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Research Report

Implementing ECVET: crediting, recognition and transfer of learning outcomes between European target stipulations and national System conditions

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DISCUSSION PAPERS

No. 146

Christiane Eberhardt

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Preface

ECVET, the European Credit Transfer System for Vocational Education and Training, is entering its active phase. Following the adoption of the Recommendation for the Introduction of ECVET by the European Parliament and the Council in 2008, the past few years have seen the undertaking of essential steps for the creation of the general conditions for the application of ECVET in the member states. These include the establishment of committees, networks and “Communities of Practice” at a European level, which exchange experiences on ECVET and offer specific assistance in its use. At a national level, VET practitioners and the specialist academic research community are provided with support and information via ECVET National Coordinating Agencies and the ECVET promotion teams housed there. This work is bearing fruit. There has been a constant increase in the number of ECVET mobility measures in Germany. In 2013 alone, around 1,000 learners will be spending time in other European countries within the scope of ECVET. The “pioneers” who have used transnational mobility schemes as a vehicle for deploying ECVET are identifying a clear “added value” (cf. also WDP Issue 132: “ECVET as a vehicle for better mobility?”).

The present discussion paper poses the question of the extent to which ECVET can deliver discernible benefits outside the mobility measures. The initial spark in this regard was provided by the so-called “2nd generation” of projects to receive European funding with the aim of piloting ECVET within their national contexts. The requirements confronting the projects also play an important role in German vocational education and training, where learning outcomes and orientation and a competence-based approach in the regulatory instruments, validation of informal and non-formal learning and measures aimed at improving permeability in the educational system are also high on the policy agenda. For this reason, the discussion paper also looks at the experiences, results and approaches emerging from national pilot initiatives such as DECVET and JOBSTARTER CONNECT and addresses the hurdles, options and leeway for the deployment of unit of learning outcomes based concepts at the interfaces within the German (vocational) education system.

I am particularly pleased that BIBB has also been able to acquire authors from abroad, who have committed their own experiences of ECVET to paper and show that there is a multitude of reasons for coming to grips with ECVET. The extent to which piloting is followed by long-term use in practice seems to depend on how flexibly ECVET can be tailored to meet local requirements. Relevant approaches, perspectives and experiences are set out in the pages that follow. Our wish is that the articles will be an object of lively debate in the national and European committees and in the Communities, including with regard to the review of the “Recommendation on the Establishment of a European Credit System for Vocational Education and Training” due in 2014.

Birgit Thomann

Head of the Department “Internationalisation of Vocational Education and Training/Knowledge Management” at BIBB

ECVET in national educational contexts:

A balancing act between supposed benefits and existing system restrictions

Christiane Eberhardt/Isabelle Le Mouillour

The “ECVET community” is alive. It meets at the annual ECVET forums, discusses its experiences in the European ECVET Network and receives support in the application of ECVET via the ECVET Team, from the ECVET coordinating agencies set up in the member states or from ECVET promoters. Its record is clear for all to see. 276 projects in the ADAM database include a reference to ECVET, and 19 European reference projects from two central calls for proposals have subjected ECVET to close scrutiny.

Five years after the adoption of the European Recommendation, is it possible to speak of ECVET as a success story?

The number of units of learning outcomes, memoranda of understanding and learning agreements now available on line¹ shows brisk practice of transnational ECVET mobility schemes. Project reports², monitoring results³ and surveys⁴ all provide evidence of the benefits that ECVET is achieving with the organisation and implementation of periods of training spent abroad.

The function of ECVET, however, extends beyond the promotion of geographical mobility. The aim is also for ECVET to be used to an equal degree within educational systems to foster lifelong learning. The benefits ECVET is able to provide in this regard form the focus of the present discussion paper. The point of reference is the so-called “2nd generation ECVET projects” (2010-2013), the objectives of which were to relate the technical specifications of ECVET to a “*qualification system, a qualification sub-system (...) or a significant number of qualifications*” and (for transnational cooperation partnerships) “*to transpose the processes and procedures designed and operationally tested into the procedures and rules for which they are responsible in their country*” (EUROPEAN COMMISSION (2010: 4-5)).

The supposition would be that the application of ECVET essentially depends on the respective context and its associated challenges. Different stakeholders, implementation strategies and partnerships are required to use ECVET for the promotion of geographical mobility as opposed to its application for purposes of permeability. The “added value” of ECVET can also be evaluated in various ways depending on the application context. The first chapter of the present publication contains contributions from the projects EASYMetal (NOTZ/VORBERGER), ESYCQ (JÄSER), 2get1care (FISCHER/STRATMANN/JANDRICH-BEDNARZ/FLOTTMANN) and MEN-ECVET (PATY/GEIBEN) that highlight the diverse facets in this respect.

This discussion paper primarily observes, comments on and assesses ECVET from a “German perspective”. This is an obvious approach to adopt given the fact that the focus of the “2nd ECVET generation” was to test ECVET within the respective national contexts of the member states. The second chapter concentrates on presenting the prevailing general conditions in Germany. These are

¹ At www.ecvet-projects.eu and at <http://www.ecvet-info.de/de/325.php> for German speaking countries

² BIBB 2012, Academic Research Discussion Papers (WDP) 132

³ CEDEFOP 2013

⁴ ECVET NATIONAL COORDINATING AGENCY 2012

initially outlined in broad terms in an article by EBERHARDT/ANNEN. The associated ECVET objective of transferring learning outcomes between and within educational systems in a better and easier manner takes centre stage on the German policy agenda. Initiatives such as DECVET and JOBSTARTER CONNECT, which were launched for this purpose by the Federal Ministry of Education and Research, present their approaches (cf. (KÖHLMANN-ECKEL and ACKER) and formulate theses for the transfer to practice of the piloting results (HEMKES/KÖHLMANN-ECKEL/MEERTEN). These supplement and extend the “positions on the use of the ECVET instruments in the German context” jointly drawn up by the representatives of the ECVET reference projects EASYMetal, ESYCQ and 2get1care (FISCHER/JÄSER/NOTZ). There is consensus that purely technical integration of ECVET into the German (vocational) education system has its limits. At the same time, it becomes clear that the statutory regulations are sufficiently flexible to allow ECVET elements and approaches to be adopted and thus facilitate lifelong learning by individuals and permeability at a system level.

Engaging with ECVET brings an additional benefit, and the nature of this forms the focus of the third chapter. The articles by ÖHBERG/MARTENSSON, PRAT GARCIA and von GOEDE demonstrate that benefits are often implicit. Training centres, schools, local government and regions all undergo a process of professionalisation through cooperation. Curricula and training plans are “europeanised”. There is an opportunity to reflect (in a new way) on the value and attractiveness of vocational education and training. Partnerships and networking lead to new alliances. KÜSSNER/SCHÖPF present the results of a targeted ECVET survey and describe the opportunities to deploy ECVET in continuing training. MÜLLER portrays the subsequent effects of ECVET once a project is completed.

All the articles make it clear that ECVET, its use and the “added value” it delivers need to be observed and evaluated within the context of the inherent conflicts between European target objectives, national pressure for reform and existing system conditions. Relevant implementation strategies should take this tension into account. Against this background, ECVET requires a certain “elasticity” so that the elements brought to bear are those which show themselves to be capable of adaptation within the respective contexts. Instead of being a “self-contained system”, ECVET takes on the character of a “tool box of components” which can be deployed in a variable way for credit transfer and transfer purposes, for the establishment of mutual trust, for the improvement of permeability and in order to support lifelong learning.

The evaluation planned for 2014 will focus on the general conditions created in the member states, on practical experiences gained with ECVET in various application contexts regarding the “promotion of geographical mobility”, on the “validation of informal learning”, on “lifelong learning” and on the “improvement of permeability”. The results are eagerly awaited. They will provide the basis for deciding whether the “Recommendation on the Establishment of a European Credit System for Vocational Education and Training (ECVET)” needs to be set out in more specific terms or perhaps revised and will usher in a new stage of the use of ECVET across Europe. Our hope is that the present discussion paper will be able to make a contribution in this regard.

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“Second generation” ECVET projects

Piloting the use of ECVET to promote lifelong learning

Karin Luomi-Messerer

1. ECVET for the fostering of mobility and lifelong learning

The European Credit Transfer System for Vocational Education and Training (ECVET) is a technical framework for the transfer, recognition and, where appropriate, accumulation of individuals' learning outcomes with a view to achieving a qualification.¹ The aim in particular is for this to take place via the description of qualifications on the basis of units of learning outcomes, which facilitates greater transparency and better comparability in the field of vocational education and training via the use of a “common language” and via structured processes and agreements between the parties involved that form the basis for mutual trust.

The fields of cross-border mobility and lifelong learning are the two main areas considered to offer opportunities to apply ECVET.

- ECVET assists in rendering visible the knowledge, skills and competences acquired within the framework of cross-border mobility in vocational education and training and, based on the identification and evaluation of such knowledge, skills and competences abroad, facilitates recognition in the home country. In this way, the aim is to enable better integration into initial or continuing training of the learning experiences gained abroad.
- On the other hand, ECVET can be used to structure programmes and training pathways leading to the acquisition of a qualification in a more flexible manner and to improve the general conditions of lifelong learning. This means that ECVET is capable of providing easier recognition of learning outcomes achieved by learners in various environments, regardless of whether such outcomes are obtained in different countries or systems (e.g. initial or continuing training) or within the scope of formal, non-formal or informal learning contexts.

The adoption of the Recommendation by the European Parliament and the Council in 2009 laid the foundations for the implementation of ECVET. Since this time, a series of initiatives has been launched at both a European and national level with the involvement of relevant stakeholders such as the competent bodies, VET institutions, social partners and companies responsible for qualifications in order to pilot the use of ECVET in different systems and contexts. To support this piloting phase, two specific application rounds were staged to fund projects within the scope of the EU Programme for Lifelong Learning. In the 2008 Call for Proposals, the focus was placed on the piloting of ECVET in transnational partnerships and within the scope of cross-border mobility, whereas in 2010 the main emphasis was on the use of ECVET in national contexts for the promotion of lifelong learning. In line with these two application rounds and pilot phases, the respective projects selected are designated as “first generation” projects (where the focus is on cross-border mobility) or as “second generation” projects (the focus in this case being on lifelong learning within the national context).² In aligning the “second generation” projects to national implementation, the aim is to support the member states in creating the necessary prerequisites for applying ECVET on a step-by-step basis from 2012 onwards as stipulated in the ECVET Recommendation.

¹ Recommendation of the European Parliament and of the Council of 18 June 2009 on the Establishment of a European Credit System for Vocational Education and Training (ECVET)

² For information on the projects funded within the two application rounds, please visit: www.ecvet-projects.eu.

2. Call for Proposals for “second generation” ECVET projects

The purpose of the 2010 Call for Proposals is to “award grants to proposals for the organisation of two types of action that must be combined into one project, namely:

- Actions to set up or consolidate partnerships between competent institutions to establish an operational framework to develop tests on the European Credit System for Vocational Education and Training (ECVET);
- actions in the field of the European Credit System for Vocational Education and Training (ECVET), as set out in the technical specifications annexed to the Recommendation of the European Parliament and the Council, in order to apply and implement it in concrete terms.”³

Applicants were able to select projects terms of between 18 and 36 months. Eligible applicants were organisations responsible for the implementation of the ECVET Recommendation at a national, regional or sectoral level. The main focus of the projects needed to be on piloting within a national context, although there was also a requirement to involve partner institutions from at least three further countries. A maximum of 15% of the budget was permitted to be allocated to European partners.

In specific terms, the projects were required to pursue the following activities for the implementation of the technical ECVET specifications and to relate to (at least five) concrete qualifications:

- Design of qualifications (in terms of units of learning outcomes) in order to make them comply with the ECVET technical specifications;
- Design or adaptation of learning outcome transfer processes (on the basis of evaluation, validation, accumulation and recognition of learning outcomes) whatever the learning context (formal, non-formal and informal);
- Design, formalisation and application of methods for assigning ECVET points to qualifications and units as well as methods and procedures for utilising points (focusing on the transfer of learning outcomes and on being able to address the linking of ECVET and ECTS);
- Design and application of procedures, materials and tools required to implement ECVET in concrete terms beyond the qualifications addressed in the project;
- Design and implementation of institutional measures for transnational cooperation.

The project requirements resulting from the Call for Proposals thus resembled those of the so-called “first ECVET generation”. Some of the activities designed in this first generation relating to the ways in which ECVET can be used to improve cross-border mobility (e.g. with regard to the formation of ECVET partnerships, the design of units of learning outcomes or procedures for the evaluation, validation and recognition of learning outcomes⁴) were re-addressed and developed further by new generation ECVET projects. It was also possible to draw up solutions for unresolved issues relating to specific national contexts.

3. “Second generation” ECVET projects awarded funding

From the project proposals submitted, eight projects across Europe were selected, each of which had chosen to focus on different aspects of implementation within the national context. Three of these

³ European Commission 2010, 1

⁴ A summary of the experiences and results of the “first generation” ECVET projects is presented in the brochure “We have tried ECVET – Lessons from the first generation of ECVET pilot projects. Synthesis of results and project portraits” (published by GHK Consulting 2010).

projects, which will be presented in greater detail in this publication, come from Germany. Two are from Italy, and one each are from Belgium (French-speaking part), France and Malta.

The following table provides a summary of the specific areas of emphasis of these eight projects.⁵

Country of coordinating institution	Project acronym	Project name	Sector	Main objectives
BE-fr	CPU Europe	Certification Par Unités	Motor vehicle technology, hotel and restaurant trade, beauty care	Support for national implementation of ECVET
DE	2get1care	Lifelong learning and inter-professionalism in the specialist healthcare occupations	Specialist healthcare occupations: physiotherapy, occupational therapy, speech therapy and geriatric care	Structuring the four curricula in line with ECVET, development of a joint inter-professional core curriculum and of a continuing training concept for teaching staff
DE	EASYMetal	European credit transfer system for partial qualifications in the metal working occupations	Metal working occupations	Improvement of permeability between vocational training preparation and dual training
DE	ESyCQ	European Credit System for Commercial Qualifications	Commercial and IT sector	Development of a procedure for the transfer of learning outcomes (including monitoring, validation and recognition) in the selected areas
FR	MEN-ECVET	Projet d’initiative nationale pour l’expérimentation et le développement du système de crédit d’apprentissage dans l’enseignement et la formation professionnels	Customer services, secretarial services, healthcare, electrical engineering, construction	National initiative for the testing and development of ECVET; investigation of general regulatory and organisational conditions with regard to the application of ECVET and the development of recommendations
IT	I CARE	Improving mobility and career paths for personal care and social workers	Social and care work sector (non-regulated occupations)	Experimental application of ECVET for the development of a recognition model for the expansion of mobility and career pathways for employees in the care and social work sector
IT	CO.L.O.R.	Competency and Learning Outcomes Recognition for Migrants	Healthcare sector and construction	Development of procedures for the recognition of competences from non-formal and informal learning areas (focus on migrants and on mobility between regions in Italy)
MT	VET-CCS	VET Credit Conversion System	30 vocational education and training curricula in various sectors (e.g. agriculture, art and design, engineering, tourism, IT)	Support for national providers of vocational training in the application of ECVET via the development of a guide (step-by-step instructions for the design of qualifications/curricula in line with ECVET)

Table 1: “Second generation” ECVET projects – main focuses of national implementation

⁵ Detailed information on these projects is available at: www.ECVET-projects.eu.

4. Bundling and consolidation of work and results from “second generation” ECVET projects

As was the case with the “first generation” ECVET projects, the exchange of experiences and joint work between the projects were stipulated from the outset. The aims of adopting such an approach included ensuring coherence and compatibility of the individual proposals for the implementation of the ECVET specifications and taking advantage of potential areas of synergy. For this purpose, the “Education, Audiovisual and Culture Executive Agency” commissioned an external contractual partner (ICF GHK/Belgium, supported by 3s/Austria) with the “monitoring” of the ECVET projects. The main objectives here were as follows.

- Monitoring within the strict meaning of the term: monitoring the progress of the projects (e.g. via analysis of reports and results and via participation in partner meetings), identification of effective methods and approaches and of main challenges
- Development: organisation and design of seminars for and with project representatives for the purposes of exchange of experiences, reflection on own approaches adopted, mutual learning and development of joint recommendations
- Dissemination: publication of progress and of the results of the projects and seminars on the ECVET projects website (www.ecvet-projects.eu), in the “ECVET Magazine”⁶ and at a European ECVET conference⁷.

During the term of the “second generation” ECVET projects, four seminars were conducted, each respective seminar being dedicated to certain main areas of focus.

- The first seminar (29 – 30 September 2011, Ljubljana) took place in partial cooperation with the “first generation” ECVET projects in order to identify areas of synergy and facilitate their use. One area of content focus was on the presentation and discussion of the approaches of the “second generation” ECVET projects with regard to the description of qualifications in units of learning outcomes and the design of the process for the transfer of learning outcomes.
- The main topic of the second seminar (26 – 27 April 2012, Rome) was the evaluation of learning outcomes for the purpose of transfer and the accumulation of said learning outcomes.
- The third seminar (21 – 22 October 2012, Berlin) addressed the following themes: Status of implementation of ECVET in Europe, scenarios of the application of ECVET for the support of lifelong learning and ECVET-related documentation (Memorandum of Understanding, learning agreement, personal transcript of records).
- At the fourth seminar (7 – 8 March 2013, Paris), the particular emphasis was on discussing the project approaches with regard to the validation and recognition of learning outcomes and strategies for the integration of vocational education and training providers for the purpose of the implementation of ECVET and on the main conclusions arising from the joint work undertaken with regard to the application of ECVET within a national and European context.

5. Initial conclusion from work on “second generation” ECVET projects

A synopsis and evaluation of the results will be drawn up over the next few months and presented at the final conference in October 2013.⁸ At this juncture, however, two aspects which have exerted an

⁶ The individual issues of the “ECVET Magazine” are available for download at www.ecvet-projects.eu/Bulletins/Default.aspx.

⁷ The conference will be staged in Brussels on 24 and 25 November 2013 in conjunction with the project “NetECVET” (<http://netecvet.com>) and the “National ECVET Experts”. Presentations and results will be available on the ECVET projects website (www.ecvet-projects.eu).

⁸ This publication will also be available on the ECVET projects website at www.ecvet-projects.eu.

influence on the general conditions governing the work on these projects should be highlighted. These are: 1.) results and experiences forming a possible recourse and 2.) the central role played by regulations within the specific application context.

- 1.) For the work on “second generation” ECVET projects, further supporting documents on the application of ECVET were available or else were published during the term of the projects. These include, for example, two parts of the “ECVET Users’ Guide” – Part 2: “Using ECVET for Geographical Mobility” (August 2011 and October 2012), Part 3: “Using ECVET to Support Lifelong Learning” (November 2011)⁹– and the brochure “Necessary Conditions for ECVET Implementation” prepared by Cedefop (May 2012)¹⁰. These projects were in some cases also able to build upon the experiences and results of the “first generation” ECVET projects and other ECVET projects executed as part of the Programme for Lifelong Learning (e.g. projects relating to descriptions of qualifications in units of learning outcomes or partnership documents). In addition to this, experiences with the national implementation of ECVET were also available in some individual countries (e.g. the “DECET” initiative in Germany), which could be used for the project tasks.
- 2.) The exchange of experiences and the joint work within the seminars facilitated the identification of communalities and differences in the approaches and solutions of the “second generation” ECVET projects. Because the focus needed to be aligned towards the implementation of ECVET within a national context for the purpose of supporting lifelong learning, it comes as no surprise that the general conditions and regulations within the respective application context play a major role. Areas which need to be taken into account include whether and in which fashion qualifications are structured in units of learning outcomes or indeed whether learning outcome descriptions are used at all, the available opportunities for transfer and recognition of learning outcomes acquired within a different context and the extent to which or via what strategy the implementation of ECVET is supported by the relevant “competent bodies”. The approaches, results and proposals emerging from the projects need to be considered against the background of these general conditions.

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⁹ These documents are available at: <http://www.ecvet-projects.eu/About/Default.aspx>.

¹⁰ This brochure is available at: <http://www.cedefop.europa.eu/EN/publications/19848/asp>.

http://eacea.ec.europa.eu/llp/funding/2010/documents/call_ecvet/ecvet_appel_propos_2010_en_final_corrected.pdf (03.03.2013)

GHK (Ed., 2012): We have tried ECVET: Lessons from the first generation of ECVET pilot projects. Synthesis of results and project portraits. Online: http://www.ecvet-projects.eu/Documents/Seminars/ECVET-Brochure_singlepages_althesame.pdf (03.03.2013)

Two different system logics – ECVET and the German VET system taking the interface between vocational training preparation and dual training as an example: The EASYMetal project

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1. Introduction

Many countries view Germany with interest in light of the fact that it exhibits one of the lowest rates of unemployment amongst young adults in the whole of Europe. Dual training is receiving a particular degree of attention. This system is believed to offer a high level of potential for societal integration by dint of the fact that it provides large numbers of young people with a full vocational qualification to large numbers of young people as well as supplying trade and industry with skilled workers on an on-going basis.

The particular characteristic of dual training is that it largely takes place on the basis of binding regulations and standards governing content. The aim of the training is to develop employability skills. Alongside professional knowledge and skills, this also includes cross-cutting skills that enable skilled workers to orient themselves and cope in a changing world of work. The underlying regulations which form the foundation of all training courses within the dual system and apply to companies and vocational schools and a generally binding final examination ensure comparability of skills between young skilled workers. The final certificate that is awarded provides a good opportunity to progress to the German labour market, which is organised along the lines of the regulated occupation, and to receive an appropriate level of remuneration.

Notwithstanding this, the strength of the dual system – the practically related nature of the training – also has a downside in that access to training is market driven. Some young people will be unsuccessful in their application if the number of training places offered by companies does not meet the actual demand. This tends to affect young people with lower school leaving qualifications and/or worse final school reports who are usually forced to compete for training places. Publicly funded vocational training preparation is available to ensure that these young people can still receive training. The EASYMetal project is located at this interface between vocational training preparation and dual training. The fundamental problem in this area is a lack of permeability.

We would like to begin by highlighting the particular characteristics of this interface and the problems that arise. We will then move on to show proposals for a better interlinking of vocational training preparation and dual training based on the design principles of ECVET. The present article will also undertake a critical evaluation of the ECVET specifications and of the opportunities to apply such specifications within the German system.

2. The interface between vocational training preparation and dual training

As part of the transitional system¹¹, vocational training preparation is a response to the access problems to dual training experienced by young people following completion of lower or

¹¹ The so-called “transitional system” is understood to mean qualifications provision that does not lead to a vocational qualification. Available provision is extremely varied. Some courses also enable the acquisition of higher school leaving qualifications.

intermediate secondary schooling. The number of those affected fluctuates¹² depending on the relationship between the market and supply. Nevertheless, the societal significance of vocational training preparation is revealed by the fact that it was included in the Vocational Training Act (BBiG) in 2003. § 1 Paragraph 1 states that: **“Vocational training within the meaning of this Act comprises vocational training preparation, vocational education and training, continuing vocational training and vocational re-training.”**

The integration of vocational training preparation into the Vocational Training Act was viewed as an important step in VET policy. Vocational training preparation was thus accorded recognition as a societal fact (SCHIER/REITZ 2004, 240). Its inclusion in the BBiG also, however, constituted a statement regarding *how* the transitional problem should be dealt with. Young people without a training place receive *preparation* for training which takes place independently of any company-based training rather than stand-alone vocational training. The BBiG describes the objective of vocational training preparation in the following terms: *“The aim of vocational training preparation is to impart the basic principles for the acquisition of employability skills and thus lead to vocational education and training in a recognised training occupation”* (BBiG § 1, Paragraph 2). The target group is defined as: *“persons who are experiencing learning difficulties or social disadvantage and who cannot therefore at their present stage of development be expected to undergo successful training within a recognised training occupation”* (BBiG § 68, Paragraph 1).

These clear and fixed descriptions (objective: preparation and target group: disadvantaged young people) via the BBiG are associated with a number of basic problem areas of vocational training preparation.

- Because the training places market is subject to the laws of the market, the number and composition of young people entering vocational training preparation are essentially determined by the situation on the training places market, which is in turn dependent upon the overall economic situation within the country. The group of participants is thus significantly more heterogeneous than defined in the BBiG. Participants perceive that the target group definition stigmatises them as “disadvantaged” regardless of any other factors that may apply (such as overall economic situation, insufficient vocational orientation). Despite the added competences provided by preparation, the disadvantage label means that vocational training preparation does not have a positive effect in the applications process.
- The stated aim of vocational training preparation to “lead” to vocational education and training also excludes any prospects of qualifications-related training (BEICHT 2009, 1ff.). No certificates that facilitate vocational training with a formal qualification or marketable certificates can be obtained. Credit transfers and the avoidance of repeated learning are not considered to be necessary and useful against the background of the objective and target group description.

Notwithstanding this, the stated objective means that there is a clear relationship between vocational training preparation and training. The use of training modules, which are derived from the general training plans forming the regulatory instruments of VET, aims to ensure good interlinking between vocational training preparation and dual training. This means that there are both connections and an institutional separation between the two areas of training.

Various institutions offer vocational training preparation schemes. The measures most frequently used include the following (BIBB AUTHORS’ GROUP/BERTELSMANN 2011, 7).

- In the case of education and training providers: vocational training preparation schemes organised by the Federal Employment Agency (run by the training providers)

¹² In 2000, 460,107 (37.8%) young people progressed to the transitional system. The figures for 2005 and 2011 were 461,964 (38.4%) and 321,411 (30.2%) respectively (cf. VOCATIONAL EDUCATION AND TRAINING REPORTING AUTHORS’ GROUP 2012).

- In the case of vocational schools: vocational preparation and basic vocational training years organised by the federal states, partially qualifying training courses at full-time vocational schools (e.g. trade schools) and provision for pupils without a training contract
- In the case of companies: introductory training courses established within the scope of the Training Pact

The training institutions are required to provide training without being able to offer the prospect of a qualification. The idea that young people should “pick up” learning outcomes in order to gain a credit transfer for these within the company is not an explicit objective of the training institutions¹³ that offer vocational training preparation schemes. The learning achievements of young people are not processed with such an impetus in mind and not made transparent to companies because the host institutions (i.e. the companies) do not call for such an approach. Such a situation does not foster the motivation of participants. By the same token, companies view the vocational training preparation schemes as a reservoir for disadvantaged young people who bear the stigma of not yet being in possession of “apprenticeship entry maturity”. Against this background, companies do not take account of any equivalence between learning achievements from a vocational training preparation and the learning outcomes of training. There is no demand for transparent descriptions of learning achievements from vocational training preparation and valid performance assessments.

Within the interests of the idea of lifelong learning, there is a need to improve permeability between these two sub-systems of vocational education and training and to open up perspectives for learners. Changes initially need to be instigated at the structural level by creating the *conditions* for credit transfer in the systems (vocational training preparation schemes and dual training) without compromising the quality of VET. The key aspects here are to:

- establish transparency in the evidencing of learning achievements;
- create trust in learning achievements from vocational training preparation;
- increase the credibility of procedures.

Better opportunities for recognition and credit transfer will exist at the individual level once the necessary structural conditions have been created. This is an area in which the ECVET procedures can be usefully deployed, albeit in part rather than in full.

3. Units of learning outcomes and assessment of performance

3.1 Units of learning outcomes

The interface between vocational training preparation and dual training is a particular area in which the description of knowledge, skills and competences in the form of outcomes and the bundling of such outcomes into units as proposed in the ECVET Recommendation can assist in achieving better interlinking¹⁴. Learning outcome descriptions facilitate reciprocal references at transitions. They are

¹³ The original thought behind the design concept and introduction of training modules was to create credit transfer options. Practice has shown, however, that the companies do not use these opportunities. This also exerts an effect on the work of the education and training providers.

¹⁴ Training modules also form a basis for outcome orientation, although considerable qualitative differences exist in the modules available in databases. Training modules are developed by the training institutions themselves. The chambers check and confirm the correctness of allocations to occupational profile positions in the general training plans. The procedure whereby the training institutions draw up training modules themselves has its foundations in the fact that such modules are viewed as a pedagogical instrument. They can be adapted to meet the requirements of young people via a learning venue related development process. Although such a procedure provides considerable opportunities to foster learning processes on an individual basis, it is also associated with quality problems in the drawing up of a module. For this reason, not all modules contain well formulated outcomes. It is often simply the case that the occupational profile positions are adopted on a one-to-one basis despite the fact that such positions are not described in learning outcome oriented terms.

able to act as a “common language” and thus make it easier for host institutions in VET to make decisions regarding credit transfer. The following prerequisites, however, apply.

- The learning outcomes need to describe work situations that companies can understand, including companies not familiar with dual training.
- References to regulatory instruments need to be established in order for companies to have clear alignments and to facilitate credit transfers.
- Learning outcomes need to be described in detail so that companies can obtain a clear picture of the scope of competences acquired.
- The levels of learning achievements need to be visible via precise descriptions in order to make it possible for companies to assess whether the level acquired by young people in vocational training preparation corresponds to that of a comparable trainee.
- All learning outcomes need to be written in such a way so as to be capable of being tested.
- All learning outcomes need to be described in specific terms so as to enable education and training institutions to derive and check objectives clearly and so that there is very little leeway for the institutions with regard to interpretation.

Because vocational training preparation is located upstream of dual training and the learning achievements of the young people entering such schemes tend to be viewed with scepticism, it is of particular importance at this interface to use transparent descriptions to provide companies with comprehensive information that enables them to arrive at a verdict of the ability of the young people. Additional transparency constitutes an essential component in building up trust in learning performances from vocational training preparation.

EASYMetal has drawn up its results in the metal working sector as an example. Selected occupations for the development of the units of learning outcomes are:

- Plant mechanic
- Industrial mechanic
- Construction mechanic
- Tools mechanic
- Milling machine operator (industry, 3½ years)
- Metalworker (craft trades, 3½ years) and
- Machine and plant operator (industry; 2 years)

The ECVET construction principles have shown themselves to be sustainable. The use of descriptors (knowledge, skills, competences) facilitates a precise form of depicting learning outcomes. This is a good prerequisite for enabling education and training institutions to determine learning objectives and to derive a valid assessment of performance. Units of learning outcomes may relate to one or more qualifications, something which is also useful for the vocational preparation schemes.

In EASYMetal, we have formed units of learning outcomes in accordance with the following procedures.

- **Cross-occupational and based on the regulatory instruments:** The units of learning outcomes each cover learning outcomes from seven occupations in the metal working sector in order to enable the young people’s learning outcomes to be credited to various training courses. For this purpose, an inspection was undertaken of the general training plans (company) and , in a second stage, the skeleton curricula (vocational school) for the selected metal working occupations and content intersections with the vocational profile positions

EQF dimensions	
Knowledge	<p>States the most important drawing standards, drawing tools.</p> <p>States materials and ancillary materials and the properties and areas of deployment of such materials and ancillary materials from the technical drawing title block.</p> <p>Aligns materials and ancillary materials to possible areas of deployment in accordance with their properties.</p> <p>States the main groups within the production process: forming, reforming, separating, joining, coating and altering the property of the material.</p> <p>States the tools, machines, materials and products, the correlation between cutting edge geometry, materials and tools or production procedures in machine processing.</p>
Skills	<p>Derives all information relevant to production from technical drawings and sketches.</p> <p>Care: treats drawings with due care and attention.</p> <p>Communication: If things are unclear, asks in a professional manner (questions of understanding) and appropriately (choice of language). Listens attentively.¹⁶</p> <p>Ensures the operational readiness of machines including tools and the availability of the necessary auxiliary materials.</p>
Competences	<p>Plans work stages on the basis of information from the technical drawing and puts the work stages into a suitable order.</p> <p>Care: pays attention to completeness of the work stages when planning.</p> <p>Evaluates tools, machines, materials, operating and auxiliary materials according due consideration to processes and materials and selects these suitably.</p> <p>Communication: asks in a professional and appropriate manner if things are unclear and listens attentively. Comes to arrangements with team colleagues in order to agree on the use of materials and machines.</p> <p>Care: works in a resources oriented manner.</p>
General training plan and skeleton curriculum	<p>Industrial metal occupations: BBP 5a,b,c,d,e,g,i, 6a,b,c,l; 7a,b, 12a,b; LF 1,2</p> <p>Metalworker: Nos. 5a,b,c,d,e,f,i,j, 6a,b,c, 11a,c; LF 1,2</p> <p>Machine and plant operator: Nos. 5a,b, 6a,b,c,d,f,g, 7a,b, 9a,c; LF 1,2 of the industrial metal occupations</p>

Figure 1: Extract from Unit of Learning Outcomes 2 “Basic principles of machine metalworking”: Sequence of complete work action – Information and planning. Source: EASYMetal

3.2 Evaluation/assessment of performance

The ECVET Recommendation (EUROPEAN COMMISSION 2009) advises that a unit of learning outcomes should be concluded with an evaluation because of the fact that transfer to another learning environment requires an individual assessment of performance. This part of the specification can be effectively deployed to improve permeability at the interface between vocational training preparation and dual training. Because the learning achievements of young people completing vocational training preparation are viewed with scepticism by the company stakeholders, an assessment of performance conducted in a valid manner may increase the credibility of results. The carrying out of an assessment is in accordance with the stipulations relating to the use of training modules, the instrument normally deployed in vocational training preparation¹⁷.

