supporting the needed compatibility between national VET systems				
<input type="checkbox"/>		ECVET will boost international mobility for VET students between formal national VET systems				
<input type="checkbox"/>		ECVET will undermine the quality of your national VET system				
<input type="checkbox"/>		We do not need ECVET as mobility between VET national systems is already taking place successfully				
<input type="checkbox"/>		The national VET systems will lose their attractiveness if they follow European standards (incl. credits)				
<input type="checkbox"/>		The logic of the national VET systems will not be respected within ECVET				
<input type="checkbox"/>		An external process is artificially pushing reforms which are not genuinely needed				
<input type="checkbox"/>		ECVET will undermine the national legislative VET regulations				
<input type="checkbox"/>		ECVET will allow for a greater transparency of qualifications				
<input type="checkbox"/>		ECVET will allow for a greater transparency of qualifications and as a consequence increase the competitiveness between qualified workers, and be disadvantageous to less qualified people within national labour markets				
<input type="checkbox"/>		ECVET will reduce the spectrum of the VET study programmes in each VET national systems as it will be easy to access to study programmes offered abroad				
<input type="checkbox"/>		Other element, please specify:				
(please specify)					

Personal and professional background

In order to interpret as accurately as possible the information you provide, it would be helpful to have some information about you and your background.

6.1 Please state the country where you live and work

Only one answer

- 1 Finland
- 2 France
- 3 Germany
- 4 Hungary
- 5 Ireland
- 6 Other Country:

6.2 In which kind of organisations are you employed?

Only one answer

- 1 European Institution
- 2 National Ministry of Education
- 3 National Ministry of Labour
- 4 Research Institute
- 5 Trade Union
- 6 Employers' association
- 7 University
- 8 VET provider
- 9 Qualification Authority
- 10 Training Authority
- 11 Other:
(please specify)

THANK FOR YOUR CONTRIBUTION TO THIS EXPERT SURVEY!

Please note that Tables 11 onwards (results of the empirical study) are only available on the Internet, at:

http://www2.trainingvillage.gr/etv/publication/download/panorama/6014_en.pdf.

Cedefop (European Centre for the Development of Vocational Training)

**European approaches to credit (transfer) systems in VET.
An assessment of the applicability of existing credit systems to a European credit
(transfer) system for vocational education and training (ECVET)**

Isabelle Le Mouillour

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