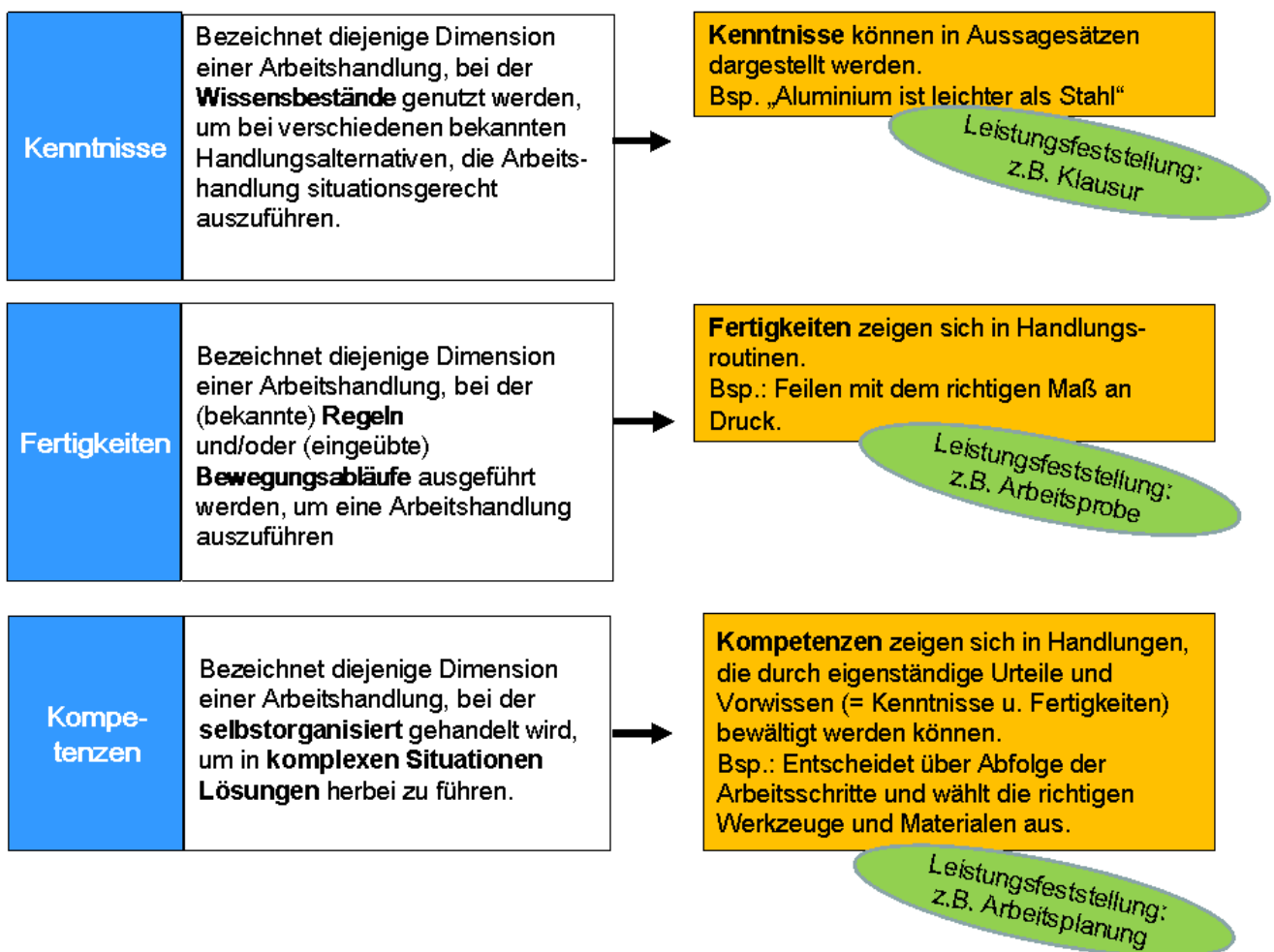
¹⁶ The execution of a complete work action implies behaviours that are generally designated as “social and personal competences”. They are stated by companies as a prerequisite for acceptance into a training contract. In the “unit of learning outcomes”, a summary of such behaviours is provided in “Ways of behaviour at work” (sequence No. 6). These are also indicated in the respective sequences of the work action in order to show where they particularly appear. Alongside the dimensions of knowledge and skills, the German Qualifications Framework also encompasses self-competences and personal competences.

¹⁷ The use of training modules is regulated via the Vocational Training Preparation Certification Ordinance (BAVBVO).

3.2.1 Conceptual derivation of the assessment of performance

The EASYMetal project bases its concept for the assessment of performance on the following work stages.

- **Development of performance oriented work terms:** The analysis of learning outcomes in the form of knowledge, skills and competences (see development of the units of learning outcomes) is based on predefined work terms oriented towards performance, i.e. the action (see Figure 2).
- **Performance oriented verbs:** By the same token, it was possible to use the work terms to find verbs for the description of the learning outcomes that express a visible action. These verbs facilitate the selection of suitable measurement instruments.



- **Definition of test criteria:** Test criteria setting out the objects to be tested are mapped to each unit of learning outcomes. In EASYMetal, it has proved necessary to present the learning outcomes themselves in generalised form in order to make it possible for the units of learning outcomes to be deployed in completely different education and training (training provider, vocational school, a wide range of companies in the metal working branch operating in the craft trades and industrial sectors).¹⁸ These generalisations accord due consideration to the circumstance that providers of vocational training preparation schemes

¹⁸ A similar procedure is adopted with regard to the development of general training plans.

are variously equipped. The test criteria set out the generalised descriptions of learning outcomes in precise terms (see Figure 3).

Learning outcome: Derives the work stages from the technical drawing and puts these work stages into a suitable sequence for later execution. Selects the appropriate tools, machines, materials, operating and auxiliary materials for the execution of the work task.		
	Assessment of performance	
EQF	Test criteria	Instrument
Knowledge	<ul style="list-style-type: none"> ➤ States tools, machines and materials in a professional manner. ➤ Names three metals and an associated characteristic property for each. ➤ Allocates five auxiliary materials and three forms of energy. ➤ Names four of the six main groups of production processes with an example for each. ➤ Describes the separating production process (definition, actual process, example of procedure). ➤ Names the edges and surfaces on the cutting wedge and explains the relationship to the material (hard versus soft). ➤ Presents the system of the group of work materials used in metalworking. ➤ Names two auxiliary materials for machine production. ➤ Names four material properties of the metals. 	Work plan, written test/oral examination Written test/oral examination
Skills	<ul style="list-style-type: none"> ➤ Ensures the operational readiness of the machines. 	Observation
Competences	<ul style="list-style-type: none"> ➤ Draws up a work plan on the basis of a drawing. ➤ Selects all necessary tools and machines on the basis of the drawing. ➤ Selects all necessary auxiliary materials on the basis of the drawing. 	Work plan

Figure 3: Extract from Unit of Learning Outcomes 2 “Basic principles of machine metalworking”: Sequence of complete work action – Information and planning source: EASYMetal

3.2.2 Execution of the assessment of performance

Vocational training preparation requires learning venues to conduct an assessment of performance. Such an assessment of performance is also stipulated in cases where training modules are deployed, meaning that we are not breaking any new ground in this regard. Nevertheless, quality assurance standards were developed in the project in order to improve the validity of the results. The standards contain statements on the content design of the assessment of performance, on implementation and on the general conditions that apply. This enables the host institutions, the companies, to compare the ability of young people from various education and training institutions.¹⁹

¹⁹ In previous practice, the assessment of performance in the case of training modules has tended to exercise a pedagogical function. Young people are given a signal that their learning process is being taken seriously. The assessment of performance enables them to provide evidence of their newly acquired skills. They then receive a certificate from their training provider that records their achievements. They can present this certificate to companies when making applications. How the assessment of performance is carried out, however, is incumbent upon the individual skilled workers at the learning venue and is not presented in detail. Comparisons across learning venues are not possible.

As is also the case with the training modules, the assessment of performance proposed by EASYMetal is located below the level of a formal examination. This is in accordance with the regulations set out in the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO)²⁰. The background to these regulations is the vocational education and training system, which in Germany is aligned in a holistic manner. Modules forming part of training and tested by the competent bodies before being subsequently accumulated are in contrast to the fundamental idea of the dual system. There is no formal regulation in place for the examination of partial qualifications within the training sector.

Contents of the assessment of performance	
Content and time structure	<p>Theoretical assessment of performance (approx. 1 ½ hours)</p> <ul style="list-style-type: none"> • Written test basic metalworking training (45 – 60 minutes) • Work sample: work plan (30 minutes) <p>Practical assessment of performance (3 ½ – 4 hours)</p> <ul style="list-style-type: none"> • Work sample: observation (approx. 180 minutes) • Work sample: Measurement record examiner (approx. 10 minutes) • Work sample: oral examination and measurement record participant (approx. 10 minutes)
Criteria for the selection of the work sample	At least three production procedures (basic metalworking training) from the main groups of reforming, separating and/or joining must be used three times each for the production of the work sample.
Evaluation of the assessment of performance	<p>Evaluation of the theoretical assessment of performance</p> <ul style="list-style-type: none"> • First and second correction of the written test basic metalworking training • First and second correction of the work plan for the work sample on the basis of the typical ideal work plan <p>Evaluation of the practical assessment of performance</p> <ul style="list-style-type: none"> • Observers’ conference of the two observers (observer ratio 2 : 6) including consideration of the observation sheet Transfer of the results to the standardised evaluation matrix • First and second measurement of the work sample and entry into the measurement record by evaluators • Oral examination with the evaluators (final reflection) based on the measurement record of the participant
Stipulation of general conditions for quality assurance	
Suitability of the learning venue	The competent bodies confirm that the learning venue is in a position to achieve the learning outcomes described in the “unit of learning outcomes” and to carry out the assessment of performance.
Qualification of staff for the assessment of performance	All persons involved in the execution of the assessment of performance bear a high degree of responsibility. They need to be able to demonstrate professional skills (e.g. relevant vocational education and training, Training Aptitude Examination). The staff are able to apply the procedures for the assessment of performance (e.g. observer training) and are familiar with the objectives of the assessment of performance and with the target group. It is useful to involve trained external examination staff.
Staff ratio for the assessment of performance	<p>The staff ratio for the assessment of performance is 1 : 3 (observers : participants).</p> <p>It is important to deploy at least 2 observers in order to minimise subjective evaluations (controlled subjectivity via a ratio of 2 : 6).</p>

²⁰ The Crafts and Trades Regulation Code (HwO) governs all stipulations in the craft trades sector in the same way as the Vocational Training Act (BBiG).

Presentation of the learning outcomes	
Weighting of the individual components of the assessment of performance	<p style="text-align: center;">Ergebnis der Leistungsfeststellung</p> <p>All parts of the assessment performance are presented in percentages in order to make the weighting of the individual components transparent. Both the theoretical and practical assessment of performance must be passed. One cannot compensate for the other. The final reflection (oral examination) of the practical assessment of performance is not subject to the pass criterion of $\geq 50\%$. Its purpose is to complete the final result.</p>
Documentation of the assessment of performance	The contents, general conditions, the process and the results of the assessment of performance are documented in order to create transparency for the host institution.
Certificate	The institution that conducts the assessment of performance issues a certificate.

Table 1: Quality assurance standards for the execution of an assessment of performance

The implementation of the proposed assessment of performance generally requires that the general conditions (e.g. equipment, specialist staff) and the stipulations for the execution of vocational training preparation schemes (contractual objectives, training remit) are appropriately adapted and that the training institutions offering vocational training preparation schemes receive support. Such education and training policy decisions lie outside the area of competence of EASYMetal.

4. Credit transfer and accumulation of learning outcomes, ECVET partnerships

In Germany, the transfer and crediting of learning outcomes are governed by the Vocational Training Act (BBiG; §7, § 8) and the Crafts and Trades Regulation Code (HwO; §27a and § 27b). Credit transfer is based on an individual case decision and usually leads to a shortening of the training time. Decision-making authority lies with the companies. Meaningful units of learning outcomes, credible assessments of performance and documents can all help support companies in making this decision.

The challenge at the interface between vocational training preparation and dual training is to make the achievements of a young person in vocational training preparation comparable with those of a trainee. The philosophy underlying dual training assumes that employability skills are acquired via company-based learning and company socialisation processes. Although education and training institutions delivering vocational training preparation are able to teach professional knowledge, skills and competences, they are not able to impart the necessary organisational learning processes or else are only able to do so to a limited extent. This background alone means that companies are sceptical

about providing time credit transfers at the beginning of training. They prefer to allow high-ability young people to proceed to the final examination six months early (BBiG §8 and HwO §27b). They are, however, also reticent about evaluating the level of knowledge, skills and competences acquired that has been determined by the training providers. Taking this context as their starting point, the project work of EASYMetal aims to make structure-changing proposals which take account of the particular characteristics of dual training whilst also improving upward (or vertical) mobility²¹. The objective of the proposals is to strengthen trust of companies in the learning achievements of young people in vocational training preparation via:

- a. transparent procedures;
- b. the integration of credible stakeholders and
- c. standards and control procedures that ensure compliance with the processes and the integration of the stakeholders.

Against the background of this objective, EASYMetal recommends the following quality assurance measures for credit transfer procedures for vocational preparation training. No statutory changes are required for these, although good cooperation with the competent bodies is needed.

- **Learning outcomes that are relevant to training:** The training institution imparts learning outcomes from dual training. Suitable instruments include units of learning outcomes and training modules²².
- **Confirmation of the learning venues:** In order to enable the learning process to take place with the relevant level of quality assurance, the training institutions are confirmed by the chambers. The chambers confirm that the institutions meet requirements for imparting contents relevant to training (process to be confirmed in the same way as for extra-company training institutions).
- **Assessment of performance by the training institutions:** Following the conclusion of the learning process, the training institutions conduct an assessment of performance. The assessment of performance takes place on the basis of the implementation standards and test criteria valid for the respective unit of learning outcomes. The training institutions notify the chambers in advance. The chambers reserve the right to take part in individual components of an assessment of performance.
- **Issuing of report, certificate:** The results of the evaluation are documented. The training institutions issue a report. The chambers award a certificate on the basis of the report insofar as there has been compliance with the previous quality assurance steps. The certificate contains indications for companies that credit transfer may be given for learning outcomes and in which form this can take place. Because the assessment of performance is located below the examination level and is conducted by the learning venues, the certificate documents the procedure but does not validate the results themselves.
- **Content or time credit transfer:** Credit transfers in the dual system may take place both in terms of content and time. Content credit transfer avoids repeated learning by imparting

²¹ Vertical mobility is understood to mean the ascent (or descent) from one social class/stratum to the next. By way of contrast, horizontal mobility means changes in areas such as professional or work life that do not affect belonging to a social class/stratum. Spatial (or territorial) mobility refers to the movement of individual persons within the geographical area (cf. Berger 2001). At EASYMetal, we understand vertical mobility to be structural changes that improve the permeability between vocational training preparation and dual training.

²² Because no units of learning outcomes within the meaning of ECVET have been implemented in Germany, it seems useful to adopt procedural regulations in line with the training modules for the units of learning outcomes (e.g. prior confirmation of the training profile by the competent body).

deeper or additional competences. Time credit transfer shortens the duration of the dual training.²³

- **Decision by companies:** Companies decide whether credit will be given for units of learning outcomes and, if so, what form this will take. They are subject to the provisions of the Vocational Training Act, BBiG and the Crafts and Trades Regulation Code, HwO (see above).

This means that the procedures for the transfer of units of learning outcomes via accumulation as described in the ECVET specification cannot be implemented in the form stated. Nevertheless, credit transfers are possible within the German vocational education and training system. The adaptations of the ECVET specification described above could assist in improving permeability.

The same does not apply in the case of the “ECVET partnerships” that need to be established in advance for the transfer of units of learning outcomes from one learning environment to another in accordance with the ECVET specification. The modalities for cooperation and transfer are formally agreed in writing in a “Memorandum of Understanding” (MoU)²⁴. These procedures are unable to achieve any effect at the EASYMetal interface. The reason for this is that there are no symmetrical and fixed partner relations between vocational training preparation and companies providing training. Those seeking to progress to training from vocational training preparation are in competition with others on the training places market and apply for places that have been advertised. The credit transfer process stated above and the associated instruments and procedures aimed at establishing trust and agreed with the chambers and other VET stakeholders have been put in place to act as an equivalent to the MoU in EASYMetal.

5. Learning agreement and personal transcript of records

The learning agreement proposed in the ECVET specification also cannot be implemented due to an absence of fixed partners. The instrument of the “personal transcript of records” is, however, capable of deployment. Training institutions involved in delivering vocational training preparation which conduct an assessment of performance document the evaluation and subsequently issue a report. This is in accordance with the “Vocational Training Preparation Certification Ordinance” (BAVBVO) for the deployment of training modules in vocational training preparation. The documents from the training institution in turn form the basis of a certificate issued by the chambers. This certificate states that the results of the vocational training preparation scheme were achieved on the basis of quality-assured procedures. Since the competent bodies do not conduct testing themselves and only ever act as observers for individual components, the certificate cannot confirm the correctness of the results themselves. Nevertheless, considerable significance is ascribed to a chamber certificate due to the fact that the chambers enjoy the esteem and trust of the companies. The results of the assessment of performance appear more credible to the companies if the chambers confirm that the procedure has at least taken place in a quality-assured manner.

For this reason, the chambers only issue certificates if quality-assurance measures have taken place in advance (see above). To this extent, the elements intended with the establishment of partnerships and the learning agreement are fulfilled in the broadest sense – generating trust via agreed quality-assured procedures.

²³ It is likely that content credit transfer will have better chances of implementation than shortening the duration of training. Companies are able to arrive at their own view of the abilities of the young people and aid quality assurance by giving the training providers relevant feedback. Companies usually do not decide on a shortening of duration until during the training itself (and after the interim examination) on the basis of the performance levels exhibited by trainees. Such cases are referred to as shortening the duration of training by earlier admission to the final examination (§ 45 BBiG).

²⁴ The aims of establishing ECVET partnerships include generating mutual trust between partners (responsible institutions and partners involved in the training process) on the basis of a formal agreement (MoU).

6. ECVET points

The use of ECVET points as proposed in the Recommendation is unable to exert any effect at the interface between vocational training preparation and dual training, at least not for the time being. Because no points are used in dual training, they also do not play any part in the transfer of learning outcomes and credit transfer to training. No partial qualifications for which points can be awarded exist within the German vocational education and training system.

The members of the EASYMetal Advisory Council are guided by social partnership and take a distanced view of the introduction of points. Another reason for this is that a points-based approach very clearly highlights the inherent conflict between the German VET system and the credit points system. Whereas in Germany the integrality of vocational training and the company learning environment are considered to be prerequisites for the development of employability skills²⁵, the ECVET Recommendation sub-divides qualifications into units of learning outcomes with points, which are separately tested and certified, one of the aims of this being transfer to another learning environment and the accumulation of these units of learning outcomes to a subsequent qualification.

EASYMetal has taken account of this situation by noting ECVET points on the units of learning outcomes in the form of additional information. This means that the units can be used for mobility or in countries which have VET systems with points.

The calculation took place via a ratio of core qualifications per unit of learning outcomes based on 60 ECVET points per year (see ECVET specification). This produces the following results.

	Unit of learning outcomes 1 Basic manual principles metalworking	Unit of learning outcomes 2 Basic machine principles metalworking	Unit of learning outcomes 3 Production of sub-assemblies	Unit of learning outcomes 4 Maintenance of technical systems
Industrial metalworking occupations	11	10	20	10
Metalworker	11	17	16	8
Machine and plant operator	11	14	14	10

Table 2: ECVET points calculated per unit of learning outcomes (rounded values), source: EASYMetal

The missing ECVET points up to the value of 60 relate to general, knowledge-related contents from the general training plan on the topics of “Vocational education and training, employment and collective wage agreement law” and “Structure and organisation of the company providing training”.²⁶

In overall terms, we can see that manageable procedures for applying points to vocational education and training are not yet available. The awarding of 60 ECVET points per year of full-time vocational training conflicts with the notion of outcome orientation, which implies independence of learning venue and therefore also opens up an opportunity for vocational education and training to incorporate informal learning.

²⁵ This encompasses the development of both professional and personal competences.

²⁶ We decided not to include a Unit of learning outcomes 5 to describe this knowledge, since we consider the added value provided at this point to be marginal. This knowledge can be tested in a written test of the type normally used by vocational schools in the topic area of “Business and social studies”.

In the view of EASYMetal is that the ECTS points system for higher education is not suitable for dual training²⁷. As LE MOUILLOUR (2006, 27) points out, institutes of higher education focus on the institutional and organisational aspects of educational programmes. The two measurement foundations of “workload” und “notional learning time”²⁸ are time dimensions that, strictly speaking, contradict the principles of “independence of learning venue” and “orientation to the learning outcome”. Because institutes of higher education work in a relatively similar manner across Europe, this procedure seems to be sustainable despite the fact that surveys have already identified that it creates difficulties in calculating the amount of time (ibid. 27). Because vocational education and training is organised differently across Europe, alignment solely on the basis of the dimension of time is likely to make credit transfers more difficult rather than easier.

7. Summary

The ECVET specification states that implementation in the member states should only take place in accordance with existing national legislation and regulations. As far as the EASYMetal project is concerned, we have consequentially identified that the ECVET specifications, viewed as a contiguous system, is not capable of implementation at the interface between vocational training preparation and dual training. Notwithstanding this, individual procedures within the specifications can be used to address problems at the interface. For this purpose, we have adapted the procedures within the specifications to the requirements of the interface in some cases in order to take account of the particular characteristics of the training context on the one hand and statutory stipulations on the other. We will secure the necessary support from the stakeholders by demonstrating that ECVET delivers an added value for the vocational education and training system.

The following procedures contained within the specification and applicable to the context considered were identified.

- **Units of learning outcomes, evaluation/assessment of performance, personal transcript of records:** The results of EASYMetal have shown that these procedures can be used to bring about a significant increase in the legibility and credibility of learning outcomes for the host institutions compared to previous practice. This statement only applies, however, if the unit of learning outcomes and the evaluation exhibit an appropriate quality (cf. NOTZ/SCHÄFER/VORBERGER 2012). The design concept of the instruments is aligned towards increasing transparency so that good decision-making foundations are available to companies for credit transfers. The report and certificate, which document and verify the results, also assist in this regard. In order to strengthen quality assurance, credible institutions in the form of the chambers were integrated into the procedural processes.
- **Credit transfer:** Credit transfers have been statutorily possible in the German vocational education and training system for some considerable time. Too little use is, however, made of them. The reasons for this include non-fulfilment of the prerequisites – transparent descriptions of learning achievements and credible evaluations and procedures. There is also perhaps a lack of courage to consider alternative learning pathways as equivalent and to save learners from repeated learning. This is an area in which Europe has set important impetuses and accelerated reform debates.

²⁷ The situation at other interfaces in the vocational education and training system may be different, as the example of the project 2get1care makes clear. In some sectors of the vocational education and training system, processes of professionalisation are taking place with regard to the higher education as a host system. Against this background, it is understandable that the construction characteristics of ECVET serve as an orientation framework. The hope here is better interlinking between the two systems or greater willingness on the part of institutes of higher education to take in trainees.

²⁸ “Workload” refers to the educational programmes. Workload is the expected amount of time a student will require to complete a section of study successfully and is expressed in terms of hours. “Notional learning time” is the time needed by average learners to acquire the learning outcomes within a qualification (LE MOUILLOUR 2006, 27).

The (adapted) procedures could help instigate structural changes at the interface between vocational training preparation and dual training that open up doors for learners with alternative educational pathways. This would mean that the focus would be placed more on their abilities rather than on the circuitous routes and delays in their educational career. In order to prevent any misunderstanding, a differentiation needs to be made between the structural and the individual level. Young people in vocational training preparation should benefit from openings leading upwards. Whether they actually do so depends on them. Measures to strengthen personal development instead of vocational training may be more useful for some participants. Alignment for the individual young people in vocational training preparation is determined by individual needs.

The fact that the conceptual development work undertaken by EASYMetal always also considered transfer to other areas of education and training means that the proposals stated above could be transferred to other sectors, such as second-chance qualification for adults without a vocational education and training qualification. The overarching educational policy goal is to have as many learners as possible achieve a training qualification.

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Future perspectives for alternative training pathways

Crediting of informal learning and creation of permeability in German VET using “ESyCQ” as an example

Katrin Jäser

1. Background to the ESyCQ project

The introduction of the European Qualifications Framework (EQF), which is oriented towards improved comparability between the European educational systems, and the development in reference to this of the German Qualifications Framework (DQR), in which national qualifications are arranged and aligned to the EQF, are leading to profound tasks at a European and national level (cf. EUROPEAN COMMISSION, 2008; BMBF, 2012). The European Parliament and Council Recommendation on the Establishment of a European Credit System for Vocational Education and Training (ECVET) was published in 2009, the aim being to foster and improve the validation and recognition of learning achievements acquired within different learning contexts (cf. EUROPEAN COMMISSION, 2009).

The stated European and national developments in the field of vocational education and training are beginning to have consequences in Germany. On 25 January 2013, amended guidelines for model examination regulations were published in the official section of the Federal Gazette following their adoption by the Board of the Federal Institute for Vocational Education and Training (BIBB). This amendment stipulates that the examination regulations will contain a *“provisional alignment of the qualification in the (...) DQR and the EQF reference level resulting from the link of the DQR with the EQF”* (BIBB BOARD, 2012). The influence of the EQF/DQR is also making itself felt at a didactic and curricular level in the form of competence-based training regulations that aim to *“establish specific references to the DQR and show a competence and learning outcomes orientation that provides connectivity to the developments for the creation of a joint European Education and Employment Area”* (LORIG et al., 2012, p.11).

In 2010, the European Commission called for ECVET to be piloted in a national context. ESyCQ (European Credit System for Commercial Qualifications) was one of a total of seven projects to be selected. Its endeavours to achieve validation of non-formal and informal learning are directed at German VET interfaces in the commercial and IT sector. The objective of the project was to develop procedures and methods which promote permeability at a system level, facilitate the transition between work and learning phases, improve labour market opportunities and fundamentally strengthen lifelong learning.

The coordinator of ESyCQ is the IBS-CEMES Institut GmbH. Project partners are the Federal Institute for Vocational Education and Training (BIBB) and the Cottbus Chamber of Industry and Commerce Training Centre from Germany, 3s research laboratory from Austria, Euro-Projektserviss.r.o. from Slovakia and Perpignan Chamber of Industry and Commerce from France.

2. Methodological approach

This article will present the results of the ESyCQ thus far on the basis of the so-called “technical ECVET specifications”. These encompass:

- units of learning outcomes and assessment of performance;
- credit transfer and recognition of learning outcomes, personal transcript of records;
- Memorandum of Understandings and learning agreements;
- ECVET points.

ESyCQ focuses on six occupations/qualifications completed within the scope of formal vocational education and training or continuing training.

- Freight forwarding and logistics services clerk
- Office management clerk
- IT system support specialist
- Commercial assistant specialising in office management
- Commercial assistant specialising in information processing
- Network administrator (Chamber of Industry and Commerce)

The occupations and qualifications selected differ with regard to duration of training, statutory foundations and areas of responsibility. They include recognised training occupations (Vocational Training Act), full-time school-based education and training courses (federal state law) and qualifications based on chamber regulations. In making the selection, care was taken to ensure that qualifications were each subject to regulated standards, that areas of overlapping content exist between the individual occupations/qualifications and that, in accordance with present national developments, all qualifications are aligned to DQR reference levels 3 to 5.

The various regulatory instruments were used as an evident basis in processing the ECVET specifications:

- ordinances on vocational education and training and the skeleton curriculum for dual training (freight forwarding and logistics services clerk, office management clerk and IT system support specialist);
- the teaching stipulations of the Ministry of Education, Young People and Sport of the State of Brandenburg regarding full-time school-based vocational education and training (commercial assistant specialising in office management, commercial assistant specialising in information processing);
- the certificate stipulations of Cottbus Chamber of Industry and Commerce for the qualification of network administrator (Chamber of Industry and Commerce).

2.1 From occupational practice to the unit of learning outcomes and the description of learning outcomes

In the ESyCQ project, content work on the ECVET specifications began with the description of units of learning outcomes followed by the development of credible and objective evaluation methods and instruments.

The task was realised in seven partial stages.

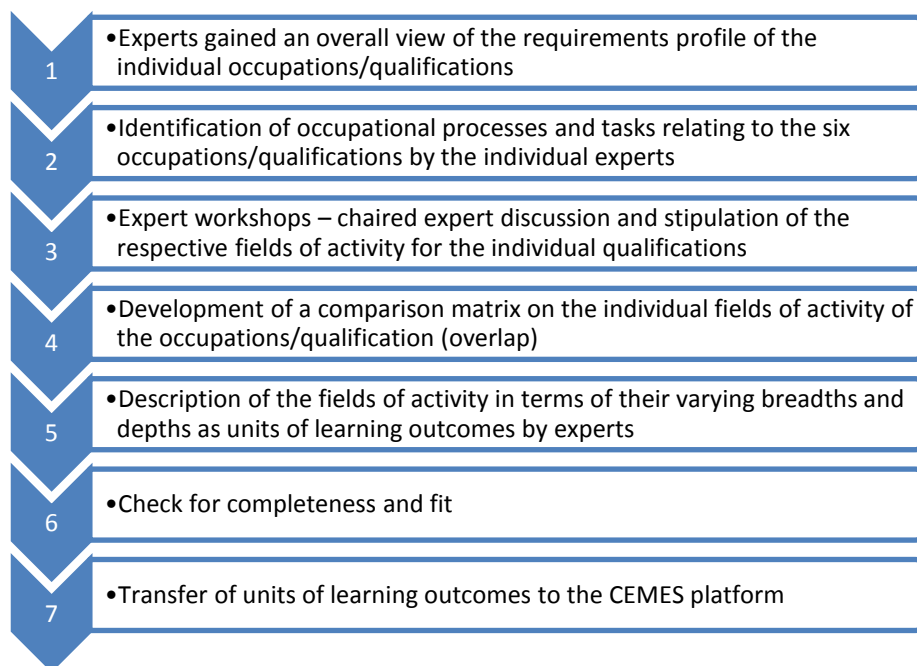


Figure 1: Development phases – from the fields of activity to the descriptions of units of learning outcomes

Educational advisors, human resources managers from companies, lecturers/trainers and IT specialists were all involved in drawing up the descriptions of learning outcomes. On the basis of two preparatory phases and the occupational processes and work tasks that had been identified, two chaired workshops were held to define fields of activity which are contained in one or more qualifications in varying breadth and depth (levels). In order to visualise such overlaps, an equivalence matrix was designed which compares the fields of activity defined with one another in terms of their various levels and relating to different qualifications. On the basis of this matrix, the individual fields of activity became the foundation for the structuring of units of learning outcomes at DQR levels 3 to 5. These were finally checked for completeness and fit and transferred to the evaluation instrument that had been developed.

2.1.1 Development of an equivalence matrix for the fields of activity of the individual qualifications

The checking of equivalences constitutes the basis for allowing validation and recognition processes of acquired learning to be facilitated and practised at interfaces of the vocational education and training system (e.g. with regard to areas of credit transfer potential between full-time school-based and dual courses of education and training or in the case of recognition of informal learning in a vocational qualification recognised across Germany). In developing the units of learning outcomes, a conscious decision was made to direct attention to the “principle of business process orientation” (REINISCH, 2012, p.14), i.e. completed occupational processes and work tasks were identified within the selected qualifications thus enabling intersections between the qualifications to be displayed. The challenge was to map the entire qualification in the individual completed work tasks and accord due consideration to existing overlaps between the qualifications.

The matrix is designed in tabular form and shows horizontally which qualifications are being compared and vertically which fields of activity are contained within the individual qualifications. The term "field of activity" was introduced as a tool. It is a headline phrase that provides a rapid overview and designates a completed work task that is described as a unit of learning outcomes in the context of respective breadth and depth (level).

The relevant fields of activity were defined in various breadth and depth depending on the qualification. The stipulation as to whether a field of activity is contained within a qualification and at which level was developed in expert workshops. The DQR and its level descriptions were used as a guidance and orientation instrument.

Bereiche	Handlungsfelder	Qualifikationen					
		Kff./Kfm. für Spedition und Logistikdienstleistung	Bürokauffrau/mann	Kaufmännische/r Assistent/in, Bürowirtschaft	Kaufmännische/r Assistent/in, Informationsverarbeitung	IT-Systemkauffrau/mann	Netzwerk-administrator (IHK)
Bürowirtschaft							
	Betriebliche Abläufe und Arbeitsorganisation	4	4	4	4	4	
	Bürowirtschaftliche Abläufe		4	4			
	Nutzung von Standardsoftware	3	4	4	4	3	
	Kommunikationssysteme und- dienste	3	4	3	4	4	
Buchführung und Controlling							
	Laufende Buchführung	3	4	4	3		
	Kaufmännische Steuerung und Kontrolle	4	4	3	3	3	
Betriebliche Geschäftsprozesse							
	Marketing und Kundenbeziehung	4	3	3	3	4	
	Auftrags- und Rechnungsbearbeitung		4	3	3	3	
	Beschaffungsprozesse	3	3	3	3	3	
	Lagerwirtschaft		3	3	3	3	
	Personalwirtschaftliche Aufgaben		4	3	3		
Computersysteme und -netzwerke							
	Einfache IT-Systeme				3	4	4
	Öffentliche Dienste und Netze				4	4	
	Anwendungsentwicklung					3	
	Netzwerkprogrammierung					4	4
	Netzwerktechnik					4	5
	Netzwerkbetriebssysteme					4	5
Speditionell-logistische Geschäftsprozesse							
	Speditions- und Frachtaufträge	4					
	Speditions- und Frachtverträge	4					
	Fracht und Transport	4					
	Zollangelegenheiten	4					
	Schadensfälle	4					
	Logistikkonzepte	4					
	Lagerleistungen	4					
	Fachenglisch - Spedition und Logistik	3					

Figure 2: Extract from the equivalence matrix

The matrix provides a summary of the breadth and depth of the individual fields of activity within the qualifications and of their relation to one another. In this way, the requirements of a qualification and equivalences and technical differences between qualifications are quickly rendered visible.

The matrix indicates that a vocational qualification aligned to level 4 of the DQR encompasses in overall terms units of learning outcomes at both level 3 and level 4.

The entirety of the units of learning outcomes reflects the occupation/qualification. The occupation of “office management clerk” is, for example, composed of eleven units of learning outcomes in ESyCQ. The combined effect of the units of learning outcomes leads to the overall qualification, which is only considered formally recognised once the final examination has been passed.

2.1.2 Way in which units of learning outcomes are described

In ESyCQ, units were described in a learning outcomes oriented manner on the basis of the existing regulatory instruments. A unit of learning outcomes comprises completed professional work tasks that consist of a coherent set of competences, skills and knowledge. In this approach, it is perfectly possible for learning outcomes to be covered by one than one unit of learning outcomes. This multiple alignment is intentional. It may be viewed as a link between individual completed work tasks which ultimately reflect the principle of occupational proficiency and are important for a holistic consideration of vocational education and training.

Learning outcomes are assumed to be the same if a field of activity is on one level in different qualifications in terms of breadth and depth. For this reason, the unit of learning outcomes is described identically in both qualifications. In the case of two different levels in a field of activity, two units of learning outcomes are assumed. These are delineated in accordance with the levels and described differently. The result is that two units of learning outcomes are created for this field of activity.

In its description of the units of learning outcomes, the ESyCQ project orients itself to the competence levels of the DQR. The DQR differentiates between professional competence, subdivided into knowledge and skills, and personal competence, subdivided into social competence and autonomy.

Niveauindikator			
Anforderungsstruktur			
Fachkompetenz		Personale Kompetenz	
Wissen	Fertigkeiten	Sozialkompetenz	Selbständigkeit
Tiefe und Breite	Instrumentale und systemische Fertigkeiten, Beurteilungsfähigkeit	Team/Führungsfähigkeit, Mitgestaltung und Kommunikation	Eigenständigkeit/Verantwortung, Reflexivität und Lernkompetenz

Figure 3: Level indicators of the DQR (BMBF, 2012, p.5)

In accordance with the selected qualifications, their alignment to the DQR and the respective alignment of the individual units of learning outcomes to the qualifications, levels 3, 4 and 5 of the DQR are relevant for the descriptions. Figure 4 shows an example of how the units of learning outcomes were presented in ESyCQ.


Bezeichnung der Qualifikation(en)	Bürokauffrau/-mann	
Handlungsfeld	Personalwirtschaftliche Aufgaben	
Titel der Lernergebinseinheit	Personalwirtschaftliche Aufgaben planen und durchführen	
DQR - Niveau	4	
Leistungspunkte		
Fachkompetenz		
Fertigkeiten		Wissen
Sie/Er <ul style="list-style-type: none"> - ermittelt den Personalbedarf - wählt auf der Grundlage einer Stellenbeschreibung passende Bewerber aus - bereitet Vertragsunterlagen vor - bearbeitet Personalunterlagen, führt Personalakten und Personalstatistiken unter Berücksichtigung der Erfordernisse des Datenschutzes, erstellt Bescheinigungen - ermittelt Personal- und Personalnebenkosten - erfasst und bearbeitet die für die Entgeltermittlung erforderlichen Daten - ermittelt gesetzliche und sonstige Abzugsbeträge und die auszahlenden Beträge und weist deren Überweisung an - organisiert Personalbeurteilungen - erstellt die zur der Beendigung von Arbeitsverhältnissen benötigten Dokumente 		Sie/Er <ul style="list-style-type: none"> - erläutert verschiedene Methoden zur Personalbedarfsermittlung - beschreibt Vorgänge der Personalbeschaffung, -einstellung und -einführung - erläutert die grundlegenden Entgeltformen - erörtert die Problematik der gerechten Entlohnung - erläutert Möglichkeiten zur Mitarbeitermotivation - erklärt die Positionen des Entgeltschemas und die Berechnung des Nettoentgeltes - beschreibt die Bedeutung von Personalbeurteilungen und mögliche Fehler bei deren Durchführung - beschreibt die Anforderungen an den Datenschutz - erläutert die Möglichkeiten zur Beendigung von Arbeitsverhältnissen
Personale Kompetenz		
Sozialkompetenz		Selbständigkeit
Sie/Er <ul style="list-style-type: none"> - kommuniziert mündlich und schriftlich sach- und situationsgerecht - gestaltet Gesamtabläufe und Teilaufgaben mit und bietet Unterstützung im Team an - übernimmt Verantwortung für sein Handeln - erklärt Abläufe, Ergebnisse und Sachverhalte adressatenbezogen 		Sie/Er <ul style="list-style-type: none"> - führt selbstständig und verantwortungsvoll fachliche Aufgabenstellungen aus - reflektiert das eigene und das Handeln anderer - setzt sich Lern- und Zielergebnisse - wendet Lern-, Arbeits- und Präsentationstechniken an
Bezug zum ARP/ RLP	Bürokauffrau/-mann ARP: 6.1, 6.2, 6.3 RLP: Spezielle Wirtschaftslehre 5. Personalwirtschaft	
Bewertungsinstrumente	Multiple-Choice-Test, Test mit offenen Fragen, Arbeitsaufgabe mit Fachgespräch	

Figure 4: Example of a description of a unit of learning outcomes

A three-stage evaluation procedure determines whether a unit of learning outcomes has been successfully completed. The CEMES platform is used as an evaluation instrument in the first two stages. The descriptions of the units of learning outcomes have been entered into the platform database for this purpose. Structure matrices were developed for the selected units of learning outcomes, these being necessary for the development and evaluation of the assessment.

According to the EsyCQ expert group, the descriptions of the units of learning outcomes and the equivalence matrix make a major contribution towards creating the transparency that is fundamental to the development of validation and credit transfer processes.

By way of recapitulation, it should be stressed at this point that clear delineation, determination and description of the units of learning outcomes and the formulation of the individual learning outcomes in accordance with fixed, definite (ideally generally valid) stipulations are essential for quality-assured application of the further ECVET instruments in the German context. In addition, a reference to existing standards or regulatory instruments should be created when describing units of learning outcomes in order to establish plausibility and resultant trust.

2.1.3 Learning outcome assessment with the help of a three-stage evaluation procedure

Objective, valid and reliable evaluation procedures need to be developed in order to design credit transfer processes.

In EsyCQ, an evaluation instrument that was already in place was developed further with regard to ECVET applicability. The procedure is structured in three stages.

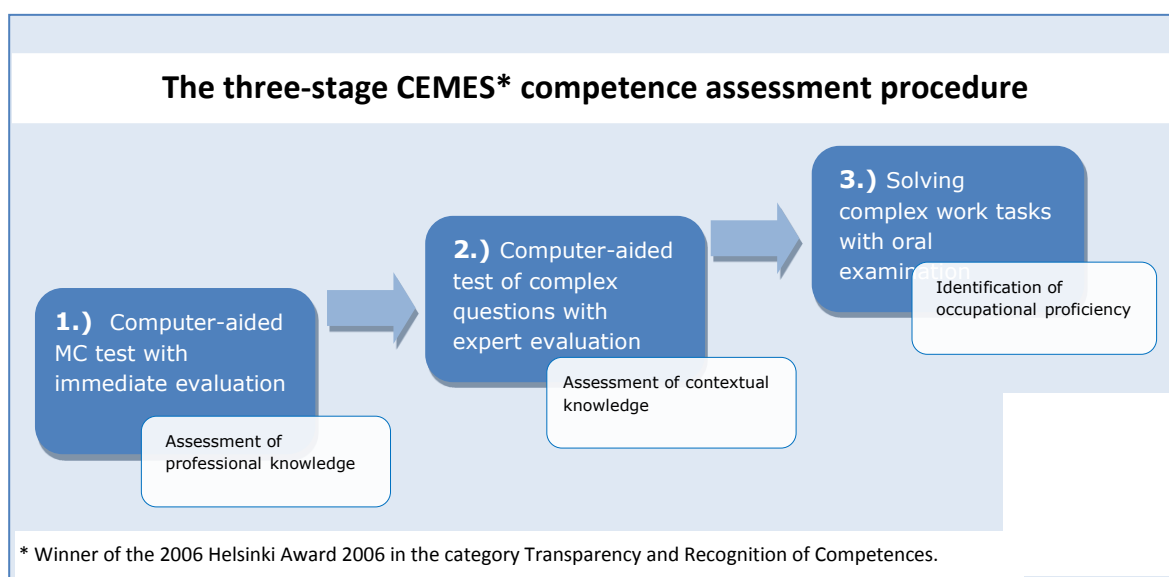


Figure 5: The three-stage CEMES competence assessment procedure (IBS, 2012, p.2)

At stage 1, professional knowledge is monitored and assessed. The learner receives an evaluation immediately upon completion of the test. Stage 2 comprises the answering of complex questions and provides information on contextual knowledge. The first two evaluation stages are conducted in a computer-aided manner. The necessary multiple-choice tests and tests with complex questions are prepared with the assistance of a database structure on the CEMES platform. The composition of the data structure is aligned towards the EU recommendations regarding the definition of units of learning outcomes and resembles a pyramid that has four levels and follows a vertical taxonomy.

The competence area (level 1) is connected to relevant competences (level 2).

These competences can be defined with the required skills (level 3).

The skills require a status of knowledge which is ultimately determined by technical terms (level 4).

The third stage only takes place once the first two evaluation stages have been successfully completed. The learner is required to process a complex work task within a stipulated time, present relevant possible solutions in an oral examination and react to critical questions. The oral examination is conducted and evaluated by experts. The purpose of this stage is to identify occupational proficiency.

A system for the development of complex work tasks, an answer scheme and an assessment form have been developed to this end.

In developing the work tasks, attention was paid to bundling units of learning outcomes together in a useful manner, for example:

- organise and coordinate office management processes;
- effectively complete commercial tasks and correspondence using standard software;
- use office communication technology and information services to solve company problems.

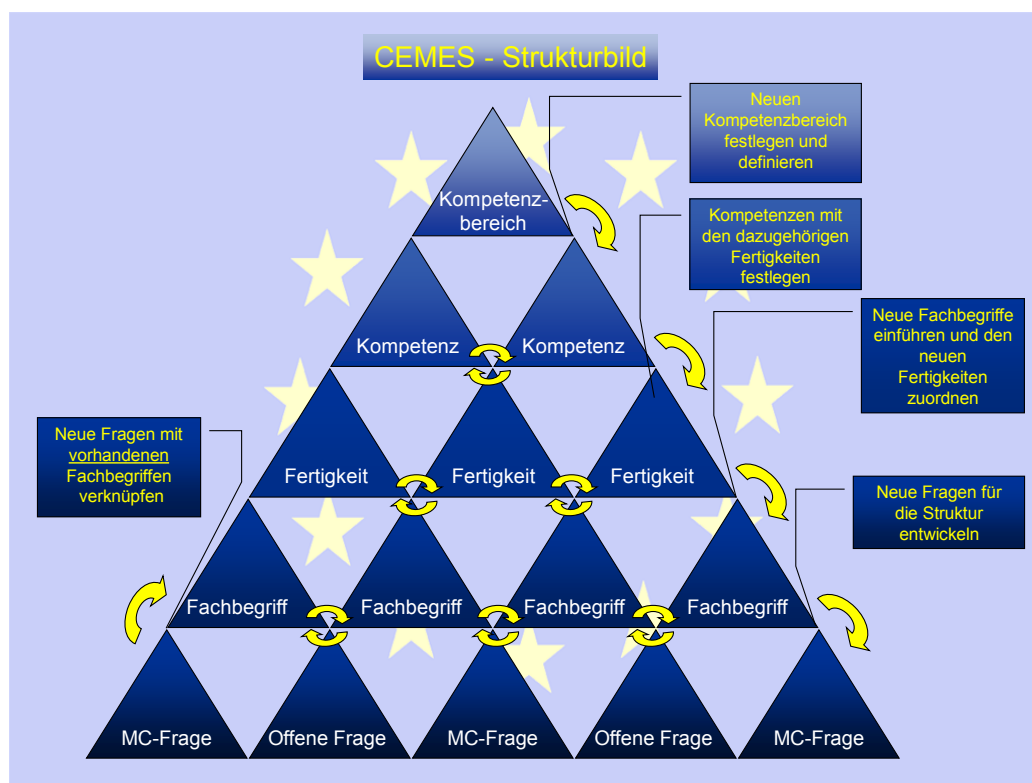


Figure 6: CEMES platform – Representation of the data structure (IBS, 2012, p.13)

Three work tasks including an answer scheme and assessment form were developed for the occupation of “office management clerk” as an example.

Title of the qualification		
Main task	A. Title of the unit of learning outcomes	
Partial task	B. Title of the unit of learning outcomes	
Partial task	...	
Information on filling in the form	<i>The reference to the units of learning outcomes being tested with the work task must be established here. Please see the respective description of learning outcomes for information.</i>	
Information point	Description	
1. Description of the initial situation	a) Branch in which the company is located b) Information on company size/company structure c) Legal form d) Situation on the market/competition e) Key company indicators (average turnover/profit, number of employees)	
Information on filling in the form	<i>Information for a) to d) should be provided in every case. Scope depends on the work task. Information regarding e) is only necessary depending on the work task.</i>	

2. Description of the work environment	f) In which department is the work task located? g) What technical infrastructure is available? h) What dependencies are there to other departments (information flow)?
<i>Information on filling in the form</i>	<i>Scope of information from f) to h) also depends on the work task.</i>
3. Description of the work task	i) Specific assignment with main question and sub-questions
<i>Information on filling in the form</i>	<i>Develop an authentic complex work situation and formulate both simple questions (Name ...; Define ...) as well as complex questions (Draw up ...; Develop ...; Give the reasons for ...; Make reference to ...; Explain ...; Compare and substantiate ...; etc.).</i>
4. Solution	j) Sample solution for each question
<i>Information on filling in the form</i>	<i>Provide a sample solution for each question with alternative possible answers if relevant.</i>

Figure 7: System for the development of work tasks with sample solution

The overall evaluation process is regulated in a way that is transparent for all via procedural instructions. The procedural instructions refer to the design and execution of the evaluation process and to the documentation of units of learning outcomes acquired and evaluated.

The three-stage evaluation procedure was tested in ESyCQ and subjected to critical investigation. Final assessments are not yet available due to the fact that the project has not yet ended. For the remaining term, a wide-ranging pilot testing phase is planned and aims to deliver findings on areas such as procedural economy and the deployability of the evaluation methods and of the tools developed.

The evaluation of the units of learning outcomes with the assistance of the CEMES method is below the level of a formal final examination established in law. Such evaluations can be deployed as a “profiling” instrument if evidence of informal learning needs to be provided. With regard to the creation of transitions, the evaluation procedure would be ascribed the function of a “learning status check”.

2.2 Validation and recognition of learning outcomes

A “personal transcript of records” based on the defined units of learning outcomes and the results of the three-stage evaluation procedure is issued in ESyCQ. The structure and form of the document have not yet been developed (status: 06/2013). The plan is to implement the “personal transcript of records” as a document that secures the quality characteristics necessary for the establishment of trust with regard to the credit transfer of prior learning. The main focus is on the following points.

- Who was evaluated and when and where did the evaluation take place?

- Personal information, point in time, evaluating institution

- What was evaluated, what was the result?

- Units of learning outcomes defined on the basis of generally binding standards evaluated via a points scheme or marks scale

- How did evaluation take place?

-Explanation of the evaluation procedure

From the project’s point of view, the instruments developed in ESYCQ can be used for improved transfer and recognition within the national framework by dint of the fact that the Vocational Training Act (BBiG) provides opportunities for the possible credit transfer of prior learning.

- Paragraphs § 7 and 8 of the BBiG govern the credit transfer of prior vocational learning on the basis of individual case decisions. The competent bodies (Chamber of Industry and Commerce/Chamber of Crafts and Trades) use reports and certificates to check whether the prerequisites have been fulfilled. Alongside formal investigation carried out by the competent bodies, host institutions in particular are interested in being able to assess whether application should be made for shortening of training.
- “Admission to the final examination in special cases” is regulated in §45 BBiG. Application may be made to the competent bodies, which then decide whether there is a “special case” and whether the person submitting the application can be admitted to the final examination (also referred to as “external examination”). Persons who can demonstrate relevant occupational experience and the required knowledge and skills of the whole of the occupational profile (occupational proficiency) are admitted to the examination.

In the two cases stated, the “personal transcript of records” could be used as a qualitative basis of argument in order to document competences acquired and demonstrate these for companies or the competent bodies.

2.3 Memorandum of Understanding and learning agreements

Memoranda of Understanding Partnership and learning agreements do not have any application within the ESYCQ project context. This differentiates ESYCQ from transnational mobility schemes. Partnerships and networks were established in the project without binding contractual agreements. These networks are relevant to driving forwards the ECVET developments and involving potential ECVET users in these developments at the earliest possible stage. This is perceived as the basis for developing practicable methods and tools which are used in daily practice and which can achieve benefits. Written agreements are not necessary for this purpose.

2.4 Awarding of ECVET points

ECVET points are described as additional information in the ECVET Recommendation. Nevertheless, ESYCQ refrains from quantifying learning in a points value. Vocational education and training in Germany aims to establish occupational proficiency via a training process that builds upon itself. This manifests itself in a formal vocational qualification that is achieved via a final examination rather than via individual ,units of learning outcomes that have been accumulated. Against this background, the „added value“ of the ECVET points at the interfaces forming the object of consideration is not visible due to the fact that they achieve no meaningful impact. Possible credit transfer processes are facilitated through the validation of learning outcomes, but not via the addition of individual ECVET points.

The project heads recommend including ECVET points in a revised EU Recommendation as an optional technical specification of ECVET which can be deployed in accordance with national general conditions.

With regard to the term “credits for learning outcomes”, alternative translations should be discussed mainly in order to avoid confusion between the ECVET points and “Leistungspunkte für Lernergebnisse” (current translation). It would be better to translate the English word credit with “Guthaben” (credit balance) or “Vertrauen” (trust) and to view it as such within the context of validation and recognition. The recognition of learning outcomes can be the equivalent of a “credit balance” that leads to a shortening of training periods or to admission to the final examination in special cases and in both instances is cashed in with the passing of a formal final examination.

3. Summary

ESyCQ has made a contribution towards piloting ECVET within the framework of the German vocational education and training system. An approach has been developed that can be used for the validation and recognition of informal learning and for the creation of transitions in vocational training. The aim of shortening training times or of gaining admission to the final examination in special cases could be achieved in this way.

ECVET permits the creation of transparency regarding learning outcomes, the generation of credibility and the establishment of trust. The crucial factors in these processes are the definition of units of learning outcomes, clear evaluation procedures and the documentation of such evaluation procedures, particularly in a personal transcript of records. To this extent, ECVET should not be viewed as a rigid system that can be used as a template in any national framework and in the same way in any application context. The experiences gained from ESyCQ indicate that ECVET should be viewed as a “tool box”, whereby different models of different ECVET tools are needed depending on the “construction site”, although all follow the same quality characteristics at all times.

The ESyCQ project heads believe that the design of competence oriented training regulations and of examination fields that are aligned towards units of learning outcomes should be viewed as important steps that can facilitate permeability and transitions in the vocational education and training system. The focus would not be on abolishing curricular standards and viewing “training profiles as pure mappers of occupational practice” (FROMMBERGER, 2012, p.7). Within the scope of the final examination, the units of learning outcomes can be viewed as requirements that need to be demonstrated in the examinations. Within this process, consideration can be accorded to a useful bundling of units of learning outcomes. This approach aims to achieved extended transparency of the requirements of examinations whilst pursuing the parallel objective of finding possible starting points for transitional processes and permeability.

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2get1care

Development of curricula that conform with ECVET for training in the fields of geriatric care, occupational therapy, speech therapy and physiotherapy and of a core curriculum and continuing training for teaching staff

Andreas Fischer / Katharina Stratmann / Stephanie Jandrich-Bednarz / Sebastian Flottmann

1. Background

Occupational profiles in specialist healthcare occupations (geriatric care, occupational therapy, speech therapy and physiotherapy) find themselves in a state of constant development as the clinical fields of work in nursing and therapy professions becomes ever more complex. Those working in the various healthcare occupations require the ability to apply their wide-ranging competences in relatively complex work situations. They need to identify the physical, mental and social needs of people and apply this information in areas of activity such as nursing care, prevention, treatment and advisory services. Interdisciplinary and evidence-based work and life world and participation orientation are key terms that may be understood as a joint reference framework for all the specialist disciplines involved. The task of the vocational schools or of the vocational education and training courses is to promote the development of relevant competences in the trainees and to prepare them for professional tasks and requirements.

2. Aims of the project “2get1care”

The aim of “2get1care”²⁹ is to find out the extent to which comparability of vocational training units in the specialist healthcare occupations can be improved by the use of ECVET. It also aims to deliver initial indications as to how far ECVET can be used for the fostering of lifelong learning and of inter-professional mobility in the healthcare professions.

The training provider maxQ., which offers training in a large number of healthcare occupations, investigated the ECVET instruments within the scope of the training courses offered at one of its (training) locations in order to discover how competences for interdisciplinary cooperation between the occupations of geriatric care, occupational therapy, speech therapy and physiotherapy can be strengthened. The planned method was the development of an interdisciplinary core curriculum for these occupations. The basic idea was to add ECVET oriented learning outcomes to the curricula of the four occupations and identify the potential joint proportions for the core curriculum. The next stage involved structuring the learning outcomes of the core curriculum and the occupationally specific curricula into units of learning outcomes. Consideration needed to be accorded to the various professional laws and Recommended Training Guidelines for the four occupations during this process. This now served as the basis for the identification of joint teaching contents, the modularisation of these into units of learning outcomes in accordance with ECVET and the adding of learning contents and learning outcomes (see Figure 1).

²⁹ www.2get1care.de

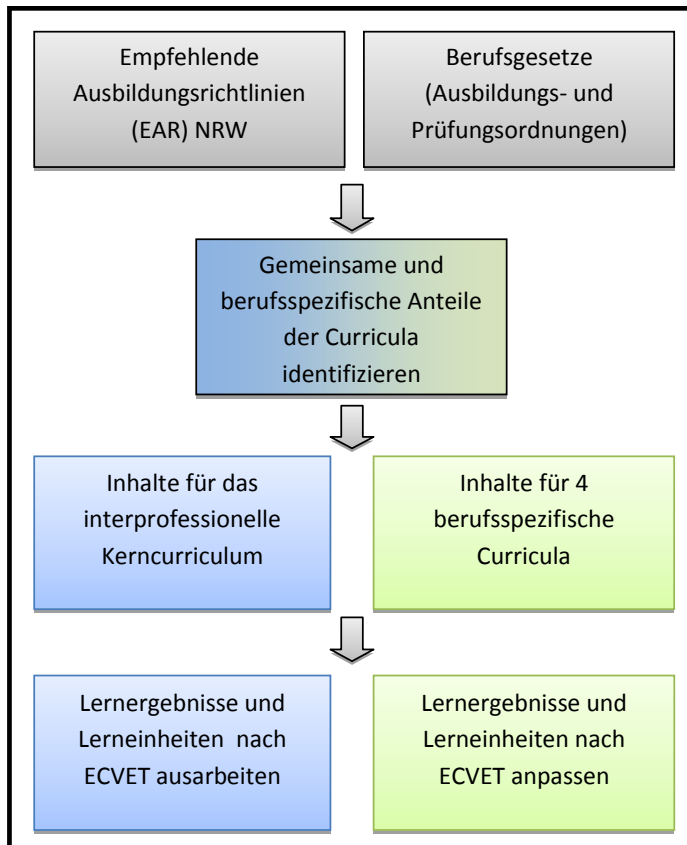


Figure 1: Development of the curricula

A further aim of the project was the development of a continuing training concept in accordance with ECVET principles for teaching staff in the healthcare professions³⁰. This enables teachers to implement ECVET and in particular the competence orientation associated with the introduction of modularised learning outcomes in teaching and in examination situations.

The development process for the continuing training was characterised by a high degree of readiness to cooperate by the practitioners affected. The research phase, which was supplemented by surveys of teaching staff and experts, was followed by the drawing up and modularisation of units of learning outcomes.

In the continuing training, the reference to ECVET is exhibited at two levels.

- The ECVET instruments (learning outcome orientation, description of learning outcomes in the form of knowledge, skills and competences), the formation of units of learning outcomes and the issuing of ECVET points were applied in the design concept of the continuing training.
- The various ECVET instruments form an object of the continuing training, meaning that participants are themselves put into a position to implement these in their teaching or in the curriculum development of the respective training course.

³⁰ <http://www.maxq-nrw.net/index.php?id=438>

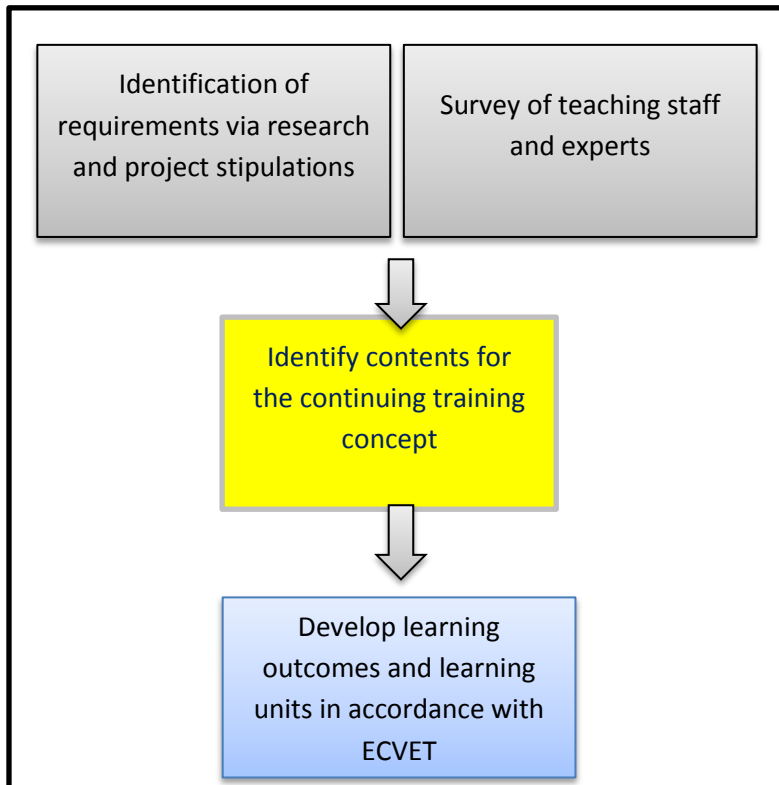


Figure 2: Development of continuing training

The core curriculum, training curricula and continuing training concept components were developed within the following project phases.

1. Design concept: development of four curricula in accordance with ECVET with a core curriculum and specialist continuing training for teaching staff
2. Piloting: training of teaching staff, implementation of the core curriculum
3. Evaluation: evaluation of the implementation
4. Review: Revision of the curricula and of the continuing training concept

3. Stages in development of the core curriculum

The detailed development of the inter-professional core curriculum will be presented below as an example of the work undertaken in the 2get1care project. The core curriculum is the centrepiece of the project and offers an opportunity to consider the ECVET principles and project aims in compressed form.

3.1 Definition of contents and learning outcomes

The first step was to identify similar cross-occupational contents from the professional laws and Recommended Training Guidelines. It emerged that subjects that are formally similar and contents from the various occupational groups can lead to learning outcomes that differ strongly. Learning outcomes and competence levels were then determined for these contents. Finally, those contents that lie at a similar competence level and can lead to learning outcomes capable of interdisciplinary use were stipulated for the core curriculum. This stipulation process took place in close conjunction with the directors and lecturers at the participating schools and with an academic researcher from the institute of higher education involved in order to ensure the practicability of the core curriculum. During the course of this process, the core curriculum received a clearer profile.

The core curriculum

- designates the intersection of occupationally specific contents that describe interdisciplinary fields of action;
- is taught in an interdisciplinary manner in joint units of learning outcomes in some areas;
- contains the learning outcomes which are applied within professional practice in interdisciplinary settings of similar complexity (= similar skill level) and which are therefore capable of examination in similar examination situations;
- aims to strengthen the interdisciplinary activity of participants in the training courses involved.

3.2 Composition of modules (units of learning outcomes) and monitoring learning outcomes

In the first stage, a large number of relatively small learning units was determined. Because the desire was to monitor learning outcomes at the level of the learning units, the time and cost of examination would have been very considerable. Two strategies were available to resolve this problem.

- Creating learning portfolios in which the learning outcomes are recorded in differentiated form and on the basis of which lecturers confirm individually the knowledge, skills and competences acquired.
- Create larger units of learning outcomes (modules), in which a large number of learning outcomes is combined for evaluation in examination situations. These examination situations must be appropriate to the qualification level aimed at.

The small-scale monitoring of individual learning outcomes via a learning portfolio did not appear to be the right route to pursue in order to do justice to the essential nature of the occupations and the desired qualification level.

Consolidation of the learning units to form modules was carried out. Following this, complex examinations appropriate to the qualification level were developed in order to test these modules. On the basis of the analysis of the work situations in which the competences need to be deployed and via the analysis of published skills profiles, it became clear that EQF level 4-5 should be aimed at for the modules.

3.3 Structure of the core curriculum

The core curriculum received the following structure.

- In the interests of clarity, thematically linked learning units are combined to form modules (units of learning outcomes) and learning fields.
- Each module is a complete thematic area in itself which is jointly examined.
- Each module can be sub-divided into smaller learning units which are not examined individually.

Based on the Recommended Training Guidelines of the State of North Rhine-Westphalia, the core curriculum was divided into the following learning areas:

1. therapeutic and geriatric care core tasks;
2. target groups and general conditions of therapeutic and geriatric care work;
3. training and occupational situations in geriatric care, speech therapy, occupational therapy and physiotherapy;
4. pathology/case work.

Modules were aligned to every learning field and in turn differentiated into learning units. The learning units are simply and clearly structured and contain the scope of study, the learning outcomes and contents and an indication of the relevant units from the Recommended Guidelines in

order to facilitate the transition from the Recommended Training Guidelines to the core curriculum for the learners.

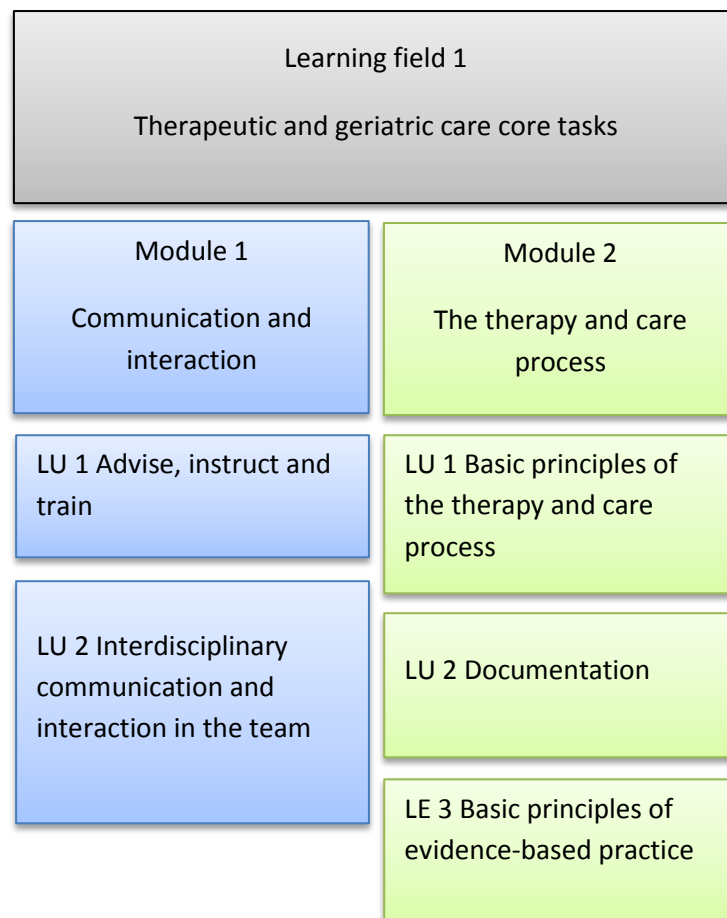


Figure 3: Structure of the core curriculum

3.4 Experiences with the core curriculum

The idea of teaching the core curriculum at the start of training in order to aim at professional specialisation later in the course did not prove to be viable. In terms of time, the units of learning outcomes of the core curriculum are distributed across the entire training. This does not constitute any further problem for the participating schools, which are located under the same roof.

In principle, the use of ECVET would simplify the recognition of vocational education and training towards a further training course. However, because the elements of training to be accorded recognition are frequently scattered across the entire period of training, this would not in practical terms neither lead to a shortening of training nor to a “reduction” in the second training course. The only advantage for those participating in a further course of training could be that such a second course of training involves a lesser workload.

The introduction of the core curriculum is only possible with the close collaboration and agreement of the participating schools. Recognising the potential of the core curriculum and implementation require time and a high degree of commitment on the part of those involved. Although the results of the evaluation of the core curriculum are not yet available in full, an interim conclusion permits interdisciplinarity in particular to be highlighted as a positive aspect. The focus here is expressly on joint learning and interprofessionality as a specific object of teaching rather than merely on the joint

learning outcomes and learning contents. During the daily school routine, both teaching staff and learners from the four occupational groups perceive the benefits that interdisciplinarity brings. These include, for example, preparation for interfaces in professional practice and acting as a challenge to professional identity. Not the least of these benefits is the fact that the possibility of horizontal inter-professional mobility as intended by ECVET is also demonstrated by affording learners an insight into other vocational education and training courses.

4. Experiences within the project with regard to the ECVET instruments

4.1 Skills profile

In Germany, skills profiles are only stipulated in broad terms by the professional laws and Recommended Training Guidelines in place³¹. These profiles are, however, only partially competence oriented and do not contain any learning outcomes. In Germany, training for the healthcare occupations exists both at vocational school and higher education level. A differentiated skills profile for the occupations is desirable, in particular in order to delineate higher education and vocational school training from one another. In order to facilitate a rapid response to new developments, the skills profiles should be established on a recommendatory basis in a similar manner to the “Recommended Training Guidelines” rather than being stipulated at the level of laws.

Although no skills profiles for overall training were drawn up within the scope of the 2get1care project, they exist in the form of the profiles developed by the professional associations ENPHE – European Network of Physiotherapists in Higher Education³², ENOTHE – European Network of Occupational Therapists in Higher Education³³, CPLOL – Comité Permanent de Liaison des Orthophonistes/Logopèdes de l'Union Européenne³⁴) and by the world associations. These should be taken into account in the individual development of skills profiles.

4.2 Learning outcomes

A large number of guides exists for the formulation of learning outcomes³⁵. The learning outcomes exhibit the most easily visible benefit within the set of ECVET instruments. The process of the definition of learning outcomes requires a clear analysis of the area of professional deployment and associated competences and leads to training that is clearly practically oriented.

Although the Training Guidelines for the healthcare occupations issued by the individual federal states are modularised into learning and partial learning areas in some cases (see Recommended Training Guidelines of the State of North Rhine-Westphalia), they have not defined any learning outcomes. It is, however, relatively easy to expand the Training Guidelines by adding learning outcomes and thus enable them to be viewed as a useful instrument to adapt subject oriented professional laws to learning outcome and competence oriented training courses in accordance with ECVET.

4.3 Units of learning outcomes/modules

In the 2get1care project, units of learning outcomes are designated as modules in order to simplify delineation from learning units. The structure of the units of learning outcomes is dependent on the qualification level required and vice versa. The development of units of learning outcomes, learning outcomes and forms of monitoring for the units of learning outcomes are processes that exist a reciprocal effect. In the core curriculum, a bottom-up approach was adopted towards the stipulation of the modules in order to start by forming learning units that were then given a modular structure.

³¹ http://www.mgepa.nrw.de/pflege/pflegeberufe/ausbildung/richtlinien_und_handreichungen/index.php

³² Vyt, A., Ven, A. (2007): Competence Chart of the European Network of Physiotherapy in Higher Education, Garant Uitgevers, Antwerp

³³ http://www.cs.urjc.es/cndeuto/docs/Competencias_TO_ENOTHE/Competencias_Especificas.pdf

³⁴ http://www.cplol.eu/eng/profil_professionnel.html

³⁵ http://www.ecvet-info.de/_media/Leitfaden_zur_Formulierung_von_Lernergebniseinheiten.pdf; www.hrk-nexus.de/themen/studienqualitaet/arbeitshilfen-zu-lernergebnissen/

4.4 Credit points

Credit points were not stipulated in the project. From the point of view of the project participants, the stipulation of 30 hours of workload per ECVET credit point seems useful alone in terms of achieving easier comparability with the ECTS system. Although it is perfectly possible to identify the workload of pupils via survey, the average workload thus determined can only ever be an abstract value. When modern learning methods with a relatively high proportion of self-learning phases or self-directed learning are used, mere documentation of lecturer based teaching without an indication of average workload would not be useful.

4.5 Evaluation of learning outcomes (assessment)

Wide-ranging experiences are in place regarding the methodology of the evaluation of learning outcomes.³⁶ It is useful to monitor learning outcomes at the level of modules. Assessment needs to be designed in accordance with the qualification level of the unit of learning outcomes and of training as a whole. In the case of the healthcare occupations, the relevant training courses in geriatric care, occupational therapy, speech therapy and physiotherapy lie at EQF levels 4 and 5. Monitoring needs to relate to the areas of knowledge, skills and transfer into complex situations. Learning outcomes oriented assessment leads to an optimisation and higher occupational relevance of the tests with regard to the later professional area of activity. Because of the higher degree of complexity, monitoring at the level of modules thus relates directly to subsequent professional activities (e.g. Application of treatment procedures, conducting case discussions).

In Germany, a competence assessment at the level of units of learning outcomes cannot as a matter of principle provide a replacement for regulated final examinations. The statutory foundations take priority and must be complied with. Vocational education and training is viewed as an integrated educational concept, whereby teaching time and final examinations are equally important in terms of achieving the degree of training. In accordance with the German professional laws for the healthcare occupations, the final examination is an integral component of overall training. The final examination extends to cover all skills and knowledge learned in the company or during the practical phases and the teaching material imparted at (vocational) school. Those completing training are only awarded a certificate and final qualification upon passing the final examination.

It is, however, perfectly possible for the statutorily regulated final examination to be turned into a form that logically fits into learning field or learning outcome oriented curricula and that examines and maps competences from all competence dimensions. This is a route currently being pursued in the case of the healthcare occupations in North Rhine-Westphalia (see also WERLING 2011).³⁷

4.6 Validation and recognition of learning outcomes

No formal recognition (validation und recognition) of the learning outcomes of pupils by the individual discipline based schools was planned within the scope of the project due to the fact that all participating schools are operated by the same provider and the integrated module form an integral component of all four training courses. Instead, we explain below how ECVET can be applied in principle within the occupational area and the role which can be adopted by recognition in this regard.

- **Effect on horizontal mobility**

Horizontal mobility within training (such as in the case of practical placements abroad) can be strengthened by formalised recognition procedures. It is conceivable that the procedure for practical deployments abroad uses the comparable ECTS instruments of Memorandum of Understanding, learning agreement and personal transcript of records with subsequent

³⁶ <http://www.ecvet-projects.eu/Seminars/SeminarDetail.aspx?id=46>

³⁷ http://www.mgepa.nrw.de/mediapool/pdf/pflege/pflege_und_gesundheitsberufe/altenpflegeausbildung/NRW-Pruefungsverfahren_Altenpflegeausbildung-09-2006.pdf

recognition of the respective components of training with the approval of the supervisory authorities.

Restrictive sets of regulations are in place for horizontal mobility between different training courses. In Germany, the professional laws for healthcare occupations stipulate that the whole of training including state examinations must be completed within three years. Recognition of components of another training course would therefore only be possible within the scope of exceptional approval. This means that horizontal mobility between different training courses is not improved by ECVET due to the fact that training in the healthcare occupations is strongly regulated by the professional laws.

- ***Vertical mobility: ECVET instruments in the structuring of vocational school and higher education cooperation agreements (dual courses of study)***

The actual identity of the instruments of ECTS and ECVET is very useful at this point. In ECTS, the use of learning outcomes, units of learning outcomes (modules), credit points, Memorandum of Understanding, learning agreements, transcript of records has been in place for years with identical terminology in some areas. This means that the instruments are capable of reciprocal use.

One variation is already in place outside the scope of the “2get1care” project at the Osnabrück University of Applied Sciences, where this idea has been implemented to the effect that a joint learning outcomes oriented curriculum exists for higher education, vocational school and practical parts of the training which is fully modularised and in which all modules are assessed and documented in a joint transcript of records.

- ***Vertical mobility: recognition of vocational school achievements for higher education training courses***

A resolution adopted by the Conference of the Ministers of Education and Cultural Affairs in the Federal Republic of Germany limits recognition of non-academic prior learning for a course of higher education to a maximum of 50% of the higher education course. The use of ECVET instruments would be perfectly feasible for this recognition procedure. One of the cooperation partners in the 2get1care project is running a course of higher education study³⁸ that offers those who have completed courses from certified cooperation partners a shortened course of study leading to a Bachelor degree (120 ECTS credit points, entry to the degree course in the fourth semester). Commencement of study is facilitated via a placement examination for those completing courses at other schools. Evaluation and recognition of learning outcomes would be a conceivable instrument within the scope of this placement procedure.³⁹

The learning outcomes of higher education training courses are usually located at a higher level of the EQF. The competences acquired here are mostly deployed in significantly more complex work contents and involve a higher degree of autonomy. This usually restricts direct crediting of learning outcomes. Precise knowledge of prior training and of the institution providing this training are therefore indispensable to be able fully to understand the learning outcomes described. For this reason, various institutions of higher education have formed a close network of cooperating schools, in which the qualification of the vocational school partners is ensured in various ways (certification, skeleton curricula, training for practical instructors etc.⁴⁰).

In this model, the validation and recognition of learning outcomes on an individual case basis is not necessary due to the fact that the cooperating schools are certified via the institute of higher education and the whole training is recognised in overall terms.

³⁸ <http://www.wiso.hs-osnabrueck.de/ergotherapie-logopaedie-physiotherapie.html>

³⁹ <http://www.wiso.hs-osnabrueck.de/elp-bsc.html>; <http://www.wiso.hs-osnabrueck.de/pflege-bsc.html>

⁴⁰ http://www.ecvet-info.de/media/Zertifikat_DE.pdf

4.7 Learning agreements)

Learning agreements were not necessary within the scope of the project because all participating schools belong to the same provider and are involved in the joint development of the units of learning outcomes. There is, however, no reason why learning agreements cannot be used with further new project partners.

4.8 ECVET partnerships

New partnerships were not entered into in the project. The schools belong to the same provider. A partnership with a cooperating institute of higher education has been in place for some time independently of the 2get1care project.

4.9 Transcript of records

No specific personal transcript of records has thus far been developed. A collation of the units of learning outcomes and learning outcomes would be the next step. Possible solutions for transcripts of records exist⁴¹.

5. Summary

The 2get1care project was able to develop a learning outcomes oriented core curriculum for the healthcare occupations of geriatric care, occupational therapy, speech therapy and physiotherapy. The core curriculum acted as a vehicle for strengthening interdisciplinary teaching and cooperation between the participating training occupations. The introduction of learning outcomes oriented curricula leads to a deeper understanding of the professional competences required within the field of activity. The competence of teaching staff and their ability to foster this competence in a targeted way during training were also strengthened. The whole of the examination structure needs to be adapted to the learning outcomes orientation. Although account needs to be taken of existing professional laws and guidelines under federal state law during the developments, they offer the necessary leeway for healthcare occupations to make the ECVET instruments deployable and to facilitate a certain degree of horizontal mobility, particularly during the practical part of training. In the specific case of this project, the learning outcomes oriented core curriculum provided an opportunity for a tangible improvement in the interdisciplinary competences of the participants. Continuing training for teaching staff acts as an additional part of the project in supporting the process of interdisciplinary competence development and expands such a process by dint of the fact that participants also develop methodological and didactic competences for learning field and learning outcomes oriented teaching in the specialist healthcare occupations.

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⁴¹ http://www.ecvet-info.de/media/Zertifikat_DE.pdf

The MENEVET project – French Ministry of Education

Martine Paty / Marthe Geiben

1. Introduction to the project

1.1 Background

France is attached to the development of transnational mobility for young people as well as European and international opening of schools.

This willing was particularly underlined under the French Presidency of the EU Council in 2008 (see Conclusions of the Council and of the Representatives of the Governments of the Member States, meeting within the Council of 21 November 2008 on youth mobility).

Various measures have been taken to develop this opening, eg for language learning.

Nowadays, many schools, including those providing vocational training, are involved in European and international actions and youth mobility projects.

For example, some young people in IVET preparing a VET qualification delivered by the ministry of Education carry out mobility periods within a foreign context such as a company.

Mobility experiences are very valuable for pupils and teaching staff, although they are often complex to organize and implement, due to various reasons including administrative, financial, pedagogical, linguistic difficulties... These mobility periods are based on partnerships between learning organizations and require specific preparatory, accompanying and monitoring schemes and documents...

1.2 Purpose of the project

The ministry of Education decided to involve in a specific European project in order to study how the ECVET principles - established by the 2009 European recommendation - could be implemented in the French context in order to enable learners preparing for a vocational qualification delivered by the ministry to carry out a European mobility period and obtain recognition of their learning outcomes : how can the ECVET principles be taken into account and provide "and added-value", compared to the already existing mobility actions.

The idea was in particular to examine how to implement an assessment in a foreign learning context and how to implement the recognition of the learning outcomes – assessed abroad - in the certification, without complicating mobility developments since ECVET should support mobility, and not make it more difficult.

The MENEVET project was consequently elaborated: it started in 2011 and will end in 2013.

This is a research project focused on the French State Education system's core vocational qualification which is the vocational *baccalaureate* (French Level 4, corresponding to Level 4 of the European Qualifications Framework). The chosen approach for this project was systemic and transversal : five sectors have been selected as a basis for studies (Customer services, Secretarial, Health care and services, Electrical engineering, Construction).

It should be here specified that the ministry is responsible for designing and delivering various VET qualifications such as the vocational baccalaureate (4 EQF) or the certificate of professional aptitude (3 EQF).

The ministry offers approximately 500 “specialties” for those vocational qualifications.

These qualifications have a national value and are designed – for each specialty - with the economic and professional world. They are accessible through IVET, CVET and through recognition of prior learning (informal-non formal learning).

MENECVET is jointly led by the Ministry and the “Centre International d’études pédagogiques”. It is also supported by a scientific committee composed of three partner organizations from Belgium (Centre for Coordination and Management – Ministry for the French Community in Belgium), Germany (BIBB) and Spain (Generalitat de Catalunya), as well as three French partners (The Ministry of Labour, the Assembly of French Chambers of Commerce and Industry, the Centre for Studies and Research on Qualifications - CEREQ).

The project consists in 4 main phases intended to examine the French principles - regulation and organization - concerning VET qualifications, and compare them to the ECVET technical specifications.

The project will result in recommendations for the national level:

- Recommendations concerning the writing of qualifications;
- Recommendations concerning the transfer and recognition of LO achieved and assessed through a transnational mobility;
- Recommendations concerning points.

2. Content and phases of the project

The project has been structured in 4 main phases:

- 1/March to December 2011 – analysis concerning the **legibility of vocational qualifications**, compared with the ECVET technical specifications, especially regarding “units of learning outcomes”;
- 2/January to September 2012 – analysis concerning **transfer** of learning outcomes: under what conditions could we organise the recognition of learning outcomes assessed abroad, as foreseen in the ECVET Recommendation;
- 3/August to December 2012 – analysis concerning the allocation and use of **points**.
- 4/January 2013 – April 2013 (extension of 6 months from February) – conclusions of the project and national recommendations

2.1 First phase of the project – legibility of vocational qualifications

In the first phase of the project, the content of the five vocational qualifications selected for the project were analysed and compared with:

1. The national framework concerning the design and description of vocational qualifications = the “education code” which sets the regulatory framework and the National guide concerning development of vocational qualifications.
This national framework states that each VET qualification should be described with the following structure and documents :
 - a professional activities standard which describes the activities and tasks that a holder of the qualification will be able to carry out;
 - a certification standard that describes the professional and general competences that the qualification holder should have. This covers in particular the description of competences using active verbs and precisions concerning the conditions in which those competences as well as the associated knowledge are to be realised.

- It should be noticed that those standards do not include indications about modalities of learning⁴², nor about the duration of the learning that can lead to get the expected competences. Those professional and general competences are grouped into several units that are listed.
 - documents concerning assessment: they define the conditions/terms and modalities of assessment of each unit.
2. The ECVET technical specifications regarding qualifications and units.
The results of the conducted analysis are summarized here:
- With regard to the first component of French qualifications, the **professional activities standard**, this element is not part of ECVET technical specifications. But in the description of French vocational qualifications this is a core element of the qualification design. Based on indications from the economic and professional bodies, it describes the objectives of the qualification – what the person holding the qualification will be capable to perform on the workplace. This description situates the qualification in the reality of the professional field. It sets the basis for understanding the remaining aspects of the qualification and enables discussions about the qualification with stakeholders in France but also partners from other countries. It also gives a clear reference for the assessment of learning: this component of the French qualification framework seems to be then an important element in the perspective of recognition of learning outcomes (LO) achieved and assessed abroad.
 - The **certification standard**: declined from the previous part of the qualification description, this standard defines the competences as well as the associated knowledge that the qualification holder should have. Those are grouped into units which are coherent with regard to the whole qualification. The analysis then showed that the French units are units of LO. Concerning the description of those LO, the national framework does not distinguish between the terms knowledge, skills and competence (*see ECVET definition of learning outcomes*) but instead use the terminology of competences, aptitudes and capacities as well as associated knowledge: competences are seen as combinations mobilizing knowledges and know-hows. The French terminology is not in contradiction with the European one. But the analysis of the five qualifications selected for the project showed that there can be semantic differences among qualifications: this semantic aspect will then have to be clarified, specifically in the perspective of a new National guide concerning development of vocational qualifications.
 - The **assessment documents** systematically contain:
 - The assessment regulation which defines how units will be assessed, the assessment mode (e.g. oral, written or practical) and their coefficient (a coefficient gives the relative weight of each unit);
 - Definition of assessment situations for each unit (list of competences to assess, assessment criteria, duration of the assessment situation, etc.);
 - The possibility to assess the unit through either a one-off final assessment or continuous assessment. Continuous assessment takes into account the assessment made on the workplace. The conditions of continuous assessment (objectives, duration, context – place) are also described in the standard.

⁴² VET qualifications can be obtained by pupils in IVET, by adults in CVET or through the “recognition of prior learning” scheme, designed to recognize non formal and informal learning.

- Compared with ECVET specifications, this means that there is a clear framework for the assessment per unit that leads to certification.

In summary, the first phase led to the following temporary conclusions:

- ✓ the fundamentals concerning the national framework are close to the ECVET specifications concerning units : definition of learning outcomes in qualifications, grouping of LO in units, assessment framework per units and for the whole qualification ;
- ✓ the analysis of specific qualifications showed also the need to clarify certain aspects : review and/or deepen and precise the definition of the concepts (activities, tasks, competences), eliminate terms and "parasites" considerations that gradually led to make qualifications reading a bit complex ;
- ✓ deepen the regulatory, operational and human conditions enabling an extension of the « shared assessment » practices.

2.2 Second phase of the project: Recognition of LO achieved and assessed abroad

In this phase, the project core team interviewed practitioners who took part in earlier ECVET mobility experimentations on VET qualifications delivered by the ministry.

These people were interviewed about their methods of testing ECVET, the solutions as well as difficulties, in particular regarding the subject of transfer and recognition of learning outcomes.

Working groups were then set up, in order to analyse, for each of the 5 qualifications chosen for the project, possible scénariis allowing transfer and recognition of LO and necessary conditions.

The work led to the identification of two possible options for the introduction of a recognised mobility period:

- Option 1 - Achieving part of a unit abroad

All VET qualifications are built into units, and a learner can be delivered a whole qualification only if each unit of the qualification he wishes is assessed. Those units can be assessed through final assessments (on completion of full programmes – hence not much compatible with short mobility periods) or through several continuous assessments. This last procedure is the basis for the first option. Continuous assessment means that the learner undergoes several assessments for one unit (the number and nature of these assessments is defined in the qualification standard) during his/her pathway.

Theoretically, it would hence be possible to organise one of the continuous assessments attached to a specific unit in a foreign country. Even though, this would require adjustments in the current regulations.

- Option 2 - Designing and recognising an optional unit which would certify the acquisition of competences specific to mobility.

The possibility of ‘optional units’ already exists in the French system. It is relatively wide-spread in the general education leaving certificate (*Baccalauréat Général*). Though also possible in VET, in practice the use of optional units in this sector of education is rare. This optional unit would be a transversal unit for all vocational Baccalaureates (not specific to any given qualification) and would certify that a person has achieved the competence to orientate himself/herself in a foreign professional environment.

The development of this option needs further analysis and fine-tuning, the main challenge being the need to identify a clear and unambiguous set of competences which can be assessed rigorously and in an objective manner.

Those 2 options could be combined in the ECVET implementation perspective.

2.3 Third phase of the project: The allocation and use of points.

An analysis was led about how the ECVET Recommendation suggests to use a points scheme, how the French system is organised concerning the relative weight of units composing a qualification and how the French system uses points.

This analysis included simulations for the transposition of French points to ECVET points.

The whole work led to different statements : The French VET qualifications are built in units, each unit having a specific weight expressed through a numerical system. This expression could maybe be improved.

The French organization also includes the use of points for assessment.

The analysis led to conclude that the use of ECVET points would bring complexity and is therefore questioned, regarding the already existing French scheme concerning points.

Conclusion

The project will lead to final conclusions that will need to be transformed into regulations. Those conclusions are being written at the moment.

3 A friend’s view on MEN-ECVET: MEN-ECVET seen from a German perspective

3.1 Comparison of MEN-ECVET and the German projects presented in the WDP

If we look to the structure and the partnership of MEN-ECVET we can see clearly differences to the German projects presented in this paper: Firstly, there are different partners with a different level of influence within the national educational system. Secondly, the approach of the project is different to the German one.

The participating bodies have influence on national level on the building of diplomas and curricula. Therefore, a nation-wide influence on the structure of the formation in the targeted occupational profiles could be possible. But this is not only due to the participating bodies but also to the structure of the project. Aim is the theoretical analysis of the nature and structure of vocational qualification and its possible links to the references of ECVET. So here we find an approach that applies to the national frameworks of selected qualifications. In a top down approach, this enables to launch changes in France as a whole whereas in Germany, projects focus on regional networks and projects and therefore represent rather bottom-up approaches that firstly have to reach the top with lots of bureaucratic pitfalls to pass before ending on a national level.

Concerning the approach of the project and its aims, we can see that the German projects aim at testing the ECVET instruments in specific situation and at specific transition points within the educational system. However, the starting point of the French project is on a systematic level of the educational system itself. Here we have an analysis of the structure and creation process of diplomas and curricula.

Both differences lead to advantages and disadvantages at the same time for the project MEN-ECVET. At the one hand, decisions within the project are sure to be realized within the limits of the selected occupations. Furthermore, the possibility for an enlargement on other occupations is quite high, due

to the national level of work. On the other hand, the test of the recommendations and its suitability for daily use is hard to test and therefore the adequacy and feasibility can be proved only afterwards.

3.2 ECVET and MEN-ECVET within the limits of the French educational system

To reflect the results of MEN – ECVET it is important to reflect its results and possible influence within the French educational system. Therefore some basic questions have to be considered: Do the results lead to possibilities of recognition and validation of learning outcomes? Is it possible to transfer learning outcomes and to higher the transparency of qualifications and qualification frameworks?

Looking to these aspects we can state that the ECVET instruments and the discussion on these instruments have led to many positive changes and inputs on the system within the analysed occupations.

In a first step, the legibility of the French diplomas has been checked and the need of transparency in contact to other countries and to other professions or diplomas has been detected. This is an important step to generate comparable understanding of diploma and qualification which is an essential base for transfer of acquired knowledge and mobility. Furthermore the analyse of the learning units already existing in France shows that some elements of the ECVET instruments are already existing in a certain way and only needs to be adapted according to the contents and / or the wording (e.g., a stronger orientation on the learning outcome in formulating the units). Nevertheless, the connection to the ECVET instruments is possible and in some cases already done. The fact that the credit system has been checked but not been implemented shows that the ECVET instruments has to be seen on the background of the existing national system of general and professional education. In the case of MEN-ECVET, the working groups discovered two different possibility of assigning points to learning. Nevertheless they decided not to implement these points and credits at that time. One important reason is that these points would have no connection points within the French educational system and the information value of these points and credits would not deliver any comparable information to other institutions in France or outside of France. But there has been the awareness that it is important to create or (re)formulate certificates and diploma in a way that they can be understood and that the results can be put in a context. Thus they came to the conclusion that the results must be written in a way that is understood not only inside the system but also between different systems, on national as well as on international level. One solution could be e.g., to name not only the points received within the examination but also the maximum of possible points and to explain the minimum of points needed to get the qualification or the diploma.

In this way, the results of MEN-ECVET can help to find ways that national certificates can be formulated in a more transparent way. This is one way to foster the comparability and the comprehensibility of certificates across borders. And this is an important path towards better possibilities for a mobility of persons within educational systems but also in the labour market.

Credit Transfer in Germany: ECVET meets BBiG

Christiane Eberhardt / Silvia Annen

The intentions and objectives formulated in ECVET (European Credit System in Vocational Education and Training) are ambitious. For some time, a large number of European projects have been piloting the use of ECVET for transnational mobility purposes. Published project and experience reports indicate that mobility measures can be planned and implemented in a more effective, quality-assured and rigorous way if the design principles of ECVET (units of learning, assessment procedures, memorandum of understanding, learning agreement) are brought to bear.¹

As to the use of ECVET in the national system – at least in Germany – the conclusion seems unlikely to be so clear-cut. The objective of bringing ECVET into additional use in national systems, in order to “*facilitate the transfer, recognition and accumulation of assessed learning outcomes of individuals who are aiming to achieve a qualification*” (EUROPEAN COMMISSION 2009, C 155/12) goes beyond the educational purpose that informed the design principles of ECVET and strikes at the heart of the national organisation of vocational education and training (VET). The Recommendation of the European Parliament and the Council to introduce a European Credit system in Vocational Education and Training (ECVET) calls upon Member States to

“create the necessary conditions and adopt measures, as appropriate, so that as from 2012 – in accordance with national legislation and practice, and on the basis of trials and testing – it is possible for ECVET to be gradually applied to VET qualifications at all levels of the EQF, and used for the purpose of the transfer, recognition and accumulation of individuals’ learning outcomes achieved in formal and, where appropriate, non-formal and informal contexts” (EUROPEAN COMMISSION 2009, C 155/13)

The present article highlights the tensions between existing system conditions, European targets and national reform pressures. We take our lead from the questions raised in the text of the Recommendation:

- What is actually meant by “VET qualifications”?
- What constitutes national legislation and “practice” in Germany?
- What understanding of credit and recognition underpins the procedures?
- To what extent are the objectives of credit, recognition and accumulation compatible with Germany’s “national legislation”?

1. The background: concept of the recognised occupation, “dualities” and steering by the German federal government and the German federal states (Länder)

Vocational education and training in Germany is characterised by a series of principles. The tensions between European targets and the conditions of the national system are clearly brought to light when the main focus of study is directed to the constitutive elements of German VET – the “concept of the recognised occupation” and “dualities”. Whereas the concept of “dualities” calls attention to the steering mechanisms for the organisation of vocational education, the “concept of the

¹ In this regard cf. articles in Issue 132 of the Wissenschaftliche Diskussionspapiere (Academic Research Discussion Papers) of the Federal Institute for Vocational Education and Training (BIBB), URL: <http://www.bibb.de/veroeffentlichungen/de/publication/show/id/6829>, the website of the German National Contact Point ECVET <http://www.ecvet-info.de> and the articles by KÜßNER/SCHÖPF, ÖHBERG/MARTESSON and MÜLLER in this volume.

recognised occupation” makes reference to the underlying design principles and the structure of qualifications.

The principle of the recognised occupation (*Berufsprinzip*) refers to “a universal principle for the regulation of initial vocational training content and qualification standards” (REULING, 2000). It is anchored in the Vocational Training Act (*Berufsbildungsgesetz*, BBiG)² and expressed in the form of recognised training occupations. “Recognised occupations” (*Berufe*) are both education-related and employment-related constructs (BENNER 1995 in REULING 2000) which structure and regulate the labour market.

Vocational education and training is geared towards securing the educational process aimed at the achievement of all-round “occupational proficiency” (*berufliche Handlungsfähigkeit*) and taking trainees/learners through to final certification in a recognised training occupation. It is this objective, i.e. obtaining a recognised occupation and being awarded the status of a skilled worker or employee, to which German VET (including all four (sub)sectors) is dedicated. Under the terms of the Vocational Training Act, the concept of “vocational education and training” comprises the areas of vocational preparation, initial vocational training, advanced vocational training and vocational retraining. The objective of each area is described in Section 1, paras 1-4, BBiG:

- **Vocational preparation** aims to impart basic skills for the acquisition of occupational proficiency and thus facilitate placement in initial vocational training.
- **Initial vocational training** imparts, through a systematic training programme, the skills, knowledge and capabilities (occupational proficiency) necessary in order to engage in a qualified occupational activity in a changing world of work. It also enables trainees to gain the requisite occupational experience.
- **Advanced vocational training** enables individuals to maintain, update and/or broaden their occupational proficiency with a view to career advancement.
- **Retraining** qualifies individuals for work in a different occupation.

The Vocational Training Act and the Crafts and Trades Regulation Code (*Handwerksordnung*, HwO) govern initial vocational education and training under the dual system in Germany. In discussions at the European level, “dual system initial vocational education and training” is often shortened to “in-company and school-based training”. The designation “dual” does not, however, refer just to the learning venues but also (and especially) to the steering of policy and the associated responsibilities. Dualities are also apparent in respect of the legislative foundations, financing issues, the design of the content, and the oversight of initial vocational education and training.

- At **federal government level** the Federal Ministry of Education and Research (BMBF) is the department that commissions the drafting or modernisation of training regulations with involvement from other federal ministries, and which subsequently issues these in conjunction with the Federal Ministry of Economics and Technology. Representatives of employers and employees organisations, the German Länder and the federal government work jointly on the Board of the Federal Institute for Vocational Education and Training (BIBB) to agree the necessary resolutions.
- The German Länder – represented by their Ministries for Cultural Affairs – are responsible at **Länder level** for general and vocational schools. In the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (*Kultusministerkonferenz*, KMK) cooperation between the German Länder (responsible for the part-time vocational schools) and the German federal government (responsible for the in-company element of training) is

² Vocational Training Act (*Berufsbildungsgesetz*, BBiG) of 23 March 2005 (Federal Law Gazette I p.931, last amended by Art. 9b of the law of 07.09.2007 (Federal Law Gazette I p. 2246)

coordinated. The German Länder are advised on VET issues at federal state (*Land*) level by their own vocational training committees made up of delegates from the social partners.

- At **regional/district level** the self-administrative organs of industry, and specifically the competent bodies, have important training functions and responsibilities:
 - They advise the training companies and monitor whether initial vocational training is being carried out in line with the law.
 - They maintain the “apprentice roll” which is the register of all training contracts.
 - They appoint boards of examiners made up of appointees from the social partners to conduct the intermediate and final examinations for initial and advanced vocational training qualifications.
 - Beyond this, they are free to pass so-called “chamber regulations” for advanced vocational qualifications, although these are only valid in their own region or district.

The diversity of stakeholders increases further when education and training subsectors outside the dual system are taken into consideration: full-time school-based initial vocational training, adult education, continuing education and higher education are provided by the Länder under their own responsibility.

Accordingly, German VET is characterised by a large number of stakeholder constellations in which – depending on subsector (vocational preparation, initial vocational training, advanced vocational training, retraining, and full-time school-based education) – different objectives and tasks have evolved. The respective interests and reference systems as well as the underlying quality criteria and standards prove relevant to the question of applying European targets in the national context.

2. The context: credit transfer as a means of improving permeability

The German education system is characterised by its “pillarisation”, but the implied lack of systemic interconnections is not confined only to the three pillars of the education system (i.e. general education, VET and higher education); it is equally true within vocational education itself, with its myriad of differentiations pertaining to learning venue (full-time school-based or dual system), function (prevocational training, gaining a vocational certificate, retraining), financing (state, private or funded by the labour administration) and responsibility (German federal government or Länder) (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2011, 2012, p. 202). Vocational career-progression models which permit advancement from prevocational training through to upgrading training or an academic degree, or “switching” between pathways and courses, are possible in principle but are fraught with structural obstacles. The educational (sub)sectors mentioned operate largely autonomously from one another and on the basis of their own quality and assessment standards. For Germany this gives rise to specific transition and “interface problems” which turn out to be critical when pre-existing credit transfer procedures or even European credit transfer systems are to be implemented.

The lack of permeability between individual educational and development pathways is the subject of a great number of publications (FROMMBERGER 2009 a and b, MUCKE 2004 and 2006), recommendations (Hauptausschuss des Bundesinstituts für Berufsbildung 1984 and 2010) and education policy initiatives. These are closely related to the political revival of the theme, which picked up new tailwind in view of the “demographic, economic, technological and educational policy challenges” (BMBF 2007, p. 11) and culminated in 2007 in “10 Guidelines for the Modernization and Structural Improvement of Vocational Education and Training” (BMBF 2007). At the core of this agenda-setting paper, improved permeability is strongly linked with the existence of credit transfer and recognition opportunities at the interfaces in the German education system, and with broader implementation of the opportunities already provided under the Vocational Training Act (BMBF 2007).

2.1 The statutory base: the Vocational Training Act (*Berufsbildungsgesetz*, BBiG).

The fact of credit transfer for educational attainment acquired elsewhere towards courses is not a new demand that has only become topical thanks to “Europe”.

Credit transfer is a matter that is anchored in the Vocational Training Act (BBiG), as reformed in 2005. It is mentioned explicitly in Section 7, BBiG (Crediting of Previous Vocational Education and Training towards the Period of Initial Training). In addition, the Vocational Training Act contains other provisions which regulate one of the objectives of credit transfer, namely shortening of the length of initial vocational training³: the said provisions are:

- Section 5 para. 4 (transfer of credit for initial training in another relevant occupation),
- Section 8 para. 1 (reduction of the period of initial vocational training based on work experience, previous periods of initial vocational training, previous school-based education or by part-time initial vocational training) and
- Section 45 para. 1 (reduction of the training period through early admission to the final examination).

A further objective of credit transfer, namely admission to examinations, is regulated in

- Section 43 para. 2 (admission to the final examination for persons who have undergone initial training at a vocational school or other vocational training facility if the qualification obtained corresponds to initial training for a recognised training occupation) and
- Section 45 para. 2 (admission to the final examination based on evidence of employment experience, initial training in a relevant training occupation, or other credible demonstration of occupational proficiency).

In this regard Section 2 para. 3 BBiG opens up the possibility that up to one-quarter of the total duration of training specified in the initial training regulations may be completed abroad if this serves the purpose of training⁴. Phases of training to be undertaken abroad are to be notified to the competent body and incorporated into the training contract. Thus, the periods spent abroad are effectively credited towards the initial vocational training period and made an integral component of initial vocational training. For the duration of the periods spent abroad, trainees must apply to their part-time vocational school for leave of absence from mandatory vocational-school attendance; the missed vocational-school material must be caught up by trainees in their own time (cf. WURSTER 2005).

2.2 The “interfaces problem” in the German education system

So although the facility for credit transfer is created by statutory provision in the Vocational Training Act, policymakers and academic researchers complain of the lack of transitions between prevocational training and initial vocational training, between school-based and dual system forms of training, between initial and continuing vocational education and training, and between vocational education and access to higher education, in addition to the lack of mechanisms for the recognition of informal learning (BMBF 2007, BROSI 2004, MUCKE 2004 etc.). The necessity of these is demonstrated by the following discussions:

³ While some commentaries on the Vocational Training Act prefer to differentiate between “credit transfer” and “time reduction” based on whether a time reduction takes place at the start of, during or towards the end of initial vocational training, the fact remains that both mechanisms serve to reduce the overall length of the initial vocational training period.

⁴ In the case of a three-year initial vocational training period, it is thus possible to spend a total of up to nine months abroad.

2.2.1 Access to dual system initial vocational training: from prevocational training into dual initial vocational training

In the past two decades fewer and fewer school leavers have succeeded in being placed in a dual system apprenticeship directly after completing general education. 10.9% of young people who signed their first apprenticeship contract in the dual system in 2010 had completed a programme of prevocational training or basic vocational training for at least six months beforehand (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, 147); 4.0% had previously attended a full-time vocational school without gaining a full vocational qualification; 2.4% took part in vocational preparation schemes; 1.7% had completed an in-company qualification measure and another 1.7% a basic vocational training year, while 1.6% had previously undertaken a prevocational training year. So one in three of those who concluded a new training contract in the dual system in 2010 had previously passed through the so-called “transition system”, while one in five is reported to have undertaken vocational preparation (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, 147).

Vocational preparation measures (Section 1 BBiG) have thus taken on considerable quantitative significance in recent years. They are offered by different providers and differ in terms of governance, target group, duration and function:

- Vocational preparation schemes (*berufsvorbereitende Maßnahmen*, BvB) are regulated on the basis of Book III of the German Social Code, coordinated by the Federal Employment Agency (*Bundesagentur für Arbeit*, BA) and carried out by training bodies and in companies.
- Introductory training (*Einstiegsqualifizierung*, EQ) takes place in companies and is financed through the BA.
- Full-time vocational schools (*Berufsfachschulen*) implement measures such as the prevocational training year (*Berufsvorbereitungsjahr*, BVJ) and one-year basic vocational training (*Berufsgrundbildungsjahr*, BGJ) on the basis of the Schools Laws of the Länder (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, 232).

All the measures mentioned lead to partial qualifications, and are not aimed at the completion of a qualification in a recognised occupation but at the teaching of basic vocational skills with a view to placement in initial vocational training. In the year 2011, around 14.3% of young people (= 294,294 individuals) commenced one of the measures mentioned (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, 372). BEICHT (2009) demonstrates, on the basis of the BIBB Transition Study 2006⁵, that very few young people moved directly into in-company initial vocational training directly after completing a vocational preparation scheme, but succeeded only after one year in the majority of cases (i.e. 54% of full-time vocational school leavers and 68% of those who completed a prevocational training year). 20 to 30% of participants did not succeed in accessing initial vocational training leading to a full vocational qualification even three years after completing their vocational preparation scheme (BEICHT, op. cit.). Since the proportion of young people in the so-called “transition system” has risen in relation to the share of trainees undertaking initial vocational training in a recognised occupation in recent years, a trend which was reined back only slightly in 2011, the question of how access and transitions could better be organised is taking on increasing importance.

2.2.2 Transitions during initial vocational training: from one dual-system apprenticeship to another; from the full-time school-based system into the dual system

Section 22 of the Vocational Training Act (BBiG) provides that a concluded training contract may be terminated by either party during the first four months (probationary period). After the expiry of the probationary period, the trainee may terminate the relationship at any time without notice; the employer may only do this for “serious reasons” (such as closure of the company). In 2010, 23% of training relationships were dissolved early. The reasons for this are complex and vary considerably from one German Land to another and from one training occupation to another.⁶ Early dissolution of

⁵ The study in question was a representative survey, conducted in summer 2006, of young people aged from 18 to 24 years, who gave information retrospectively on their full educational and work biographies (cf. BEICHT 2009).

⁶ 40-48% of initial vocational training contracts in the hotel and catering trade and in primary service industry are terminated early. Low rates of early contract dissolutions are found in public services occupations and in some production occupations. BIBB – DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, 170 f.

a training contract does not automatically mean that a young person has dropped out of the dual system of vocational training entirely. An estimated 34% of young people begin a new dual system apprenticeship within two years. 10% commence a full-time school-based vocational programme or initial vocational training in a civil service career, and 3% begin a degree programme at a university or university of applied sciences (BEICHT / WALDEN 2013, p. 10)

Training periods can be reduced and skilled workers made available to the labour market at an earlier stage if credit for prior learning (e.g. competences attained during an initial vocational training programme that was not ultimately completed) can be applied to a subsequent training contract. In 2011 it was found that 10% of new training contracts were concluded with a training period reduced by 11 months or more. In 6% of cases this involved young people who had previously started but not completed an initial vocational training programme (DATENREPORT ZUM BERUFSBILDUNGSBERICHT 2012, p. 119).

Although the Länder governments are empowered under the Vocational Training Act to pass ordinances whereby attendance of a vocational-school course or initial vocational training in another institution can be wholly or partly credited towards the period of initial vocational training, the vocational training statistics record only 0.6% of newly contracted trainees who had previously completed a school-based initial vocational training programme.

2.2.3 Destinations after initial vocational training: access to higher education

The resolution of the KMK (Standing Conference of the Ministers of Education and Cultural Affairs of the Länder) on “Higher education entrance for vocationally qualified applicants without a school-leaving certificate conferring university entrance entitlement” (KMK 2009), and its subsequent implementation by the Länder, removed a considerable obstacle to this target group’s take-up of university-level studies. Nevertheless, few vocational qualification holders without a higher education entrance qualification (*Abitur*) from upper-secondary education gain admission to universities. The rate of vocational qualification holders commencing a degree programme without a school-based higher education entrance qualification was around 2% in the year 2010.⁷ Obviously, easing formal access to the universities can only be the first step in promoting permeability between the vocational and higher education sectors.

Broadening access to higher education institutions for the target group of vocational qualification holders is a major opportunity with regard to shaping degree programmes that meet the needs of the future and developing the profiles of individual higher education institutions. For the most part, vocational qualification holders already have a variety of qualifications thanks to their initial vocational training, their practical work experience and any advanced and continuing vocational training programmes they may have completed. Particularly if embarking on a degree programme closely allied to the candidate’s previous occupation, there is likely to be potential for credit transfer. As long ago as June 2002 the KMK passed the resolution on “Transfer of credit for knowledge and skills acquired outside the higher education sector towards higher education studies” (amended 18.09.2008; KMK 2008). Accordingly, up to 50% of a university degree programme can be offset by credit for knowledge and skills acquired outside the higher education sector. At most universities, however, credit for competences acquired vocationally is only of minor importance as yet. Furthermore, holders of particularly extensive vocational qualifications, for example those who have already completed vocational upgrading training, should be approved for direct access to Masters’ degree programmes even without a first academic qualification. The “Common structural guidelines of the Länder for the accreditation of Bachelor’s and Master’s study courses” (KMK 2010) passed by the KMK and revised at the beginning of 2010 open up this possibility. Some of the German Länder are already making use of this option.

⁷ STATISTISCHES BUNDESAMT: Studienanfänger nach Art der Hochschulzugangsberechtigung 2000-2010. Berechnungen des Bundesinstituts für Berufsbildung

2.2.4 Formalisation of informal or full-time school-based learning – acquisition of a dual system vocational qualification

In Germany the objective of bringing credit for informally acquired learning into the initial vocational training sector is normally geared towards obtaining a complete qualification, i.e. in a state-recognised training occupation. In this case, credit transfer relates both to prior certified learning and to prior experiential learning. The key statutory framework conditions with regard to credit transfer for non-formal and informal learning are set out in Section 45, para. 2 BBiG and in Section 37, para. 2 HwO, which regulate the admission of “external candidates” to the final examination. The definition of an external examination candidate is a person who is “*not admitted to the final examination via the pathway of a regulated initial vocational training programme in the company and the part-time vocational school*” and who has acquired his or her vocational competences in practice (SCHREIBER / GUTSCHOW 2013, own trans.). In the year 2010, 25,962 people – accounting for 4.5% of all examinees – were admitted to the final examination by demonstrating occupational experience (cf. SCHREIBER / GUTSCHOW 2013).

Also listed in the official statistics as external examination candidates are those people wishing to obtain a dual system vocational qualification after completing a full-time, school-based scheme or initial vocational training programme. Section 43 para. 2 BBiG provides for admitting these persons to the final examination if the (full-time, school-based) training course completed corresponds in content, organisation and volume of initial vocational training to dual system initial vocational training in a recognised training occupation and contains an appropriate proportion of vocational practice. In 2010 this rule was applied in the case of 9,987 persons who had completed full-time, school-based training programmes, coming predominantly from the field of home economics (SCHREIBER / GUTSCHOW 2013).

2.3 Procedures

With the exception of the threshold to higher education, procedures for credit transfer exist at the interfaces of the system in Germany, which are regulated on the basis of the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO).

In general terms it can be attested that the applicable procedures are geared towards

- “access” or “admission” (to a training programme, to an examination, etc.)
- reduction in the initial vocational training period and/or
- waivers (e.g. of admission tests or certain portions of initial vocational training).

In detail, this means:

- a) Section 7 BBiG serves the purpose of awarding credit towards the initial vocational training period for prior vocational learning. In the reform of the Vocational Training Act of 2005, this section was reinstated, its aim being to replace the federal ordinances valid up to 01.08.2006 on the application of credit for the prevocational training year. Section 7 BBiG provides that the Länder, having consulted the Länder committees for vocational education, determine according to legal ordinance whether attendance of a vocational-school course may be credited wholly or partially towards the initial vocational training period. Only a few Länder have availed themselves of this possibility so far (cf. GIB 2011, p. 15). Paragraph 2 of that provision specifies that the award of credit requires a joint application to the competent body from the trainee and the training employer. Initial studies (cf. GIB 2011) indicate that competent bodies are implementing the provision, each within its given discretionary scope and judgement.
- b) The reduction of the initial vocational training period is the subject of Section 8 BBiG. The competent body is required to reduce the initial vocational training period if the goal of initial vocational training can be expected to be attained within the shortened period. Here again, the prerequisite is a joint application from both parties to the training contract. This is

the case when “an assessment by the competent body finds that the applicant has acquired full occupational proficiency in the chosen training occupation before the end of the vocational training period specified by the training regulation” (IHK Frankfurt am Main, undated; own trans.).

- c) The mechanism known as the “external candidates’ examination” (*Externenprüfung*) does not describe a separate examination procedure but refers to the admission of people other than apprentices to the chambers’ final examinations for apprentices. The law opens up two possibilities whereby applicants may demonstrate their prior learning (BBiG Section 45, para. 2):
- a. 1. in a more input-oriented form: *“Persons shall also be admitted to the final examination if they produce evidence that they have been employed in the occupation for which they wish to take the examination for a period at least one and a half times as long as is prescribed for the period of initial training. Periods of initial training in another relevant training occupation shall also be deemed to be periods of employment.”*
 - b. 2. and in the framework of an opening clause: *“The production of evidence of the minimum period of employment pursuant to the first sentence may be waived wholly or in part if applicants convincingly demonstrate, by producing certificates or in some other manner, that they have acquired the occupational proficiency justifying admission to the examination.”*

In the course of practical implementation, the competent bodies review whether the applicant meets the admission criteria based on the documents submitted, for example educational certificates or employers’ references. Applicants can consult their chambers in advance regarding the selection and compilation of the appropriate and necessary documentation. Furthermore, courses are offered by competent bodies and other training providers in order to prepare for the theoretical parts of the final examination. Although attendance of these courses is voluntary, it is under discussion that they are ultimately necessary in order to pass the examination successfully, since the content of learning taught at the part-time vocational school in the course of a dual system apprenticeship cannot be acquired through practical work experience alone.⁸ In that respect, input-oriented criteria continue to be relevant in certain respects for admission to examinations as an external candidate (cf. also ANNEN/SCHREIBER 2009). In Germany there are no quality standards regarding this recognition process since industry has the constitutional right of self-organisation and the competent bodies are entitled to lay down their own standards.

For the most part the existing procedures are implemented on the basis of

- assessments (higher education entrance qualification, intermediate secondary school leaving certificate) of successful educational progression,
- documents (employers’ reports, school reports) and
- completed periods (work experience, previous initial vocational training periods).

Both the award of credit and the reduction/waiver of portions of training and admission require a joint application to the competent body from the trainee and the training company. The relevant competent bodies reach their decision at their own discretion and on a case-by-case basis

⁸ In this regard, cf. SCHREIBER, Daniel / GUTSCHOW, Katrin (2013): Externen Prüfungsteilnehmern auf der Spur, BIBB Report 20/13, <http://www.bibb.de/de/64117.htm> (retrieved 25.05.2013) and SCHREIBER, Daniel et al. (2012): Anerkennung beruflicher Kompetenzen am Beispiel der Zulassung zur Abschlussprüfung im Rahmen der Externenregelung (Projekt 4.3.301), Abschlussbericht. Bundesinstitut für Berufsbildung, <http://www2.bibb.de/tools/fodb/pdf/zw:43301.pdf>

3. Problem-solving approaches: support initiatives to improve transitions

Engagement with the question of whether transfer of credit for competences can take place within and/or between educational (sub)systems and, if so, how, has gained additional impetus in the last decade from the dominant lifelong learning strand in European education policy. Establishing Europe-wide compatibility in the transitions between educational programmes by creating transparency and facilitating credit transfer for prior and certified learning became an item on the national policy agenda, giving rise to such initiatives as the German Qualification Framework.

The support initiatives set up by the German federal government in mid-2000 such as “JOBSTARTER connect” and DECVET have always been geared towards mapping potentials for this kind of credit transfer in the vocational education sector and facilitating access and transitions into the education system or towards a vocational qualification, especially by developing and testing modular qualification units/training modules and/or making active use of existing Vocational Training Act provisions. In the pilot initiatives “JOBSTARTER connect” and DECVET, credit transfer for competences is tied to the existence of modular qualification units. Evidence that the competences/learning outcomes achieved in the unit of qualification are eligible for credit is either provided on the basis of individually performed equivalence comparisons (DECVET units of learning outcomes) or else on a methodological-didactic basis whereby the units are derived from the qualification profiles of the receiving system (training modules).

Alongside the organisation of admissions and transitions within the vocational education system, special significance accrues to the promotion of permeability between the vocational and the higher education sector. Whereas in past decades the main emphasis was originally to facilitate reasonable access to higher education for vocational qualification-holders without a higher education entrance qualification, for some time these efforts have gained extra impetus thanks to an increasingly integrated view and attention to other aspects that could help to improve permeability. This took concrete shape in the BMBF initiative to support the “Accreditation of prior learning from vocational education & training and work for higher education programmes” (ANKOM), which has proven the feasibility of awarding credit for vocationally acquired competences towards university degrees for different combinations of academic and vocational specialisations, and has developed general, individual and combined credit-transfer procedures. Under the general credit-transfer procedures, the various qualifications from vocational education are assessed and credit formally awarded in relation to the target degree programme. In contrast, individual credit procedures involve the assessment of individual competences in relation to the target degree programme, aided by portfolios or examinations, with credit awarded to the specific person. Under combined credit-transfer procedures, the two approaches are linked, with credit awarded both generally and individually. Now that these credit transfer procedures have been developed and tested, it is time to implement them across the board in universities and to create conducive conditions for credit transfer: e.g. implementation of a consistent orientation to learning outcomes throughout the regulatory instruments and in vocational and higher education examination practices.

Further efforts can be attested in respect of the recognition of non-formally and informally acquired learning outcomes. The “Strategy for Lifelong Learning in the Federal Republic of Germany” formulated jointly in 2004 by the federal government and the Länder sets out an education policy approach which accords central importance to the validation of non-formally and informally acquired skills and competences (cf. BLK, 2004). The significance of the theme is also reflected in various nationwide education-policy programmes and initiatives, in academic studies and in the appointment of expert groups. In recent years a host of approaches and methods have been developed in this context. Two such approaches will be cited here by way of example: the ProfilPASS system for the identification and assessment of individual learning experiences and the German Research Foundation (DFG) priority programme “Competence Models for Assessing Individual Learning

Outcomes and Evaluating Educational Processes” (cf. <http://www.profilpass.de/> and <http://kompetenzmodelle.dipf.de/en>).

Currently it is still unclear to what extent initiatives have succeeded in fulfilling the expectations levelled at them in a sustained manner. The results and project experience gained from DECVET⁹ support the view that structural barriers remain very high – irrespective of the fact that the pilot projects yielded evidence of credit-transfer potential between the interfaces by various routes. It will be a challenge to draw out the developed models and procedures for credit transfer at the defined interfaces from the project context and to transfer them regionally and/or sectorally or generalise them for the entire system of vocational education and training. Progress is likely to depend more upon political will than on the actual feasibility of implementation.

4. The problem: when one system collides with another...

Credit systems are ascribed the function of enabling transparency, comparability, transferability and mutual recognition of certified learning and attainment, and contributing to improved permeability (LE MOUILLOUR / JONES / SELLIN 2003; LE MOUILLOUR 2006). The European initiatives aimed at introducing ECTS (European Credit Transfer and Accumulation System) and ECVET give prominence to policy principles (i.e. the award of credits and the accumulation of certified learning outcomes) which are not actually applicable in the German VET system. In the German context, this leads to a series of conceptual, legal and organisational disparities:

4.1 Problem 1: Lost in translation

"that can be the trouble with all these different terminologies we are operating with"¹⁰

A “credit system” is understood as

“An instrument designed to enable accumulation of learning outcomes gained in formal, non-formal and/or informal settings, and facilitate their transfer from one setting to another for validation and recognition. A credit system can be designed: – by describing an education or training programme and attaching points (credits) to its components (modules, courses, placements, dissertation work, etc.); or – by describing a qualification using learning outcomes units and attaching credit points to every unit.” (CEDEFOP, 2008).

The German translation renders “credit system” not as “credit transfer system” (*Anrechnungssystem*) but as a “credit points system” (*Leistungspunktesystem*); otherwise it follows the English version.

But what exactly are the connotations of “recognition” and “credit transfer” in the German context? An insight is given by 27 interviews with political and administrative decision-makers and practitioners from German VET, which were conducted within the BIBB research project “Credit systems for lifelong learning” (CS3L).¹¹

⁹ Findings published in the concluding volume of the initiative: BMBF (2012): Durchlässigkeit und Transparenz fördern. DECVET – Ein Reformansatz in der beruflichen Bildung

¹⁰ Interview: Ms E, 00:05:18-5 (all quotes from interviews: own trans. from German)

¹¹ Credit-Systeme für das lebenslange Lernen. Abschlussbericht zum BIBB-Forschungsprojekt 1.5203, URL: http://www2.bibb.de/tools/fodb/pdf/zw_15203.pdf

The majority of interviewees from vocational education emphasise that recognition is a legal act, as a consequence of which a title or vocational certificate is awarded. Recognition (*Anerkennung*) is therefore also used synonymously with the terms “confirmation” (*Bestätigung*), “correspondence” (*Entsprechung*), “award of a title” (*Zuweisung*) and “equal treatment” (*Gleichstellung*):

“Recognition is not, from my point of view, an arbitrary term. I would only see recognition in terms of state recognition. If it is state-recognised, then there is a corresponding statutory framework for that purpose” (Mr F, 00:12:19-6) or

“At the heart of the matter, examinations are not even the issue; the real concern is access to an occupation. (...) And there the question is whether qualifications which were acquired somewhere else and are, indeed, completely different in nature (...) can then be recognised as equivalent to our own” (Ms Q, 00:06:58-8).

But three out of the total of 27 interviewees state that “recognition” can also be defined as a “*form of praise*” or an “*ideational valuation and appreciation of an individual*” (Mr V, 00:09:54-1).

Irrespective of whether “recognition” is defined in the German context as a “legal act” or as “appreciation”: it is palpably different from the definition of “recognition” as “*the process of attesting officially achieved learning outcomes through the awarding of units or qualifications*” (EUROPEAN COMMISSION 2009) taken from the European Recommendation for the establishment of a European Credit system for Vocational Education and Training (ECVET).

Credit transfer, in contrast, is a procedure that avoids duplication of learning. In the understanding of the majority of interviewees, credit transfer relates to the process of initial vocational training (which can be shortened by the parts for which credit is awarded), while recognition relates to certification (which need not be formally examined a second time):

“Credit transfer is something that is meant to avoid loops and duplication, but nevertheless facilitates entry into a learning process, so to speak, so that the length of time that has to be completed is no longer 100 per cent but a period reduced by the credited length of time. (...) Recognition is something that does not lead into a learning process but where learning acquired and fully mastered elsewhere is recognised and respected as such – to choose a different term – without imposing the requirement to prove it once again through a formal final examination, for example.” (Mr D, 00:03:49-7).

The legally binding status and the associated entitlements and status attributions differ accordingly.

“I can award credit in the form of a time reduction at any time without having to express any formal recognition of the content (...). I associate recognition with a certain degree of automatism: for example, as soon as something is recognised there is no longer any basis for its having to be examined again” (Mr R, 00:07:26-6).

The interviews highlight that the benchmark for credit transfer within German initial vocational training is always the recognised training occupation. This calls for trust between subsystems of education – between stakeholders in the sending and receiving system, and in the certified prior learning for which credit is to be awarded: “*The stakeholders keep starting over with potential analysis, competence assessment, competence procedures, over and over again, because none of them actually have enough trust to believe in what the person before me did*” (Mr O, 00:18:15-8)).

All the same, credit transfer remains a voluntary act:

“... because the extent to which what I have acquired now will be accepted, in turn, by the next institution I want to attend is another question. (...) Every institution has the individual right to accept or reject applicants” (Mr P, 00:06:33-6).

In principle credit can be awarded for all formally, non-formally and informally acquired competences which have been identified, analysed, documented, measured and classified against a standard. This is also the basis for the assessment of equivalence for competences that have been acquired in different subsystems of education or outside of them. The foundation for that is laid by standards which – according to one interview partner – remain to be established:

“Our initial vocational training regulations are only partially usable as standards. People often say that those are our quality scale and standard. To this day, our initial vocational training programmes are not even competence-based, which I find mystifying. (...) In continuing education, of course, the situation is even worse because only a tiny portion of continuing vocational education and training is governed by advanced vocational training regulations. The greater part is way outside any standards; those standards would need to be produced first” (Mr V, 00:13:02-9).

So far there has been a lack of instruments and criteria whereby broader and more effective use could be made of the existing statutory possibilities (*“It’s really a quandary, to say in all seriousness that credit transfer and recognition will happen when equivalence is found. And what is equivalence? That’s quite a philosophical question” (Ms Q, 00:49:47-2)*).

4.2 Problem 2: Recognition, accumulation and transfer

“And there I see great dangers regarding the attainment of occupational proficiency and holes being punched in the social achievement of vocational education and training”¹²

“Credit systems” refer to constructs that are associated with a specific concept (structuring of qualifications through learning outcomes) and a concrete context of application (accumulation of units towards an overall qualification). Once again, the text of the European Recommendation on ECVET puts this in a nutshell:

“The purpose of this Recommendation is to create a European Credit System for Vocational Education and Training (‘ECVET’) intended to facilitate the transfer, recognition and accumulation of assessed learning outcomes of individuals who are aiming to achieve a qualification.” (EUROPEAN COMMISSION 2009, p. 155/11).

The “recognition of learning outcomes”¹³ instigated by ECVET poses problems for German stakeholders since “recognition” relates solely to the training occupations as such (Section 4 BBiG), but not to individual learning outcomes. Training occupations are deemed to be recognised when they are issued jointly with the Federal Ministry of Education and Research by legal ordinance of the Federal Ministry for Economics and Technology or another competent ministry. When an occupation is state-recognised, the only permitted form of initial vocational training is that set out in the training regulation. “Recognition” refers, then, to the occupation itself and not (individual) learning outcomes. Below this level, recognition can only take place in the sense of an “appreciative attitude”,

¹² Interview: Mr I, 00:13:33

¹³ Learning outcomes there are deemed to be recognised when they are officially certified and units or qualifications awarded (cf. EUROPEAN COMMISSION 2009, C 155/14).

although it gives no grounds for any legal or factual claims and cannot therefore fulfil European targets. Furthermore, “recognition” describes a legal act, as a consequence of which a title/a vocational certificate is awarded (synonyms for this would be correspondence, equal treatment, award of a title). Recognition refers to certificates, not to learning processes (see also, for example, the “Recognition Act” introduced in Germany as from 2012).

In the German context, too, credit transfer and recognition are constructs (see 4 .1 above) – only they are distinct from the European context as regards the underlying concept: as already outlined, a series of provisions are set out in the Vocational Training Act (BBiG) which permit the transfer of credit for prior learning from other contexts. Central to the procedures and to the Vocational Training Act itself is the acquisition of a recognised training occupation in the dual system. This understanding coincides with the European definition of “qualification” as a

“formal outcome of an assessment and validation process which is obtained when a competent institution determines that an individual has achieved learning outcomes to given standards” (EUROPEAN COMMISSION 2009, C 155/14)

The “given standard” is met when the final examination in a recognised training occupation has been completed successfully.

The Vocational Training Act does not make provision for the acquisition of certified (acceptable for labour-market entry) modular qualifications or the accumulation of learning credits which lead quasi-automatically to a vocational certificate in a recognised occupation without a final examination, an approach strongly advocated at European level. One interviewee highlights this in the words:

“There are risks associated with ECVET in particular. (...) For us nationally, a debate is taking place on defining and allocating points to individual units of learning outcomes within initial vocational training programmes. And the next step would be to certify them individually. And at that point we have dismembered the principle of the recognised occupation that is integral to initial vocational training as we know it” (Mr N, 00:40:59-4).

Interview participants sum up their reservations about the principles associated with ECVET in phrasing such as *“the Damocles sword of modularisation”* (Mr I, 00:13:33) and the fear of *“systems being brought into line somehow by the lawnmower method”* (Mr D, 01:44:07). The impression is given that it *“cuts to the quick, strikes directly at the procedures and systems themselves (and that) the harmonisation of the education and training area is being overwritten by the concept of lifelong learning”* (Ms E, 01:48:06-7).

With reference to the transfer of prior learning, the prevailing view of interviewees is that the Vocational Training Act already offers a range of legal options (*“credits are awarded, in thousands of cases, and have been for many, many years”* (Mr D, 00:20:33-1)). Critically it is commented that existing provisions are often *“too little known”* or enjoy *“too little acceptance”* in the receiving systems. Whether credit for prior learning can be transferred depends on case-by-case decisions and upon the consent of the receiving institution or company. Whereas a portion of interviewees define the openness and indeterminacy of the Vocational Training Act and the Crafts and Trades Regulation Code on this point as *“areas of flexibility which open up a whole host of possibilities”* (Mrs Q, 00:08:25-7), others complain about the lack of reliable, standardised national quality standards and ensuing recognition rights and obligations. It becomes clear that the contrary debate on this subject is also being carried on without reference to ECVET.

4.3 Problem 3: Do we need ECVET at the interfaces of the German system?

“In my opinion we do actually have plenty of opportunities to practice permeability within the framework of the dual system”¹⁴

The interviews already mentioned suggest that in the perception of the interviewees, neither recognition nor accumulation of learning outcomes play an essential role in solving the interface problems of Germany’s education and training system. The majority of German education stakeholders who were surveyed believe that credit transfer takes on greater relevance when it comes to improving transitions between sectors of the education and training system.

The interviewees justify this statement in terms of

- ✓ **educational economics** (*“If I have obtained a certain qualification in an earlier phase, which is similar to parts of a qualification in a subsequent phase, it is an endless waste of resources not to take advantage of this by reducing the training period”* (Mr R, 00:06:54-4),
- ✓ **subjective interests** (*“Credit transfer happens to be a procedure that enables the individual (...) to make parts of education or informally acquired learning more usable, both in education and training and in the labour market”* (Ms K, 00:06:31-8),
- ✓ **motivation** (*“because it can set incentives if people know that prior learning from one context can be used in another, without constantly needing to start again from scratch”* (Ms M, 00:04:38-7) and
- ✓ **labour market interests** (*“The demand is for skilled workers and fewer semi-skilled workers. These people simply have to be brought back in. The national economy will no longer be able to afford not to”* (Mr G 00:10:34-5).

In the statements of many interviewees, credit transfer becomes the actual lever by which permeability in the education and training system can be improved. This is assumed to mean concessions with regard to the duration of training and financial costs, which benefit not just the individual but the system as a whole. One interviewee also refers to a reform-minded aspect that goes hand-in-hand with credit transfer:

“Credit transfer is now making us look a bit more closely and do something for the overall education and training system” (Ms K, 00:05:24-1).

The challenges at the interfaces of the VET system vary in magnitude because different objectives and requirements prevail in each of the given subsystems. The majority of respondents either do not mention in their interviews whether a credit system along the lines of ECVET is fit for this purpose, or call this into doubt:¹⁵ *“But credit transfer by means of credit points is problematic in my view”* (Ms W, 00:05:19-2). This is justified, on the one hand, by the experience built up with ECTS, which is *“not really the instrument for establishing permeability or time reduction or recognition”* but understood by the respondent as a *“purely technical instrument for measuring workload”* (Mr V, 00:15:47-4) and therefore limited in its meaningfulness. Furthermore, a few interviewees emphasise that credits do

¹⁴ Interview: Ms Q, 00:03:20-0

¹⁵ In total only eleven of the 27 respondents mentioned the use of credit transfer systems at the interfaces of the German system.

not necessarily influence whether the initial vocational training period is shortened or credit awarded towards other courses:

“Take somebody who is a lab technician, for example, which is undoubtedly a recognised training occupation. But as a university I am not obliged or I can refuse to award credit for that prior learning, because I say – and that often used to be the case – ‘anything not learned at my university doesn’t count’.”(Mr S, 00:35:57-5)

or

“If a student comes from abroad and has accumulated some credit, then of course I have no great problem in saying: “That’s great, well done.” (...) But to what extent I can credit these 10, 15, 20 credits towards the degree programme, or whatever course the student wants to take with me, is a totally different question in reality” (Mr P, 00:08:01-7).

Others emphasise that, initially, it is important to adapt ECVET to the general conditions of the German system before bringing it into use and letting it unleash effects (Ms A, 00:54:58-9).

Although the legal provisions in the Vocational Training Act and in the Crafts and Trades Regulation Code provide a basis for permeability within the system, they only provide a limited solution to the problems that exist:

“From the statutory base and on paper, permeability is very good; de facto it is very poor. (...) The very fact that (the Federal Ministry of Education and Research) has set up a zillion programmes to permit such transitions (...) plainly shows that it doesn’t work by itself, and that a certain amount of motivation and initial stimulation has to be put into the process.” (Mr R, 00:04:25-2).

Interviewees do not see the improvement of access and transitions in the German education and training system as dependent on introducing a credit system, but on tweaking the procedures already introduced and being practised. The corresponding procedures should

- be transparent in legal application, with low entry thresholds and freedom from barriers;
- be outcome-oriented: learning outcomes should be central with *“more freedom within the system”* and an assessment of competences *“based on sound common sense”*;
- not be too bureaucratic, and not justify *“any new legal apparatus”*;
- include informal and non-formal learning;
- lead *“necessarily to recognition”* once evidence has been presented, and
- be *“rooted in practice”* (evidence of competence) and prevent any divergence between academic aspirations and practical implementation.

In order to meet these (sometimes contradictory) requirements, in the view of interviewees the following steps are necessary:

- (1) An analysis of credit transfer opportunities should be carried out and corresponding information should be drafted and disseminated to the potential candidates for credit transfer procedures.
- (2) For the subsystems of education and training, competence-based standards need to be developed which lay the foundation for the assessment of equivalences.
- (3) A basis of trust is necessary between the stakeholders from the individual (sub)systems of education and training (vocational preparation, dual and full-time school-based system, advanced vocational training and higher education) so that the transfer of credit for learning outcomes can be practised. This may be accomplished through network activities and quality assurance measures by and for education and training providers.

- (4) Competence analysis and assessment procedures must be identified and/or developed which are unbureaucratic, heuristic, practicable and valid even for the assessment of non-formal education and training. Tried and tested competence assessment procedures which work should be cast in legally binding form and incorporated into the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO).
- (5) Standards must be developed whereby competences acquired via the vocational route (outside the dual system) can be documented. Furthermore, procedures are needed for standardising examination practice, for training examination staff and for documenting results.
- (6) The term “learning outcomes” should be propagated across all levels of education and training, and be included in the next reformed version of the legislation.

5. Summary

“What supplementary options do initiatives like DECVET and ECVET offer? Because as a system, in the way they are always discussed, there is no way in which they harmonise with our Vocational Training Act. And if we had to decide now, do we want to introduce a new system or just supplement the existing system, then I would definitely vote for the latter and I would tend to question ECVET as a wholesale approach” (Ms E, 01:58:11-5).

It seems at first glance as if Germany is a long way off any “Europeanisation” of vocational education and training. This observation is only correct, however, when it comes to implementing ECVET as a “credit system” with accumulation, transfer and recognition functions in a traditional, legally anchored VET system characterised by a multiplicity of stakeholders:

- (1) On the **legal level**, ECVET’s intended aims of accumulation, recognition and transfer of credit are found to be clearly at odds with the basic legislative provisions in Germany, i.e. the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO).
- (2) The “**national practices**” referred to in the Recommendation on the establishment of a Credit System in Vocational Education and Training (ECVET) are based upon the fundamental principles of dual system VET (concept of the recognised occupation and acquisition of occupational competence). As regards the applied procedures, they rely upon assessments (upper secondary school-leaving and higher education entrance qualification, intermediate secondary school-leaving certificate), documents (employers’ references, school reports) and/or completed periods of time (work experience, previous periods of initial vocational training). Essential differences can be discerned here from the ECVET-inspired concepts of outcome-driven, individually assessed and certified units of learning outcomes, irrespective of where learning took place.
- (3) Not only are the legal and methodological/procedural foundations at variance, but the **conceptual ideas** of how credit and recognition are defined and what purposes they are supposed to serve differ accordingly from each other.
- (4) On the level of **political and administrative steering** – with the exception of the higher education sector – ECVET is not (yet) ascribed any foreseeable positive impacts with regard to improving credit transfer at the interfaces. Existing reservations among the representatives of the vocational system have only been reinforced by their first-hand experience of ECTS.

However, if one replaces “ECVET as a system” as the focus of attention with the question of how credit transfer can be facilitated within and between subsystems of education and training in Germany, individual components of ECVET provide interesting impulses for further work. Against this backdrop, HEMKES, KÖHLMANN-ECKEL and MEERTEN (2012, p. 166 ff., own trans.) formulated some propositions as to how the incorporation of units of learning outcomes into the classification scheme of the regulatory instruments at system level might be used:

- They “could enable a nationally standardised, transparent and binding reference framework for credit transfer opportunities – not credit transfer obligations – to be structurally anchored, so as to signpost transitions with curricular linkages between the subsystems of vocational education and training” (Proposition 2).
- Furthermore they could “create a new context of significance and application for the previously largely un-utilised legal opportunities in the Vocational Training Act for the transfer of credit for prior (vocational) learning towards subsequent initial vocational training, which makes it distinctly more attractive for those concerned to take advantage of this provision” (Proposition 4).

To that extent, the concern is not to “implement” ECVET but to adapt ECVET components to and “integrate” them into existing classification schemes and procedures. The initiatives from national and European funding (including DECVET, Connect and “ECVET 2nd generation”) provide starting points whereby competence- and learning-outcome orientation, assessments of learning outcomes and quality and trust-building measures can be gainfully implemented in German VET in harmony with European instruments. The task now is to evaluate these starting points and debate them across the different sectors of education and training. The question of whether ECVET can bring any “added value” to the national system remains open.

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Potential and limitations of the use of ECVET instruments in the German context: Position paper from the EASYMetal, ESYCQ and 2get1care projects

Andreas Fischer / Katrin Jäser / Petra Notz

A characteristic feature of the German education system is the differentiation that has grown up historically within the educational sectors (general, vocational and higher education) and within the “subsystems” (e.g. vocational training preparation, school-based initial vocational training, and dual system apprenticeships).

This development has resulted in markedly institution-bound education and training structures: gaining a recognised educational certificate normally presupposes attendance of a particular (vocational) education establishment. The emphasis on specific training venues is strong since an assumption is made that vital relevant cognitive and socialisation processes take place in each type of establishment. Conversely this means that people with alternative educational careers or biographical irregularities can only gain access to certificates by means of detours.

In Germany we face the challenge of supporting learners’ educational endeavours and enabling them to access education without any duplication of learning, on the one hand, yet without compromising on quality in training and qualification standards, on the other. The issue is how to build up the receiving institutions’ trust in prior learning attained outside their own training establishment. The coordinators of the three projects 2get1care, EASYMetal and ESYCQ believe that transparency is a prerequisite for establishing trust. The use of transparent methods and procedures for assessing attainment and documenting prior competences strengthens the credibility of what has been learned.

This aspect is addressed by the European credit points system ECVET, which aims to improve transparency and mobility between and within educational sectors in Germany and Europe. The EU’s published Recommendation of 18 June 2009 on the implementation of ECVET defines four interrelated principles (“technical specifications”) which are to be put into practice step by step in Member States as an overall system.

The three German ECVET projects of the “second generation” had the task of putting procedures in place for these ECVET principles at interfaces of the vocational education and training (VET) system, and pointing out solutions that might facilitate an implementation of ECVET in the German context. According to the recommendation, the procedures and solutions should be in harmony with each country’s existing national VET system and legislative provisions. Central to the work of the projects were both the dual system and the full-time school-based vocational education sector. The proposed solutions developed by the projects are situated in the contested space between the ECVET recommendation¹⁶ and the German VET system, two regimes informed by different philosophies of vocational education and training. In the following, we elucidate this with reference to the four ECVET principles. The aim of the position paper is to point out potentials and obstacles to their application in the German VET system.

¹⁶ Accessible online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:155:0011:0018:EN:PDF>

1. Units of learning outcomes (*Lernergebniseinheiten*)

Learning outcomes and units of learning outcomes

In both Europe and Germany the strategy is gaining ground for initial vocational education and training (IVET) programmes and qualifications to be described in the form of learning outcomes and competences. Thus, in the course of the European ECVET consultation process, the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK) welcomed the orientation to learning outcomes favoured by ECVET.¹⁷

Descriptions of learning outcomes can simplify transitions from one course or (sub)system to another. They make it easier for receiving institutions to interpret what somebody can do, particularly if the descriptions are oriented to actions and make reference to work situations. Units of learning outcomes can consequently function as a medium for transfer at the various interfaces of vocational education. Receiving institutions are provided with descriptions of the level of education and training attained – even where it does not amount to a full qualification.

Although the projects carried out their work at different interfaces in the German VET system, they consider learning-outcome orientation to be a useful instrument for easing permeability between different parts of the system. A prerequisite, however, is that the descriptions are framed so as to generate real transparency across interfaces; in other words, to be understandable and precise:

- Readability for persons situated outside the education system is enhanced by learning-outcome descriptions which are oriented to complete and completed work tasks or work situations and which make references to practice clear.
- Learning-outcome descriptions contribute to quality assurance when they are underpinned by legislative regulatory instruments and directives which make the relevant cross-references apparent.
- Learning-outcome descriptions that are phrased in terms of active and distinctive verbs ensure clarity and make it easier to derive aims for the learning process.
- Learning outcome descriptions that are phrased in terms of active and distinctive verbs make it easier to operationalise an assessment of attainment that is precisely tailored to the unit of learning outcomes. Learning outcomes make validation possible, irrespective of the learning pathway taken.
- Learning-outcome descriptions that can be validated in all their complexity earn trust from the receiving institutions. In relation to vocational education, the sum of the units of learning outcomes – in accordance with the ECVET recommendation – should reflect a full-value qualification/profession/occupation.
- In professions or occupations where the vocational qualification equates to a regulated occupational title, training for which is undertaken at the secondary and tertiary levels of education, the development of differentiated occupational profiles is necessary. The identification of learning outcomes and description of units of learning outcomes can foster this process. The process of identification is not expected to be prescribed on the legislative level but on the level of consensus-building, in order to generate transparency and trust.

¹⁷ Accessible online at: http://ec.europa.eu/education/ecvt/results/germany_en.pdf

The three projects consider learning-outcome orientation to be an effective means of improving permeability at interfaces. Another suitable method is the grouping of learning outcomes into units of learning outcomes; this must not be allowed to undermine the integral coherence of the initial vocational training programme, however. The goal of an initial vocational training programme is to establish the occupational competence and professional identity that leads to a vocational qualification with a certificate deemed relevant by the labour market. Initial vocational education and training should enable people to get to grips with a *changing* world of work (Vocational Training Act (BBiG) Section 1 para. 2). The acquisition of occupational competence happens successively over an extended and cumulative education process by means of action-oriented learning in two learning venues, the company and the school. At the end of this lengthy socialisation process, occupational competence is assessed in a final examination. The certificate confers entitlement to access a labour market organised around recognised occupations and occupational collective bargaining systems. Training in an occupation is thus associated with processes of societal recognition which bestow identity. Under these general conditions (the concept of the recognised occupation, the duality of learning venues, and existing statutory regulations) a breakdown into didactic elements can be useful and effective. The same cannot be said of dismantling full-length vocational training programmes by offering individually selectable modules as modular qualifications.

A look at German vocational education shows that grouping into units/components is not an entirely new form of model. In the dual system, for example, there are already initial vocational training modules, qualification modules, modular qualifications of the Federal Employment Agency and second-chance qualification modules. In the health occupations, e.g. in the current initial vocational training regulations of the Land of North-Rhine/Westphalia, there are subdivisions into modular thematic areas. In order to facilitate permeability and the transition between different IVET programmes, units of learning outcomes can therefore be useful.

Assessment of learning outcomes (*Bewertung von Lernergebnissen*)

The ECVET recommendation envisages that a unit of learning outcomes concludes with an assessment. Learners should demonstrate evidence that they can actually do what is described in the unit of learning outcomes. The assessment is the prerequisite for the transfer of learning outcomes into another learning environment. Proof that the learning outcomes have been attained is the basis upon which competent bodies reach a judgement on the transfer of learning.

The proposal of the ECVET recommendation that units of learning outcomes conclude with an assessment is deemed by all three projects to be a useful and effective instrument. In harmony with the various vocational training laws (the Vocational Training Act (BBiG), the Crafts and Trades Regulation Code (HwO), and the laws and ordinances in the recognised health occupations), the assessments that the projects have designed and proposed are anchored below the level of a formal-legal examination. They contribute to enabling learning outcomes to be measured objectively, validly and reliably in order to strengthen the receiving institutions' trust in prior learning and to improve opportunities for recognition and transfer of credit (e.g. reducing the time period of initial vocational training, extended content or additional courses, admission to the final examination in special cases (e.g. the external candidates' examination)).

To ensure trust in the assessment procedures in vocational education, the prerequisite is prescribed quality assurance measures, e.g. on conception and implementation. The projects have made methods and instruments for the assessment of learning outcomes available.

2. Transfer and accumulation of credit for units of learning outcomes, ECVET partnerships

Transfer and accumulation of credit for learning outcomes

The assessment of learning outcomes – as carried out by the projects – is not intended to replace the regulated final examinations. In their response to ECVET in the context of the 2007 consultation process, the BMBF and the KMK have made clear, as did the BMBF in the DECVET terms of reference¹⁸ of 2012, that the concept of the recognised occupation and the final examination will be retained as the main supporting pillars of the German vocational training system. An accumulation process, whereby units of learning outcomes are acquired and certified at unspecified times and learning venues, does not shape any professional identity and is not therefore provided for in the laws governing German occupations.

Likewise, these laws make no provision for credit transfer. A series of different provisions regulate how credit for prior learning may be awarded towards another training course on the basis of case-by-case decisions. Credit decisions are made formally by the competent bodies based on the submission of reports and certificates.

For the different contexts of application, the ECVET instruments can effectively be utilised in order to document and demonstrate evidence of vocationally acquired competences for the benefit of companies and/or competent bodies. The prerequisite is, however, that the units of learning outcomes are defined on the basis of generally binding standards, and that assessments are based on quality assurance specifications. Only by these means can trust be generated on the receiving side.

Partnership agreements (memoranda of understanding)

The cooperation between different institutions within VET in Germany is stipulated in law (Vocational Training Act and Crafts and Trades Regulation Code; laws governing specific occupations in the health sector). For example, the cooperation between the part-time vocational school and the company or between training firms in a training network is contractually regulated. Particular cooperations in vocational education between partners are regulated by partnership agreements or cooperation contracts (e.g. for transnational mobility schemes or for cooperation and exchange of trainees between cooperating full-time vocational schools).

Partnership agreements have not hitherto been used for credit transfer processes in vocational education regulated under the Vocational Training Act and the Crafts and Trades Regulation Code with a view to improving permeability and creating transitions. In the health care occupations it is possible for parts of initial vocational training (work placements) to be carried out in institutions abroad after approval by the supervisory authorities. The purpose of cooperation and the learning objectives and learning outcomes are regulated via the contractual instruments of the European Credit Transfer and Accumulation System (ECTS), which are equivalent to those of ECVET.

3. Learning agreement (*Lernvereinbarung*) and personal transcript of records (*Leistungsnachweis*)

The learning agreement is linked to the content of the partnership agreement and is generally brought into use in transnational mobility phases. In the health care occupations, national and international exchanges of trainees take place in individual cases after approval by the competent authorities. Here the learning agreement in tandem with the partnership agreement is the prerequisite for transparently assuring the competent supervisory authorities that the arrangement complies with the laws governing the given occupation. To foster credit transfer processes within the

¹⁸ Accessible online (in German) at: http://www.decvet.net/files.php?dl_mg_id=904&file=dl_mg_1357721272.pdf

German vocational education system, on the other hand, a learning agreement is not typical or necessary.

The instrument of the personal transcript of records, in contrast, is perfectly usable in the German VET system and is indeed being used in all kinds of contexts. If the transcript of records is based on a valid assessment, the ECVET elements of “learning outcomes” – “assessment” – “personal transcript of records” might be used to stimulate quality developments in education establishments and to drastically simplify recognition processes. The documentation of existing competences or of non-formal and informal learning outcomes, as recorded in the “personal transcript of records”, could be used as a qualitative basis for argumentation or as evidence for the reduction of an initial vocational training period or an application for admission to the final examination in special cases, which is then examined by the competent body following the usual procedure.

4. ECVET points

According to the ECVET recommendation, ECVET points are to be understood as supplementary information and only have value in conjunction with the learning outcomes achieved. They are intended to express which units have been acquired and accumulated. The ECVET recommendation proposes that points be awarded using the formal learning period as the equivalent measure (one year of full-time initial vocational training results in 60 ECVET credit points). In the relative weighting of the units of learning outcomes for a qualification, three different criteria may be decisive: the relative significance to the overall qualification, the complexity and/or the average workload for the successful completion of a unit of learning outcomes.

In Germany, no credit points are awarded in the sector of vocational education governed by the Vocational Training Act and the Crafts and Trades Regulation Code. Central to German VET is the development of occupational competence in a lengthy and cumulative education process, which always culminates in a final examination. No accumulation of modules is possible. For this reason, quantifying learning in terms of a points value has no meaningful application and would set the wrong emphasis. The points are seen as symbolic of a piecemeal, fragmented approach (modularisation) to VET, which erodes the high quality of skilled worker training. The EASYMetal and ESyCQ projects and their respective partners from vocational education see no “added value” in the points in relation to credit transfer processes and transitions within VET.

In school-based vocational education, on the other hand, the content of which is in some cases quite close to higher education, there may be contrasting perceptions. In the 2get1care project, credit points are seen as a useful complementary scale, particularly given the orientation to the design features of the ECTS points. The laws governing the various health care occupations (training and examination regulations) prescribe defined numbers of hours for subjects and for overall initial vocational training. These regulations base their calculations on contact hours. ECVET credit points in their currently debated form represent equivalents for workload (contact hours plus independent work, e.g. for preparation and follow-up). The award of ECVET credit points could fundamentally be derived from the laws governing the occupations and would simplify procedures for awarding credit for prior learning at full-time vocational school towards a subsequent degree programme within the framework of the ECTS system.

Summary

The work of these projects has shown that individual specifications of the ECVET recommendation can usefully be applied in the German context, but that not all objectives can be realised.

From the perspective of the projects, ECVET should be used more in the manner of a toolbox, not as a complete package:

- The projects see the learning-outcome descriptions as the centrepiece of ECVET. They could help to make learning attainment transparent system-wide, thus facilitating mutual references at interfaces. Units of learning outcomes can provide a meaningful structure for initial vocational training programmes, but continue to require clear curricular and didactic standards for the normal teaching process.
- The purpose of assessment and certification of learning outcomes serves to generate trust by providing valid evidence, thus facilitating credit transfer decisions. The vocational education system can make use of these instruments in order to attract skilled workers who have taken alternative learning pathways.
- They do not affect the current structure of the initial vocational training system and the principles of initial vocational training (integral view of initial vocational training, regulated final examination). It can be useful to assess individual units of learning outcomes, provided that there is no intention to dismantle the principle of a single coherent programme of initial vocational training.
- Moreover, the projects view procedures for documenting learning and evidence of learning (personal transcript) as ECVET instruments that are worth putting into practice.
- On the other hand, the projects take the view that within the framework of VET regulated under the Vocational Training Act and the Crafts and Trades Regulation Code, there is little scope to work with partnership and learning agreements or to make use of ECVET points. In the health occupations this is equally true as regards the use of ECVET points, although partnership and learning agreements are possible with the involvement of the supervisory authorities and are already being practised in individual cases.

Concretisation proposals on the points mentioned above were drawn up by the projects with the aim of generating trust, assuring quality and thus facilitating recognition processes. The use of the individual ECVET instruments in the national context can establish compatibility with European VET and facilitate mobility for learning and employment.

Concepts at the interfaces of the German VET system – findings from piloting the DECVET initiative

Christiane Köhlmann-Eckel

1. DECVET in the context of European and German vocational education and training (VET) policy

In commissioning the DECVET pilot initiative in the year 2007, the Federal Ministry of Education and Research (BMBF) was aiming to create more permeable pathways between areas of the German VET system. The approach echoes the developments initiated at European level to create a European area for lifelong learning, which can be viewed as the declared objective of European education policy. This will be realised by various means, including promoting the mobility of learners within and between education systems, establishing the transparency of qualifications, and enabling the accumulation and transfer of credit for learning outcomes. The objectives agreed in the context of the 2002 Copenhagen Declaration were to be achieved by testing central banks of instruments, both in the European area and within national education systems. Apart from developing a European Qualifications Framework (EQF) and a European reference framework for Quality Assurance in Vocational Education and Training (EQAVET), the other main strand is the implementation of credit transfer and credit points systems both in higher education (the European Credit Transfer and Accumulation System, ECTS) and in vocational education and training (the European Credit System in Vocational Education and Training, ECVET). As the result of a consultation process, a final “Recommendation of the European Parliament and of the Council on the establishment of a European Credit System for Vocational Education and Training” was published on 19 June 2009 (cf. EUROPEAN COMMISSION 2008; EUROPEAN COMMISSION 2009).

ECVET is aimed at improving *“the general understanding of citizens’ learning outcomes and their transparency, transnational mobility and portability across and, where appropriate, within Member States in a borderless lifelong learning area, and [...] the mobility and portability of qualifications at national level between various sectors of the economy and within the labour market”*.¹⁹ The necessary instruments (“technical specifications”) were to be tested in practice and developed through two rounds of European Commission calls for proposals (cf. European Commission 2008; European Commission 2010). The final evaluations of how far the envisaged goals can be achieved by the ECVET specifications have not yet been completed.²⁰

Mirroring activities on the European level, approaches to improve transparency and permeability have also been developed in Germany in the past few years. They are linked to “10 Guidelines for the Modernization and Structural Improvement of Vocational Education and Training” which were published in 2007 by the Innovation Circle on Vocational Education and Training (IKBB) of the Federal Ministry of Education and Research (cf. BMBF 2007).

Guideline 6 gives expression to the demand for greater permeability: *“Lifelong learning also means enabling transfers between the areas of school, transitional system, initial and continuing training and higher education. This is necessary not only in order to guarantee equality of opportunity but also to meet the increasing demand for higher education graduates. To achieve this, improvements must be made particularly at the interfaces, that is, with regard to functioning transfer mechanisms and the recognition of prior learning.”* (ibid. p. 13). Further on, the document states: *“It is a task for*

¹⁹ EUROPEAN COMMISSION 2009, p. 1

²⁰ On this, see also the article by LE MOUILLOUR in this volume

education policy to create adequate and equal education opportunities, to improve links between initial and continuing vocational training and to enhance transfer opportunities between educational sectors.” (ibid. p. 22)

2. Aims and tasks of the initiative

The DECVET pilot initiative had the task of modelling a credit transfer system for vocational education and training, thereby contributing to improving the vertical and horizontal permeability between subsystems of the VET sector. In the period from 2007 – 2012, ten pilot projects commissioned by the Federal Ministry of Education and Research (BMBF) worked on the development and testing of transparent and permeable procedures for the recording, assessment and transfer of credit for learning outcomes.

Testing of the developed procedures took place at four distinctive interfaces within the German vocational system. The interfaces considered were

- (1) between vocational preparation and dual system initial vocational education and training,
- (2) within dual system initial vocational training, at the interface between common, generic qualifications for occupations within a vocational field (prior to specialisation),
- (3) between full-time school-based and dual system initial vocational training, and
- (4) between dual system initial vocational training and advanced vocational training – regulated under Sections 53 and 54 BBiG.

Taking note of the Recommendation of the European Commission on the establishment of a European Credit system for Vocational Education and Training (ECVET) (EUROPEAN COMMISSION 2008 and 2009), it was also necessary to include the “technical specifications” defined in those documents as part of the pilot process. Apart from the definition of learning outcomes (1), these included the development of procedures for transfer and accumulation of credit, and of agreements for the establishment of ECVET partnerships (2). Further, the basis for credit transfer for learning outcomes was to be created by means of the learning agreement and personal transcript of records (3) and the allocation of ECVET points (4).

In comparison with the technical specifications for ECVET laid out by the European Commission, the working model of the BMBF DECVET pilot initiative was defined in a modified and variable form and closely aligned with the national framework conditions and statutory provisions. In particular, the maxim of the accumulation of learning outcomes was either relativised or excluded altogether. The rationale for this was the instruction that the initiative should give due regard to the special characteristics of the German VET system, such as the dual principle and the concept of the recognised occupation.

According to the call for proposals, this was intended to accomplish the following: *“The aim is to enable credit for learning outcomes/competences acquired in other courses or learning venues to be awarded towards the envisaged vocational qualification. To this end it is necessary to develop procedures for identifying, assessing and crediting vocational learning outcomes/competences and to pilot their application in practice”* (BMBF 2007a, own trans.). The framing of these objectives effectively specified the work programme for the ten pilot projects at the same time.

The central elements were

- (1) the definition of learning outcomes and their grouping into units of learning outcomes,
- (2) the development of procedures for the assessment, validation and subsequent documentation of learning outcomes,
- (3) the stipulation of credit points and
- (4) the development of corresponding credit transfer models.

3. Selected results of pilot testing

The findings from the DECVET pilot initiative show that the conditions and requirements for the shaping of access or transitions vary, depending on the “interface” of the system. In particular, interfaces supporting vertical permeability such as access from vocational preparation into dual-system initial vocational training, or access from dual-system initial vocational training into advanced vocational training (regulated nationally by Sections 53 and 54 BBiG) presented a challenge because of the different tasks and objectives of the respective vocational education subsystems. The instruments piloted in DECVET may contribute to improving transitions between subsystems (cf. FROMMBERGER et al. 2012a) by improving the credibility and mutual trust between the sending and receiving authority.

In the following presentation of selected results from the DECVET pilot, particular reference will be made to the work steps (1) defining learning outcomes and grouping them into units of learning outcomes, (3) stipulating credit points and (4) developing credit transfer models. The equally important component of assessing and validating learning outcomes will be neglected for the sake of focus; however, it is not to be seen as any less of a priority.²¹ On the contrary, in terms of relevance to the overall model, it is essential to take it into account since it is critical for the transfer of credit for learning outcomes.

3.1 Defining learning outcomes and grouping them into units of learning outcomes

For the DECVET pilot projects, the first step was to describe learning outcomes that learners acquired through vocational training programmes. Reference can primarily be made to the learning outcomes acquired through existing training programmes, but in no way are learning outcomes acquired in non-formal and informal learning contexts to be overlooked. This raised the question of the extent to which a description of learning outcomes is feasible at all. Given the proviso that due regard had to be given to the German VET system, this necessitated not only some reference to the existing regulatory instruments for the courses under consideration (training regulations, framework curricula, examination regulations) but also some structuring of these learning outcomes into assessable units of learning outcomes.

As a consequence, curricular elements were devised which enable assessment and documentation of the attained learning outcome for the purpose of credit transfer and which are components of a vocational qualification. In order to satisfy the requirement of outcome-orientation associated with learning outcomes, it was also necessary to consider the relevant learning venues in German VET, and to incorporate their findings into the units.

Characteristically, the units of learning outcomes developed by the DECVET pilot projects always make reference to the requirements of the employment system and reflect the work tasks that constitute the reality of the given occupation. The basis for the identification of learning outcomes

²¹ Cf. detailed findings from trials, BMBF 2012

was prior analysis of the existing formal regulatory instruments, and analysis and inclusion of company materials, job analyses and expert appraisals. Moreover, the basis of the model was always the complete action sequence. By including a competence model, the identified learning outcomes were modelled across the underlying competence dimensions and described by means of taxonomies. On average, this gave rise to three to four units of learning outcomes per year of initial vocational training, which either had occupation-specific qualities or were described generically across a vocational field.

Drawing conclusions from the DECVET pilot, units of learning outcomes can form the curricular basis for the transfer of credit for prior learning. Appropriate framework conditions would need to be in place (cf. FROMMBERGER et al. 2012a): for instance, in order to ensure nationwide consistency, a standardised uniform development procedure would need to be established. Furthermore the units would have to include both the company-based and the school-based regulatory instruments, and be derived from them. Beyond this it would be necessary to underpin the relevance to practice by means of job analyses and expert appraisals. Structured according to the German Qualification Framework (DQR) competence model (or that of the EQF), the aim would be to describe “complete work actions” so as to ensure the acquisition of occupational competence (cf. p. 144): *“Making units of learning outcomes part of the classification scheme of the regulatory instruments of vocational education could enable a nationally standardised, transparent and consistent reference framework for the structural anchoring of credit transfer opportunities – not credit transfer obligations – and thus indicate curriculum-linked transitions between subsystems of vocational education”* (HEMKES et al. 2012, p. 166, own trans.).

3.2 Stipulating credit points

Closely linked to the development of units of learning outcomes was the modelling of procedures for the allocation of credit points. The development of procedures for stipulating credit points and consequently for weighting units of learning outcomes in relation to the overall qualification could only be implemented with great difficulty during the DECVET pilot process. In order to quantify learning outcomes it was necessary to *“develop criteria for the weighting of units of learning and the stipulation and allocation of credit points in relation to the envisaged educational qualification. This calls for consideration and further development of the approaches in the European ECVET proposal”* (BMBF 2007a, own trans.).

In the “Recommendation of the European Parliament and of the Council of the European Union” (2009) on the establishment of a European Credit System for Vocational Education and Training (ECVET), a distinction is made between ECVET points and credit points. Whereas ECVET points are seen as *“a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification”* (ibid.), credits are understood as *“a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications”* (ibid.).

The juxtaposition of these two definitions presented the pilot projects with a challenge in terms of their remit. In DECVET the following criteria were laid down for the allocation of points to units of learning outcomes:

- *“the relative importance of the learning outcomes which constitute the unit for labour market participation, for progression to other qualification levels or for social integration,*
- *the complexity, scope and volume of learning outcomes in the unit,*
- *the effort necessary for a learner to acquire the knowledge, skills and competence required for the unit”* (ibid.).

Since credits were seen as a “currency” for increasing permeability, they proved to be an important component in the debate for the DECVET pilot initiative. Yet questions were constantly asked about how significant they were for the credit transfer procedure to be piloted in the German education system, where the accumulation of learning outcomes is irrelevant.

In summary, despite intensive efforts by the pilot projects to tackle this issue, no accepted procedure could be identified for the stipulation of points in consensus with the participating project partners. *“As a recommendation of the projects it can be asserted, nevertheless, that compatibility with the ECTS system should be extended with DECVET as the starting point, but under the premise that a basis other than workload must be found”* (FROMMBERGER et al. 2012a, p. 150 f. own trans.).

Moving forward from this point, the relationship between learning-outcome orientation and the measurement of learning outcomes by means of points based on contact hours remains to be discussed in future. Another question raised is how far input factors can be left out of the equation, if one follows the assumption that a connection exists between contact hours and learning outcomes (cf. *ibid.*). Furthermore, it can be concluded from DECVET that alongside these input factors, the determination of the level needs to be included in the procedure for stipulating points, should they be accorded greater importance than weighting of a unit of learning within an overall qualification (cf. FROMMBERGER et al. 2012a). A more detailed discussion about the allocation of credit points can be recommended, however, since they could also make their contribution towards the transfer of credit for learning outcomes in the international context. With regard to the transfer of credit for learning outcomes to increase permeability in the national vocational education system, currently the points are still only considered to have a minor function.

3.3 Development of credit transfer models

Although the Vocational Training Act (BBiG) facilitates options for the transfer of credit for learning outcomes,²² these procedures are very seldom initiated. Likewise no uniform nationwide standard exists in Germany for the implementation of the relevant provisions. In keeping with the realities of the German VET system and the access points and transitions considered in the context of the pilot projects, these procedures deal with the transfer of credit for learning outcomes towards training courses – credit transfer towards dual system initial vocational training, in the case of DECVET – and towards components set out in the formal examination regulations for recognised advanced vocational qualifications. Hence, different requirements emerged for credit transfer models at the respective interfaces. Whereas the transition into dual system initial vocational training – be it from vocational preparation or from full-time school-based courses – is a case of credit transfer towards another course, the transition between initial and advanced vocational training calls for discussion of credit transfer for learning outcomes towards examination components.

Thus three routes for credit transfer were identified by the DECVET pilot projects:

- (a) Credit transfer for learning outcomes which results in a reduction in the period of initial vocational training,
- (b) credit transfer for learning outcomes towards a further course without any time reduction but associated with the opportunity to acquire additional competence (e.g. through periods spent abroad or additional qualifications), and
- (c) by shortening preparation times for the advanced vocational examination and individualising the criteria for admission to the examination. This credit transfer opportunity is not found, however, in any formally regulated framework.

²² On this, see also the article by EBERHARDT/ANNEN in this volume.

The opportunities for credit transfer developed in DECVET (cf. BMBF 2012) are oriented in part to existing statutory conditions laid down in the Vocational Training Act, and complement these with efforts to develop standardised procedures which allow for equivalence comparisons. It does not call into question the ultimate power of the firms and companies involved to make their own decisions about credit transfer.

In order to offer credit transfer as an attractive aspect of vocational training courses, on the one hand adaptation of the existing statutory provisions of the Vocational Training Act could have a supportive effect. On the other hand, incentive strategies would also be helpful. However, this would require the provision of targeted information to the parties involved (FROMMBERGER et al. 2012b, p. 132ff.).

Summary

ECVET and DECVET are born of the endeavour to improve permeability, transparency and mobility between and within systems of education and training. Hence the design of units of learning outcomes is a crucial aspect for both the German system and the European education area. Another feature common to both ECVET and DECVET is that orientation to learning outcomes is the fundamental concept, even though explicit inclusion of input and, above all, process factors is called for in the German context, which should not be disregarded when designing such procedures.

The introduction of credit points into the German VET system is seen as a major hurdle. Enabling conditions first need to be established in order to realise the anticipated efficacy of the points. The question of credit transfer for learning outcomes remains a topic for further discussion with regard to the necessary enabling conditions and the potential efficacy of the mechanism. *“For more permeability at interfaces between the subsystems of vocational education and training, effective and individually usable credit transfer procedures constitute a necessary, but not always sufficient, broad-based precondition. Credit transfer can begin to exert an influence on the organisation of the system if it is incorporated into the regulatory instruments of vocational education and training as a structuring element, transforming the current interfaces in vocational education and training into connecting transitional zones”* (HEMKES et al. 2012, p. 165; own trans.). For such a purpose, units of learning outcomes may make an important contribution – but above all else, a will for reform is called for in vocational education practice and policy.

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**From experimental development to the structural implementation of credit transfer:
7 theses on the use of the DECVET results for the establishment of sustainable
permeability in vocational education and training²³**

Barbara Hemkes, Christiane Köhlmann-Eckel, Egon Meerten

The aim of the pilot initiative “DECVET – Development of a German Credit Transfer System for Vocational Education and Training”, which was launched on behalf of the Federal Ministry of Education and Research in 2007, was to develop and test procedures for the description, recording and credit transfer of learning outcomes. The following theses contain evaluations and recommendations regarding the results produced in DECVET with the objective of enhancing permeability between the sub-systems of vocational education and training in qualitative, quantitative, procedural and structural terms. In presenting these theses, we have made a conscious decision to take a selective and certainly controversial approach in adopting recommending statements that reduce and generalise the issues at stake with the goal of serving pragmatic debate on the use of the DECVET results for subsequent development processes.

Thesis 1.

Proper and individually useable credit transfer procedures form a necessary but not always sufficient and broadly effective prerequisite for greater permeability between the sub-systems of vocational education and training. Credit transfer can unfurl the power to shape the system if it is integrated as a structuring element within the scope of vocational regulatory instruments and turns the current interfaces in vocational education and training into transitional zones.

The following structural question arises with regard to the use and further development of the concepts, instruments and procedures for the credit transfer of learning outcomes to further educational and training courses developed in DECVET. Should the gaps and disparities that inhibit permeability at the interfaces between VET sub-systems be bridged by separate credit transfer procedures outside the regulatory level or should credit transfer act as a structural element in VET in the medium term by developing delineating interfaces to linking corridors?

The first of these cases involves a permeability approach which compensates for deficits (at the interfaces) and which is not strongly rooted in regulatory policy. This means that autonomous procedural processes are required which involve the expenditure of considerable human resources and time and will need to be negotiated (regionally) with VET stakeholders (chambers, companies, vocational schools etc.) as dictated by the respective prevailing facts and circumstances. The consequence could be that a multitude of various individual solutions which are not harmonised with one another are developed, the lack of transparency and standardisation of which considerably restrict mobility in the vocational education and training system.

The second, structurally based permeability approach aims at integrating the credit transfer of learning outcomes into the structural correlations of vocational education and training and at relating this to the VET regulatory framework. The current Federal Government and federal state

²³ This paper was first published in: Federal Ministry of Education and Research, BMBF (2012): *Durchlässigkeit und Transparenz fördern. DECVET – Ein Reformansatz in der Berufsbildung [Promoting permeability and transparency. DECVET – an approach towards reform in vocational education and training]*, Bonn, pp. 165-168.

reform processes for the implementation of competence and learning outcome orientation in regulatory instruments offer the ideal opportunity to include credit transfer issues in the structuring of the regulatory instruments and thus in the medium term open up a pathway to curricular linking of the VET sub-systems and therefore to a situation where permeability is structurally established (via credit transfer). Equally, this would also improve connectivity of vocational training courses with other education and training systems, in this case with higher education in particular.

Thesis 2.

The integration of learning outcome units into the system of regulatory instruments could facilitate a nationally standardised, transparent and binding reference framework for the structural establishment of credit transfer opportunities – not compulsory credit transfer – and thus indicate curricularly linked transitions between the sub-systems of vocational education and training.

Learning outcome units in their present form already display a high degree of harmonisation with the construction criteria and the system of (newly aligned) regulatory instruments, although they each fulfil different functions that complement one another.

The construction principles of competence and learning outcome orientation are constitutive for the development of learning outcome units and for the drawing up of regulatory instruments. Consideration is accorded to the systematisation model of the German Qualifications Framework (DQR) in both development processes. Both work concepts are aligned to the key objective of employability skills and structured competences via the identification or derivation of fields of activity that are typical to the occupation and complex (and of the work and business processes, work situations and orders characterised within such fields of activity), the totality of which map the overall context and profile of an occupation.

The general training plan and learning outcome units supplement each other within this process. Learning outcome units usually further specify and differentiate the competences and fields of activity outlined in the general training plan and thus are made easy to handle and transparent for the identification of areas of potential for credit transfer between occupations and training courses. They equally provide a differentiated framework for the planning and execution of learning outcome assessments for the purpose of credit transfer that is harmonised with the stipulations contained within the regulatory instruments. Expanding the system of regulatory instruments by adding the level of learning outcome units could therefore facilitate a more binding reference framework for credit transfer.

Thesis 3.

In learning outcome units, theoretical and practical contents are presented in an integrated form. Within this context, learning outcome units are structured on a cross-learning venue basis. Particular support for the alignment to cross-learning venue curricular elements is provided by the fact that the respective references to the company general training plan and to the vocational school skeleton curriculum for the learning outcomes described are shown in a transparent manner and mapped in terms of content. This linking of vocational school and company-based regulatory instruments within a single document acts as a model and may serve the further development of competence orientation. It also provides innovative impetuses for more extensive cooperation between learning venues.

Previous endeavours to intensify cooperation between learning venues have essentially been based on efforts to bring the two separate learning venues closer together via relevant communication and

cooperation structures. The difficulty frequently faced is that training theory and practice cannot be imparted in parallel or within a harmonised schedule for organisational reasons. It is ultimately not uncommon for trainees to be left to create this link for themselves.

Because the learning outcomes have a construction which is less oriented towards input and process factors and tend to be formulated with a view to describing learning outcomes achieved or not achieved, the specific structuring of the training processes and cooperation between learning venues are tasks for training staff and also for the trainees themselves. A document which describes learning outcomes in a cross-learning venue manner offers an opportunity for better identification of the correlations and references between vocational school and company-based training contents within an overall picture. This also makes it possible to gain increased transparency and understanding on training content on a cross-learning venue basis. This close interlinking of the general training plan and learning outcome units also ensures that learning outcomes needing to be described in a way that is independent of the learning venue are tied in with the company context from which they are generated.

Thesis 4.

The integration of learning outcome units and potential areas for credit transfer into the reference framework of the regulatory instruments could create a new content of significance and application for the statutory possibilities – thus far largely unused – provided by the Vocational Training Act for the credit transfer of previous education and training achievements and thus considerably increase the attractiveness of taking advantage of this provision for those affected.

There is legislation in place in the form of the Vocational Training Act (BBIG) at federal level and a host of ordinances at federal state level that makes it possible (but does not prescribe) the crediting of learning outcomes acquired from a previous course of education or training to a subsequent course of education or training. This legislation has not, however, thus far produced any significant effects in the real world of vocational education and training, i.e. very few trainees and trainers take advantage of it.

Integration of the curricular quality standards developed in DECVET (e.g. for the construction of learning outcome units, the description of learning outcomes and the identification of equivalences) into the reference framework of the regulatory instruments could alleviate the reservations and risk fears of trainees and trainers against the existing statutory credit transfer options.

Thesis 5.

Testing the equivalence of learning outcomes in relevant assessments is an absolute prerequisite for the identification of areas of potential for credit transfer. If we succeed in creating linking transitional zones at the interfaces of the vocational education and training system via the integration of learning outcome units into the regulatory instruments, this would significantly reduce the time and expense required to carry out extensive equivalence assessments and credit transfer procedures.

In order to ascertain equivalent learning outcomes between the sub-systems of vocational education and training characterised by transitions, a reliable analysis is required that permits meaningful statements to be made regarding the depth and breadth of learning of the comparable learning outcomes. This is a challenge that particularly arises at the vertical interfaces, since the aim here is to create an opportunity for credit transfer in a cross-sub-system manner from a course of education or

training that is assumed to be downstream to the next “higher” course of education or training. Such equivalence assessments always require precise individual consideration.

Establishing a structural basis via curricularly linked transitions will, however, render individual equivalence assessments of learning outcomes unnecessary. The equivalent learning outcome units created at the curricular level will act as a vehicle to force systemic integration. Notwithstanding this, there will be no effect on individual assessment of learning outcomes achieved via the learning outcomes assessment procedure.

Thesis 6.

Acceptance of and involvement in credit transfers of previously acquired learning outcomes to a subsequent course of initial or advanced training require a basis of trust between VET stakeholders working in the field of practice. The determining factor in this regard is trust in the effectiveness of assessment instruments and procedures for recording the learning outcomes. The most effective way of building trust is a learning outcome assessment process that indicates employability skills in direct relation to the occupational field of work or in a way which is replicable within this occupational field of work.

Companies providing training are mostly only prepared to conclude a training contract which shortens the period of training (“lateral entry”) if they have a degree of certainty in believing that the learning outcomes offered for credit transfer are actually in place, both in terms of depth and breadth of learning and with relevant reference to training and work practice. Such a basis of trust can be consolidated at companies accepting trainees if the theoretical assessments of knowledge at the vocational school can be supplemented by performance-oriented assessment procedures which permit learning outcomes and employability skills to be identified via the successful completion of real company-based work tasks and orders. Within this context, in-training forms of monitoring and reflecting upon learning outcomes, the results of which are recorded and continued in a document, have proved to be successful and trust-building for training staff and companies providing training in particular.

Thesis 7.

The learning outcome assessments especially practised for credit transfer are establishing a second “assessment line” underneath the regulatory level which ties in additional work capacity that is often in very short supply and may therefore make broadly based implementation more difficult. The chances of implementing credit transfer specific assessment procedures could significantly improve if we succeed in creating synergies between the implementation of learning outcome assessment procedures and the regular interim and final examinations and in using these for credit transfer processes.

The identification of learning outcomes implies that DECVET involves an “examination practice” that runs in parallel on two levels during training. On the one hand, the regulatory instruments contain the interim and final examinations to be conducted during training, and these should not be called into question as such. On the other hand, separate learning outcome assessments – some of which take place during the year – are required for the identification of the prior learning of trainees that is therefore eligible for credit transfer. From the point of view of education and training stakeholders, these two separate examination lines will be difficult to maintain in future for time, human resources and procedural reasons and thus also represent the identification of a hindering factor for the establishment of a pragmatic and accepted credit transfer process. On the other hand, the credit

transfer specific “examination line” exhibits considerable congruities with the examination standards and forms regulated via ordinance in curricular terms and with regard to examination design and examination methodology. Reference may be made in this regard to aspects such as the “extended examination” and the “company-based order” examination form. One obvious way of resolving the problem is to examine possible procedures for linking training-based examination forms with credit transfer related assessment procedures or for seeing how these can be executed and used in an integrative way.

Initial vocational training modules (“Ausbildungsbausteine”) at the transition from school into work and for second-chance qualifications

Christoph Acker

Background

Germany’s dual system of initial vocational education and training (IVET) is a brand with high international repute. But declining numbers of school-leavers, a trend towards higher secondary school-leaving certificates and a growing inclination towards higher education studies all have impacts on IVET in Germany. Against this backdrop, improving permeability offers an opportunity to meet industry’s future demand for skilled workers by means of dual system IVET.

To secure the supply of skilled workers in future, it will be necessary to unlock the potential, resources and talents of young people in transition between school and work at an early stage, and to promote the continuing vocational education and training of (young) adults and the immigration of foreign skilled workers (cf. BIBB 2012).

A large proportion of (young) adults are either unemployed or in precarious employment for want of a vocational certificate. According to the Data Report to accompany Germany’s annual Report on Vocational Education and Training for the year 2012, 2.21 million people between 20 and 34 years of age have no vocational certificate. That amounts to considerable potential to make up the shortfall in skilled workers, bearing in mind that 65.8 per cent of these people have lower or intermediate secondary school-leaving certificates, and indeed 16.1 per cent have higher education entrance qualifications. Certification-oriented second-chance qualification programmes²⁴ structured in terms of learning outcomes can help to reduce the proportion of semiskilled and unskilled (young) adults currently in employment or unemployed.

Moreover, a transitional sector has become established in the education system between the general education school system and dual system IVET. This transitional sector comprises a large number of prevocational training courses initiated by the federal government and by the Länder. Despite the continuing recovery of the training places market, many young people still end up spending an initial period in the transitional sector upon leaving general education. In 2012, according to the Federal Statistical Office, some 267,000 young people still embarked on this kind of training (STATISTISCHES BUNDESAMT 2013). With targeted support, a portion of the young people in the transitional sector could complete an in-company apprenticeship successfully. Many young people begin an alternative to an apprenticeship but continue to seek an apprenticeship place nevertheless and hope for a suitable placement through the Federal Employment Agency. But all too often, these young people end up moving from one transitional course straight into another.

The transitional sector is characterised by a proliferation of training formats and programmes that has become almost unfathomable for training professionals, for companies or even for the young people engaged in the training process. This explains the poor acceptance of many of the courses and the resulting certificates for the purposes of the apprenticeship or the labour market (WEIß 2010).

²⁴ Second-chance qualification is understood to mean training provision for semiskilled and unskilled individuals preparing to take the final qualifying examination in a recognised occupation (under the “external candidates” procedure for non-apprentices). Participants are employed or unemployed people without a formal vocational qualification in the given occupation. It is also possible for people undertaking second-chance qualifications to combine learning with employment.

The individual systems of German VET have hitherto operated in parallel but more or less in isolation. Completed and validated learning attainment and occupational competences can very rarely be transferred from one system to another. This is due to the lack of a uniform classification system for documenting occupational competence and thus making it transparent and transferable in the form of credit for prior learning. In response, the “10 Guidelines for the Modernisation of Vocational Education and Training” which were published in 2007 by the Innovation Circle on Vocational Education called for the “enabling [of] transfers between the areas of school, transitional system, initial and continuing training and higher education.” In order to optimise transitions and pathways into in-company IVET, it urged the development of so-called “training modules”. These were intended to open up transitions into regular dual system IVET by making it possible to gain credit for the prior qualifications in the form of a shortened vocational training period or admission as external candidates to the chamber examination (BMBF 2007).

Nationally standardised and competence-oriented training modules

In response to the recommendation of the Innovation Circle on Vocational Education (IKBB), in 2007 the Federal Institute for Vocational Education and Training (BIBB) was commissioned to develop training modules, in collaboration with experts from vocational practice, for a total of 14 existing training occupations from the skilled crafts and from industry and commerce, including three two-year training occupations. These occupations were the following:

- Management assistant for retail services (*Kaufmann/-frau im Einzelhandel*)
- Sales assistant for retail services (*Verkäufer/-in*)
- Freight forwarding and logistics services clerk (*Kaufmann/-frau für Spedition und Logistikdienstleistungen*)
- Warehouse logistics operator (*Fachkraft für Lagerlogistik*)
- Warehouse operator (*Fachlagerist/-in*)
- Industrial mechanic (*Industriemechaniker/-in*)
- Electronics technician for production engineering (*Elektroniker/-in für Betriebstechnik*)
- Chemical technician (*Chemikant/-in*)
- Motor vehicle mechatronics technician (*Kraftfahrzeugmechatroniker/-in*)
- Salesperson specialising in foodstuffs (*Fachverkäufer/-in im Lebensmittelhandwerk*)
- Plant mechanic the sanitary, heating and air conditioning systems (*Anlagenmechaniker/-in für Sanitär-, Heizungs- und Klimatechnik*)
- Electronics technician specialising in energy and building technology (*Elektroniker/-in Fachrichtung Energie-und Gebäudetechnik*)
- Painter and varnisher (*Maler/-in und Lackierer/-in*)
- Building and object coater (*Bauten- und Objektbeschichter/-in*)

The training modules are distinguished by a set of characteristic features (cf. FRANK 2010, FRANK / GRUNWALD 2008):

- They are standardised and didactically justified components of the content a recognised occupation, taught for a defined length of time and oriented towards typical work and business processes for the occupation and field of employment. Taken together they comprise the entire occupational profile and all its content.
- They are not specific to any target group or learning venue; in other words, they can be used either in dual system IVET, in full-time school-based courses, in extra-company training or in the transitional sector.

- The provisions set out in the current training regulations governing intermediate and final examinations remain unchanged.
- They are rooted in the principle of the recognised occupation. Full occupational status is achieved when all the contents of the training modules for a full training occupation have been completed and the envisaged chamber examination has been passed successfully.
- They are formulated in terms of competences and describe in terms of occupational competences what learners should be able to do upon completion of a module. The underlying definition of a competence is oriented to the field-of-learning concept advanced by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK).

Training modules represent the first instrument in the context of prevocational training, publicly-funded IVET and second-chance qualification to take up the challenges of competence-orientation, integration of the general training plan and the framework curriculum for a recognised occupation, and orientation to work and business processes (WEIß 2013).

Having been devised on the basis of recognised occupational profiles, training modules lay claim to a transparent and standardised national frame of reference. Competences acquired informally in vocational training and in practice can be documented and thus made eligible for the transfer of credit for prior learning. Training modules describe what learners should be able to do in terms of occupational competence – regardless of the particular learning venue in the VET system at which they acquired these competences. Training modules thus create the preconditions for credit towards a subsequent in-company apprenticeship in the form of a time reduction and shortening of the initial vocational training period. And they also make it possible to accumulate comprehensible modular qualifications within the course of company-based activities, outside of working hours, or through training programmes for the unemployed which open up access to the final chamber examination as an external candidate (WEIß 2013).

Training modules have been piloted since 2009 as part of the JOBSTARTER CONNECT programme. The fundamental proposition to be examined is this: training modules raise the quality of transition measures and structure second-chance qualification; they make learning outcomes transparent for young people, companies and chambers.

The piloting of training modules on the JOBSTARTER CONNECT programme

In the course of JOBSTARTER CONNECT, 40 projects were selected in total in two funding rounds. These projects have been and continue to be piloting training modules within many existing measures in the transitional sector, publicly funded extra-company IVET²⁵ and second-chance qualification. Up to February 2013, almost 4,000 participants had begun a training programme based on a training module.

²⁵ “Extra-company training” refers to initial vocational training provision which is largely publicly funded and serves young people with market disadvantages, with social disadvantages, with learning difficulties or with disabilities. It is provided under the German Social Code (SGB II and III), under programmes to stimulate vocational training in Germany’s eastern states (*Bund-Länder-Programme Ost*) and through (complementary) programmes of the Länder. The criterion for inclusion in this category is the form of financing and not the learning venue. Accordingly, initial vocational training that is mainly publicly funded and takes place in companies is still counted as extra-company IVET (source: <http://www.bibb.de/de/wlk30323.htm>, last accessed 25.03.13).

With the help of the projects, the contents of the different courses and training measures are geared towards IVET under the dual system in order to produce compatible “education chains leading to qualifications” (*Bildungsketten*). This is intended to give young people and young adults easier access to in-company IVET and to the final examination governed by the Vocational Training Act and the Crafts and Trades Regulation Code, and at the same time to improve the transferability of the acquired occupational competences.

In addition the academic backup and evaluation of the programme is recording what effects can be observed in the individual measures through the process of conversion to the concept of training modules.

In concrete terms, regional projects were selected which addressed certain target groups and/or the following subsectors of VET, with a view to piloting the training modules:

- Training modules for the training of unplaced applicants from previous years. These address young people “without any fixed programme context” who are taking part in introductory training schemes (*Einstiegsqualifizierungen*, EQ) or work placements financed by the company itself.
- Training modules at the interface between assistance for disadvantaged individuals and in-company apprenticeships are directed at participants in prevocational training schemes and publicly funded extra-company IVET programmes, particularly under the auspices of the Federal Employment Agency (BA) and the Länder.
- Training modules in the various school-based forms of provision, i.e. the prevocational training year, the basic vocational training year and the full-time vocational school. In this context, pilot testing takes place within the framework of the specific interpretations and regulations in force in the given German Land.
- In second-chance qualification the training modules are piloted in the context of continuing vocational education and training and by support programmes such as “Continuing vocational education and training for unqualified and older workers in companies” (WeGebAU²⁶) or the “Initiative to flank structural change” (IFlaS²⁷). The objective is admission as an external candidate to the final/journeyman's examination.

With regard to recognition and credit for learning outcomes, the programme pursues the following objectives (BIBB 2008; 2009):

- Training modules should contribute to greater ease of credit transfer for previously acquired competences according to Section 7 BBiG or Section 27a HwO or consecutive admission to the final examination pursuant to Section 43 para. 2 BBiG / Section 36 para. 2 HwO or Section 45 para. 2 BBiG / Section 37 para. 2 HwO;
- Training modules should be considered as an approach whereby mandatory training periods pursuant to Section 8 BBiG or Section 27b HwO can be reduced.

²⁶ WeGebAU is a programme of the Federal Employment Agency (BA) focusing on unskilled employees in small and medium-sized companies. Further information (in German) at: http://www.arbeitsagentur.de/nn_508552/zentraler-Content/A05-Beruf-Qualifizierung/A052-Arbeitnehmer/Allgemein/Weiterbildung-WeGebAU.html

²⁷ IFlaS is likewise financed by the BA. The support programme enables low-qualified people to acquire recognised vocational certificates or modules towards a full occupational qualification and helps those returning to an occupation or re-entering the labour market to get back into employment subject to mandatory social security deductions. Further information (in German) at http://www.arbeitsagentur.de/nn_166482/zentraler-Content/HEGA-Internet/A05-Beruf-Qualifizierung/Dokument/HEGA-12-2012-VA-IFlaS.html

For the recognition and award of credit for occupational competence it is indispensable to ascertain whether, when, and to what extent the prior competences have actually been acquired. In many consultation rounds the CONNECT projects developed common standards. No examination in the formal-legal sense is intended, but rather an internal validation of successful attainment. This should serve companies as credible evidence of occupational proficiency and hence, in keeping with the Vocational Training Act, improve the opportunities for crediting prior vocational learning towards the mandatory period of initial vocational training, and for granting admission to the final examination as an external candidate. The standards are not imposed “from above” but developed and tested “from practice”, taking account of the implementation procedures (cf. EKERT et. al 2012).

Experience from piloting the training modules

a) Credit in the form of a time reduction

The statutory bases for credit in the form of time reductions (“Crediting of Previous Vocational Education and Training towards the Period of Initial Training”) are essentially stated in Section 7 of the Vocational Training Act (BBiG). This form of credit is always tied to an ordinance in Land law and a joint application by the company and the young person. Corresponding Land ordinances only exist in certain German Länder, however. Section 7 makes reference to completed training courses, not to acquired competences or learning outcomes. Moreover, it is inconsistently applied in practice. Thus, credit in the form of a time reduction is frequently awarded for a prevocational training course or a (long-term) work placement towards the subsequent IVET programme upon joint application by the company and the young person, even in the absence of any corresponding Land ordinance. It may be necessary to clarify the legal bases for the award of credit for previously acquired competences.

Because of the unclear legal position and the regional variations in the “credit transfer tradition”, credit in the form of a time deduction from the vocational training period pursuant to Section 7 BBiG – and particularly placement straight into the second year of IVET – is the exception rather than the rule on many courses in which training modules are being piloted. However, it is rarely useful or possible to teach the competences of the first year of IVET in transition system courses, most of which run for less than a year. The teaching of modules lasting up to six months can help to confirm career choice and improve the chances of an in-company IVET placement and assist in the further planning of in-company IVET. It also raises young people’s self-esteem when they begin in-company IVET feeling well prepared. The opportunities for a time reduction pursuant to Section 8 BBiG still remain open to the company and the trainees once IVET is under way.

Another picture emerges in the context of company-based work placements; for example, “introductory training” schemes. In long-term work placements (generally between six and twelve months in duration), which are generally associated with high placement rates into IVET, the use of training modules can add further value. A comparatively high number of placements straight in the second year of IVET are observed where candidates have managed to complete the training modules successfully during the introductory training period. Frequently, candidates begin introductory training schemes which are converted after a few months into a regular apprenticeship contracts. The teaching of the training modules makes for easier coordination with the part-time vocational schools and the competent bodies (cf. EKERT et. al 2012).

What might explain any reservations about credit in the form of time reductions? The companies’ interests in credit transfer have been heavily influenced by their own order books and the general situation on the training-place market. Therefore they will only award credit on a voluntary basis in extraordinary market situations. The demographic trend is requiring many companies to rethink this matter in order to be able to hold their own with other companies in the competition for trainees. As long as credit transfer is the exception and not the rule, however, young people’s awareness of the

opportunities that exist for obtaining credit in the form of a time reduction and their interest in applying for such credit itself are likely to be relatively low-key.

b) Reduction of the period of training pursuant to Section 8 para. 1 BBiG

Reductions of the period of training pursuant to Section 8 para. 1 and early admissions to the final examination pursuant to Section 45 para. 1 BBiG are not interpreted as credit in the form of a time reduction under the JOBSTARTER CONNECT programme. No crediting of prior training content towards examinations is intended in JOBSTARTER CONNECT.

c) Recognition of training modules

The recognition of training modules primarily affects the second-chance qualification system. Training modules could be used to demonstrate evidence of occupational proficiency.

For the acceptance of competences acquired informally in the course of working in a particular occupation and additional learning undertaken in second-chance qualification, now as ever the prerequisite is completion of the final chamber examination (as an external candidate). For admission to the final examination as an external candidate, according to the Vocational Training Act or Crafts and Trades Regulation Code it is necessary to provide evidence of having worked in an occupation for at least one and a half times as long as the prescribed initial vocational training period. This form of evidence may not be required if, by providing references or other evidence, convincing proof can be shown that the necessary occupational proficiency has been acquired. Studies show that for the majority of competent bodies, very few applicants to date have been admitted to chamber examinations as external candidates on the basis of this (discretionary) provision on presenting evidence of occupational competence (cf. GRUND; KRAMER 2010).

Modular systems which are nationally standardised and referenced to the regulatory instruments are having an impact here. The guideline published at the end of 2012 by the National Agency for Continuing Vocational Education and Training in the Skilled Crafts (*Zentralstelle für die Weiterbildung im Handwerk, ZWH*) on good practice and standards in second-chance training for the admission of external candidates to final examinations (*“Good Practice und Standards in der Nachqualifizierung für die Zulassung zur Externenprüfung”*) comes to the following conclusion: *“for second-chance qualification in occupations in which supra-regional/nationwide modular concepts have been developed, these should be brought into use. Modular concepts facilitate admission to the final examination as an external candidate, since they correspond to the specifications of the general training plan [and the framework curriculum] and are normally accepted by the chambers as evidence for exam admission.”* (KRAMER 2012, p. 10, own trans.)

According to the ZWH, training and qualification concepts should also be drawn up for occupations not yet covered by standard nationwide modules, taking account of the standards issued by the Federal Institute for Vocational Education and Training (BIBB) for the development of training modules.

Conclusions

The results from the piloting of training modules to date give grounds for optimism: by February 2013, across the 40 regional CONNECT projects, around 4000 young people and young adults were taking part in training based on training modules in a great diversity of programmes and training formats. In many pilot regions it is apparent from the project experience and the interim results of evaluation that the training modules represent a new quality level for training in the transitional sector, in publicly funded IVET and in second-chance qualification:

Improvements of transitions from training courses into in-company IVET

- Greater usability by companies through consistent orientation of courses towards dual system IVET;
- Transparency in the training process (e.g. intensified consultation and coordination processes between the learning venues involved);
- Through competence and outcome orientation, an intensive feedback culture develops which has positive implications for training quality and the motivation of young people;
- Through curricula oriented to learning outcomes, theoretical and practical learning can be interwoven more effectively;
- Meaningful and standardised documentation of acquired occupational competence;
- As an element of external IVET management, training modules can support increased transitions into in-company IVET and credit in the form of time reductions.

Facilitation of access to the final examination as an external candidate pursuant to Section 45 para. 2 BBiG

- Transparent documentation for admission procedures;
- Standardised procedure for assessments of competence (internal validation of training outcomes by the provider) before beginning and upon completion of preparation courses.

In individual regions, part-time vocational schools have joined the pilot at their own request. Many projects have also extended the pilot to additional courses or fields of activity. In Bavaria and Hamburg, training modules are also being used for developing skills or providing IVET in penal institutions.

Feedback from the Länder is positive. Hamburg and Berlin are requesting an expansion of the training occupations “sliced” into training modules, particularly for extra-company IVET programmes. The background to this is Bertelsmann Stiftung’s strategic framework for “Systematic school-to-work transitions” (*Übergänge mit System*),²⁸ which was drawn up in cooperation with eight Länder and the Federal Employment Agency. The reform of the transitional sector from school into work in North-Rhine/Westphalia, in the framework of the school development process under the “Training and examination regulations in vocational schools” (*Ausbildungs- und Prüfungsordnung Berufskolleg*, APO-BK) implements training modules in full-time vocational schools. The state of Saxony-Anhalt is also planning to make greater use of training modules in the orientation of transition measures and second-chance qualification options.

What should be avoided, however, is a confusing system of different modular structures or units of learning outcomes. Apart from the BIBB training modules and the qualification modules developed for vocational orientation, other approaches being developed and applied include modular qualifications by the Federal Employment Agency, units of learning outcomes in DECVET, and modular concepts in second-chance qualification. In our view, it is necessary to reduce the diversity of instruments to a manageable number in order to improve transparency at system level and raise awareness of the remaining instruments among companies, young people and competent bodies. To that extent, it makes more sense for credit transfer purposes to use nationally standardised units of learning and adapt the methodology and training didactics for particular target groups and measures, rather than to adopt different units of learning for different target groups and measures.

²⁸ Further information on the strategic framework for “Systematic school-to-work transitions” is available at http://www.bertelsmann-stiftung.de/cps/rde/xchg/SID-13154EC6-A2D94EA4/bst_engl/hs.xsl/99090_99092.htm

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Implementation of ECVET:

Level of awareness rising – specific added value still not identified in many areas.

Remarks on the status quo, barriers and drivers of the policy process

Karin Küßner / Nikolas Schöpf

Stakeholders in Germany¹ and Europe² are in agreement on how vocational education and training can be modernised and on how its attractiveness can be increased. Measures particularly include improving transparency, mobility, permeability and the recognition of occupational competences and the promotion of lifelong learning.

The EQF and ECVET recommendations and the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) now provide standardised concepts and instruments for the practical implementation of these goals. Once trials and testing have taken place from 2012 onwards, the ambitious timeframe at a European level intends *“for ECVET to be gradually applied to VET qualifications at all levels of the EQF”*³. This can only succeed if the instruments are known and accepted accordingly. These are conditions that are closely linked with the political implementation of ECVET in Germany.

The present article deals with the implementation of ECVET in Germany and will address the following aspects in greater detail. In the first part, we round up practical experiences that have emerged from the ECVET pilot projects. These provide an impression of the implementation of the instrument relating to the aim of improving transnational mobility. Focusing on the barriers and hindrances to implementation, we then summarise the results of a study undertaken in February 2012 by the ECVET National Coordinating Agency (NKS ECVET). The second part of the article looks at the field of continuing training, an area that has thus far played only a subordinate role in the debates surrounding ECVET. The results of an investigation into the ECVET consultation process once again draw attention to the drivers and impediments in the implementation of this instrument. We also sketch out potential fields of application discernible alongside the support provided for mobility.

1. The first step is the hardest – the “added value” of ECVET in mobility measures

In order to pilot ECVET at a national level, the Federal Ministry of Education and Research (BMBF) launched the pilot initiative “DECVET – Development of a Credit Transfer System in Vocational Education and Training”. The aim was to use pilot projects as a basis for ascertaining how permeability can be improved at the interfaces in initial vocational training.

In order to pilot ECVET within the context of transnational mobility, the BMBF commissioned the National Agency “Education for Europe” at the Federal Institute for Vocational Education and Training (NA at BIBB) to set up an ECVET National Coordinating Agency (NKS ECVET) at the end of 2010. The task of the NKS ECVET is to advise and support education and training stakeholders in the application of ECVET. Since 2012, the work of the NKS has been backed up by a 13-strong national

¹ See Federal Ministry of Education and Research (BMBF) 2007 and Key Points for the Development of a German Qualifications Framework, results of the 4th “German Qualifications Framework” Working Group on 15 April 2008

² “Strategic Framework for European Cooperation in Education and Training (ET 2020)”

³ European Commission 2009, p. 13

team of ECVET experts housed at the NA. At a European level, the ECVET team⁴ and the NetECVET Network⁵ support stakeholders in the implementation process. In addition to this, the ECVET Network⁶ provides all interested parties with a platform for information, communication and the mutual exchange of experiences.

1.1 ECVET pioneers show the way

Across Europe, more than 250 projects⁷ have thus far addressed the description of learning outcomes, the design of units of learning outcomes, the recording and documentation of learning outcomes and the awarding of points for and transfer of learning achievements. Education and training stakeholders who have already piloted ECVET for their mobility measures are convinced of the benefits of the learning outcomes oriented approach. From the point of view of these “ECVET pioneers”, the partnership agreement, the learning agreement and the personal transcript of records have proved their worth as suitable instruments for the quality assurance of mobility measures. The standardised description of learning outcomes acts as a “common language” for the partner institutions.

“Whereas in previous projects we were always trying to compare national occupational profiles or systems as a whole, the orientation towards learning outcomes or the focus on knowledge, skills and competences acquired is bringing about a fundamental simplification in cooperation with European partners in vocational education and training.”⁸

Instead of comparing curricula, partners communicate via vehicles such as fields of occupational activity and typical occupational tasks to be carried out by learners during their stay abroad. The competences required for execution are then stipulated on this basis. This ensures that all those involved in the mobility measure, including the learners, are clear as to which learning outcomes are expected at the end of the stay abroad and as to the methods and criteria that will be used to record these outcomes. These specific content and structural arrangements, well-practised processes and tried and tested instruments guarantee a high standard of training.

From the point of view of the training practitioners implementing learning outcomes orientation, ECVET increases the quality of mobility phases. In addition to this, the ECVET concept makes a sustainable contribution towards enhancing the “image” of periods of training spent abroad. It fosters the interlinking of theory and practice and thus helps upgrade “work-based learning” in Europe.

“In my experience, therefore, preparation for a stay abroad that is supported by the help of the ECVET tools is of great significance for success. Because there is very little awareness of many German occupations and training pathways in other European countries, ECVET can assist in achieving better recognition and matching between qualifications profiles in Europe.”⁹

⁴ See www.ecvet-team.eu

⁵ Cf. www.netecvet.com

⁶ See www.ecvet-team.eu

⁷ See the Adam Database – European Project and Product Database for Leonardo da Vinci, 2013

⁸ ECVET expert Hartmut Schäfer in: <http://www.ecvet-info.de/de/306.php>

⁹ ECVET expert Mathias Döbler in: <http://www.ecvet-info.de/de/306.php>

1.2 The establishment of a “culture of trust” is the basis for success

Alongside the improvement in transparency and quality, the establishment of „mutual trust“ between the cooperating partner institutions is in particular perceived as a positive result of the application of the standardised principles and procedures of ECVET: *“increasing mutual understanding while respecting the cultural differences”* (PEHLIVAN/KARGI 2012, p. 71).

“The first step was to negotiate and proceed on a joint pathway along the discourse lines of “pragmatic approach” versus “good basis in research” and to develop a common language. [...] This created a hothouse for the future, in which the consortium (free from disruptive influences) was able to develop training and practically related solutions.”¹⁰

A key strength of the ECVET pioneers is considered to be the fact that a large group of education and training institutes from various countries and learning contexts congregated within a relatively short period of time. The mutual trust that was established at various levels, such as between home and host institutions as well as between training providers and the competent bodies, is perceived as a benefit and a success factor. From the point of view of those involved, the cooperation between experts from academic and vocational education in particular has loosened incrustations and softened structures.¹¹ Mutual trust is an essential prerequisite for ensuring that competences acquired in a different learning context can be recognised and credited without additional conditions and restrictions. The aim of functioning transnational ECVET partnerships is, therefore, to establish sustainable cooperation structures (“communities of practice”) beyond the term of the project which other institutions can join. The partners in the ECVET pilot project CREDCHEM have, for example, set up just such a European education and training association. 12 VET institutions from 8 countries already belong to the “CREDCHEM Network”¹².

1.3 From the “laboratory” to the “field”

Up until now, however, the positive experiences outlined have had “island status”, as shown by the results of a survey of 255 education and training institutes conducted by the NKS ECVET in 2012.¹³ Beyond the institutions involved in the relevant European and national funding programmes, awareness of ECVET remains low and only individual education and training institutes have gained practical experiences thus far.

	Innovation transfer projects	Mobility projects
2007	4/30	-
2008	8/28	-
2009	8/28	-
2010	8/30	12/599
2011	6/31	9/704
2012	7/34	11/668

Table 1: Number of ECVET projects funded in Germany in the Leonardo da Vinci PLL in relation to the total number of projects funded (source: NA Annual Reports)

Whereas transparency instruments such as the Europass, the European Qualifications Framework (EQF) and the German Qualifications Framework (DQR) are already widely known, relatively few education and training stakeholders hold a definite picture of ECVET and the added value of its

¹⁰ Ueffing 2012, p. 16

¹¹ Ibid. p. 3

¹² Cf. CREDCHEM Network launched. In: Ausbilder 6/2012, p.5

¹³ Cf. ECVET National Coordinating Agency ECVET (2012)

practical application.¹⁴ Although the instrument is expected to bring benefits and European objectives are fundamentally shared, 69% of respondents also perceive specific hindrances in connection with the implementation of ECVET.

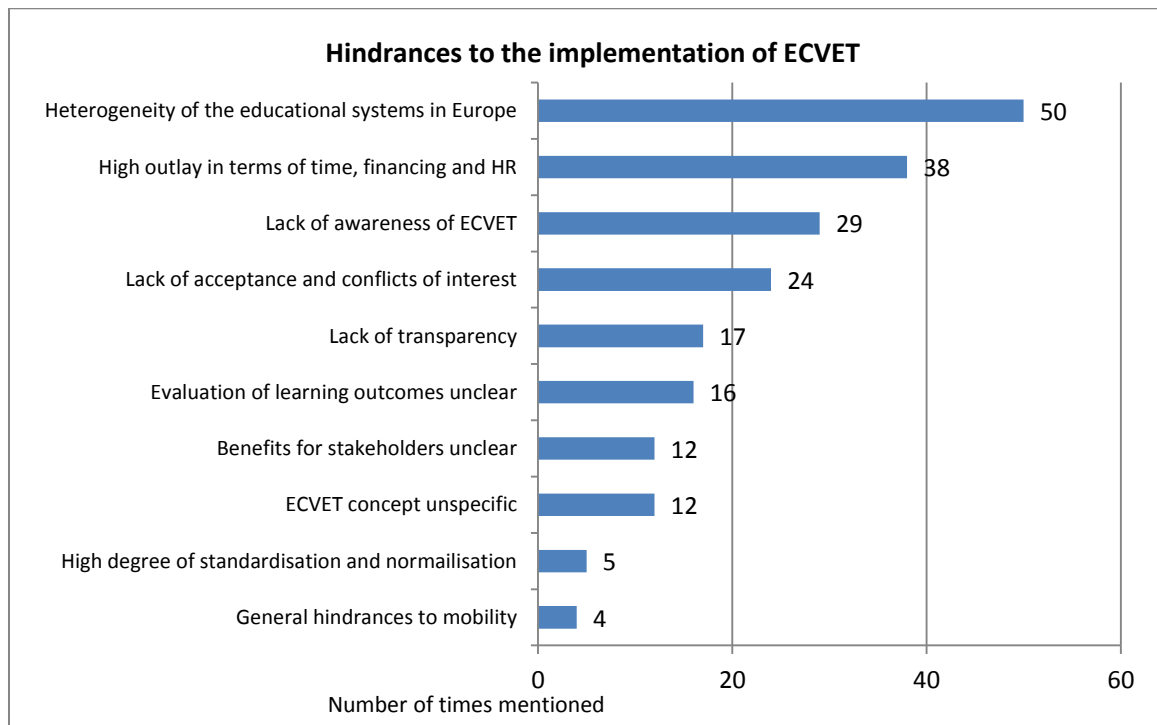


Table 2: Hindrances to the in the implementation of ECVET, source: online survey of the NKS ECVET 2012

“On the one hand, the responses reflect the everyday situation of the respondents as well as their perception of the European vocational education and training landscape. In this regard, the heterogeneous structure of this landscape and, in concrete terms, the behaviour and specific characteristics of the stakeholders are addressed. Within this process, a correlation with the contributions which the German VET system views in problematic terms is discernible.”¹⁵

The low level of awareness of ECVET, a lack of information, insufficient support provision for the implementation of ECVET in Germany and other European countries and *“a lack of impetus at a national level”* are viewed as hindrances. Because the ECVET system is frequently viewed as (too) complex, many survey participants associate the application of ECVET with high additional costs and increasing bureaucracy. There continues to be a close correlation between lack of awareness and lack of acceptance together with conflicts of interest between the organisations involved. From the point of view of the survey participants, the reasons for the increased difficulties in introducing ECVET are *“national reservations”, “national vanities”, “the federal structure of the VET system”, “encrusted attitudes of various vested interest groups which see ECVET as jeopardising the dual system in Germany”* and *“too few practitioners in the planning committees”*.

“There is resistance to ECVET in many countries (e.g. to credit points in Germany) because of the fear of the loss of traditional parameters and an assimilation of European vocational education and training systems.” “Hindrances are inherent within the system. The partite organisations in dual VET are still displaying too little willingness to make training contents [...] compatible with the ECVET system. [...] Up until now, these benefits

¹⁴ Ibid. p. 2

¹⁵ de Riese 2012, p. 92

have not yet been identified as benefits by the protagonists of vocational education and training, including the trainees.”¹⁶

Uncertainty regarding the benefit of ECVET is thus leading to a widespread defensive tendency to „wait and see“. From the point of view of the survey respondents, this is also the result of the “*absence of a legal basis for the credit transfer or recognition of ‘partial qualifications’*”.

“The implementation of ECVET is subject to a market mechanism. We are dealing with training markets, and these operate on the principle of “supply and demand”. The result is an implementation criterion for European educational policy that sounds banal. The training market must have a requirement for an instrument such as ECVET. Therefore the focus needs to be on developing an incentive which must have its basis in additional benefits.”¹⁷

The development of a convincing argument for the practical benefits of applying ECVET needs to be embedded in discussions on the realisation of the equivalence of recognition of learning outcomes acquired via various educational pathways.¹⁸ This also means that the stakeholders involved will need to rethink and redefine their respective interests and roles.

1.4 ECVET between hope and scepticism

From the results and experiences thus far gained by educational stakeholders in the piloting of ECVET for transnational mobility, the conclusion that may be drawn is although the concept is considered to be functional and convincing, there are specific issues of implementation that need to be defined in more detail and ECVET meets with a not inconsiderable degree of scepticism and generates conflicts of interests, especially in the case of the education and training institutes providing credit. German trade and industry, for example, supports the objective “*but fears that the complex system (ECVET) will not deliver any added value to practice.*”¹⁹ As far as the trade unions are concerned, the critical questions regarding ECVET implementation seem to outweigh any expected added value.²⁰

Against this background, the BMBF evaluates the results acquired via the DECVET initiative to be a success to the extent that it is now possible to assess in a more systematic manner which instruments are fit for practice and which processes are conducive to the credit transfer of learning achievements.

“Success also means that the pilot initiative now provides a basis for better being able to ascertain and evaluate which challenges and elements of resistance continue to exist within the context of the credit transfer of prior learning in vocational education and training in Germany.”²¹

This means that the challenge of creating widespread awareness of ECVET, convincing stakeholders of its practical added value and promoting the use of the system all lie ahead of us. With regard to the question as to what education and training stakeholders wanted policymakers to do, the main responses stated by the survey participants were more fundamental practically oriented information

¹⁶ NKS ECVET 2012, p.4

¹⁷ de Riese 2012, p. 105

¹⁸ Cf. Le Mouillour 2012, p. 11

¹⁹ Federal Association of German Employer Associations (BDA): ECVET Online:

<http://www.bda-online.de/www/arbeitgeber.nsf/id/42CCABB9BDEE2456C12574F00039EB32?open>

²⁰ Cf. Nehls „Europäisierung von Bildung und beruflicher Bildung“ [“Europeanisation of education and vocational education and training”]: Online: www.gew-berlin.de/documents/berufsschultag/BJA_EQR_DQR.ppt

²¹ BMBF 2012, p. 5

and advice, examples of good practice and more public relations work. Exchanges of experiences between education and training practitioners themselves and communication between practitioners and policymakers are also considered to be necessary in order to implement ECVET. This process could be crucially supported if training courses and occupational profiles are described in a competence and learning outcomes oriented manner in future, including at national level.

Whereas the stakeholders involved in state regulated initial training and continuing vocational training, namely the Federal Government, the federal states and the social and trade and industry partners, are still engaged in highly controversial debate regarding the opportunities to apply ECVET within the scope of the Vocational Training Act, other continuing training stakeholders are free to deploy ECVET principles and procedures without state regulation.

2. ECVET and continuing training – links, barriers, fields of deployment

The continuing training sector has tended to adopt a reticent attitude towards European transparency instruments thus far, even if this is not true to the same extent for all instruments. Whereas instruments such as the EQF and the German Qualifications Framework have already gained a good degree of awareness and attractiveness with regard to the appropriate evaluation of continuing training results, the view we have seen taken of ECVET thus far has tended to range between reluctance and indifference. There could be two main reasons for this. Firstly, the level of awareness of the ECVET instrument tends to be low in general terms, as indicated in the 2012 NKS study referred to above. The same applies to the continuing training sector. Secondly, in the areas where it has entered specialist debate, ECVET has been primarily discussed as a mobility instrument for the field of vocational training. This is a link that throws up difficulties. The link with *mobility* and *training* specifies the instrument as content-related and contextual and, by the same token, it is perceived as being not suitable for application outside these contexts. This is a development that is not in accordance with the original idea behind ECVET and is also likely to tend to prevent firm establishment and broad acceptance.

A policy implementation process that is to promise success and extend beyond the boundaries of vocational education and training would do well to make clear the areas of potential of the instrument arising *alongside* the promotion of mobility (of secondary importance to continuing training, for instance) and beyond the *field of training*. Implementation in the sense of “*the execution or application of the laws and other action programmes which have originated within the process of policy development*”²² will also succeed if the implementers and addressees of new policymaking are integrated into the political processes at an early stage, an aspect which at a European level points to the specific governance in place.

As far as ECVET is concerned, it is the consultation process that aims to facilitate timely participation by civil society and thus ensure legitimacy, awareness and acceptance of the instrument across the breadth of the educational system. To this extent, it is interesting how this process has proceeded, which impetuses it has produced and which developments have resulted.

2.1 The ECVET consultation process – a route to participation and awareness?

Consultations are considered to be part of the “new modes of governance” and aim to compensate for the democratic and participatory deficits of the European Commission.²³ Alongside the open method of coordination, they constitute the second important European policymaking instrument in the area of “soft law”. On the basis of the consultations regarding the ECVET credit system conducted

²² Mayntz 1980, p. 236

²³ Cf. European Commission 2002

in 2006 and 2007, it is possible to give an example to show the extent to which the aim of consultations was successfully delivered and the extent to which it proved possible to involve the heterogeneous structure of organised civil society within a single educational policy process – meaning a whole range of different corporate stakeholders such as representative bodies of the social partners, NGO’s and initial and continuing training institutions.²⁴

Participation in the consultation can firstly be broadly subdivided in accordance with organisations from the following areas (number of submissions in brackets).

- Countries (31)
- Education and training community (18)
- Labour market organisations (14)
- Sectoral and professional interests (8)
- University sector (17)
- Others (2)

This first summary shows that most submissions are attributable to the category “Countries”. This contains 31 national submissions, usually individual contributions bundled by a state body (besides the 27 member states, Switzerland and aspirants such as Turkey and Iceland were involved).

The *education and training community*, the area which can be assumed to have a genuine interest in ECVET, is in second position. There is, however, only one German submission from the German Association of Teachers. This category is dominated by European associations such as the EVTA (European Vocational and Training Association) or EARLALL (European Association of Regional and Local Authorities for Lifelong Learning). Submissions were also mainly made by professional associations rather than the representative organisations of education and training providers.

Five submissions from Germany are allocated to the category “*labour market organisations*” – ARCOR, German Confederation of Trade Unions (DGB), umbrella trade and industry organisations (Federal Association of German Employer Associations, BDA, Federation of German Industry, BDI, Association of German Chambers of Industry and Commerce, DIHK, German Confederation of Skilled Crafts, ZDH etc.), West German Chamber of Crafts and Trades and Siemens. This category is also marked by organisations at a European level (e.g. Eurochambers – the European Association of Chambers of Industry and Commerce) or by associations at a state level (e.g. z. B. Norwegian Confederation of Trade Unions), as in the category “*sectoral and professional interests*”, in which the German automobile sector is represented in a concerted campaign.

It is noticeable that the *university sector*, which prima facie is not directly affected by issues of vocational education and training, is as high as position two in the rankings, above *labour market organisations*. No German university, however, took part. Alongside a small number of university-related organisations such as the ESIB (National Unions of Students in Europe), this category is dominated by universities from the United Kingdom. The category “*Others*” comprises a total of only two organisations. Alongside the Assembly of European Regions, an organisation from Germany is also represented in the form of the Research Institute for Employment, Work and Qualification.

This small case analysis shows that organisations from the continuing training sector very largely do not avail themselves of the opportunity to participate in this consultation process. Apart from VW Coaching GmbH, no continuing training organisations took part in the process. One reason for this could be that ECVET is mainly perceived to be a training topic in Germany, the relevance of which for continuing training is not recognised. This makes it even more conspicuous that organisations from the field of vocational education and training, particularly associations and other organisational consortia but also individual institutions, are not represented. With few exceptions, the German organisations that took part in the ECVET consultation process have their origins in industry or else are associative organisations at federal level, and even more frequently at a European level.

²⁴ The basis of the analysis is the documentation of the consultation process by the European Commission at: http://ec.europa.eu/education/ecvt/results_en.html#2

Although there is no doubt that such organisations are active educational policy stakeholders, their original profile is structured somewhat differently. It is doubtless the case that meta-organisations in particular²⁵ – as opposed to small and unaffiliated continuing training providers – can also be expected to have the relevant resources, manpower and information channels at their disposal. In general terms, it is also true to say that a high degree of participation by trade and industry related organisations and companies is usual for online consultations in particular.²⁶ These findings are thus confirmed by the ECVET consultation by dint of the fact that most submissions are attributable to the categories of “labour market organisations” and “sectoral and professional interests”.

What are the factors that lead to this situation and foster or impede participation? The most important driver of policy involvement is first of all the thematic proximity of the object of consultation to an organisation’s own field of activity. If the policy projects – in our case at a European level – affect the interests of organisations, it may be assumed that there will be greater willingness to participate. Hüller also arrives at similar results with regard to a comparative evaluation of four consultations relating to topics of employment law, the labour market, health policy and consumer protection.²⁷ Participation thus depends on the genuine interests and the strategic plans of the organisations. One significant barrier to participation is the lack of transparency and awareness of the consultation instrument, i.e. it is often not broadly known that a consultation is ongoing. Participation could thus be steered and influenced in a relevant manner by mobilisation and information activities undertaken by policy stakeholders (such as associations).²⁸ It is likely that the relatively high costs associated with the instrument and the necessary capacities and resources this entails will continue to represent a barrier to participation. Information need to be collected and evaluated and finally processed into a policy submission. The basis of the ECVET consultation was a 21-page document on the genesis and technical aspects of the instrument that needed to be decoded in terms of its technical and policy semantics and evaluated by providing an individually reasoned position on the basis of pre-stipulated guiding questions – a time-consuming task that is not easy to achieve without appropriate structures and resources.²⁹ And ultimately the absence of individual submissions can also be interpreted as trust in policy representation. HÜLLER (2008) also interprets the results of the analysis as showing that under certain circumstances organisations feel that they are sufficiently represented by their umbrella organisations (at federal or European level) in the case of less controversial topics and desist from undertaking their own activities.³⁰

In summary, the comparatively small level of German participation in the ECVET consultation process indicates that familiarity with the development of the instrument and its consultation was possibly too low from the outset. The consequence is that benefits and opportunities for deployment were not made clear and that therefore the interests of the stakeholders and players in Germany were not correspondingly stimulated. The example of continuing training shows us that the potential of ECVET and its possible uses are currently not being recognised, although there are certainly examples and fields of activity that would be suitable for use of parts of the ECVET system. The concentration of the debate surrounding ECVET on the aspects of mobility and training also exacerbates the selective perception of the instrument and alongside other factors leads to the reluctance and indifference from parts of the educational system as mentioned above.

²⁵ Meta-organisations are defined as organisations with only organisations as members. Cf. Ahrne/Brunsson 2008

²⁶ Cf. Hüller 2008, p. 371

²⁷ Cf. *ibid.*, p. 372

²⁸ *Ibid.*

²⁹ The decoding and interpretation of the specialist language used in European policymaking is certainly an impediment to organisations, as was borne out by a qualitative study of adult education centres. Cf. Schöpf 2013.

³⁰ Cf. Hüller 2008, p. 372

2.2 ECVET and continuing training – prospects and fields of activity

Although the areas of potential of the European transparency initiative in continuing training are still currently playing second fiddle, there are highly promising prospects for the use of the ECVET instrument in particular, and these should be investigated and piloted. We will look at two fields as an example – *education and training marketing* via learning outcomes and the Vocational Qualifications Assessment Law, which is also just being implemented.

2.2.1 Continuing training marketing and quality assurance via learning outcomes orientation

Orientation to learning outcomes allows new quality requirements for education and training provision to be derived. The description of a course in the form of learning outcomes makes it transparent what knowledge, skills and competences participants will have after the continuing training and, amongst those interested in pursuing such training, should serve to increase the attractiveness of continuing training and raise motivation for participation (CEDEFOP 2009).³¹

Learning outcomes as an instrument of education and training marketing aim:

- to make the usability of the training provision clearer for the individual occupational contexts;
- increase the value of the certificates and thus
- interest new target groups in participation in continuing training.

If we take the decline in the significance of public continuing training providers into account, which is partly the result of the lack of relevance or lack of clear relevance of their training provision for the maintenance of employability skills, the learning outcomes paradigm possesses considerable attractiveness for the field of general adult education and its institutions. Engagement with learning outcomes opens up the following opportunities for the educational establishments.

- Undertake an internal test of the current validity and quality of the institution's own provision. An object of investigation may be the relevance and matching of the training provision measured in terms of the demand and requirement standards in the respective areas.
- This provides a vehicle for increasing the external customer attractiveness of the institute's own provision and may all it to tap into new fields of business.
- Achieve an upgrading of the institute's own provision compared to other sub-systems (such as higher education) and enter into an exchange involving joint ventures and cooperative business model. The issue of the credit transfer in academic contexts of learning outcomes acquired within the scope of continuing training is closely connected with this aspect.

In this function, ECVET and learning outcomes also take on the task of a quality assurance instrument. There has thus far been no focus on the areas of potential of ECVET for increasing quality and for quality assurance. Within the ECVET debate, quality is a keen object of discussion with regard to quality assurance for mobility measures.³² The piloting and evaluation of the functionality of the European instruments in this direction would make a new contribution to the quality debate in continuing training. It is also to be expected that research and development projects addressing the additional benefits of the instruments originally developed for the promotion of mobility will contribute considerably to awareness and implementation of the instruments. Investigations show that the instruments are still virtually unknown in continuing training.

Any overburdening of the addressees, which without doubt have to include continuing training institutions, can be avoided if at the level of the organisations if advisory and support services are

³¹ Cf. Cedefop 2009

³² Cf. Küßner 2011

offered for conceptual conversion and practical handling which may be based on case studies, investigations and development projects and their results.

2.2.2 ECVET – assistance with the implementation of the Vocational Qualifications Assessment Law (BQFG)

Amongst other things, the 2012 NKS ECVET survey made it clear that recognition of competences acquired abroad is identified as a major added value of ECVET.³³ The right to assessment of equivalence of foreign professional and vocational qualifications has had a basis in law since the entering into force of the Vocational Qualifications Assessment Law (BQFG) on 1 April 2012³⁴. ECVET and its idea of “units of learning outcomes” could be helpful in the implementation of this right via the competent bodies.

- Foreign qualifications are likely often not to correspond with German qualifications in terms of scope, structuring and content. A more fruitful approach could be to undertake comparisons below the level of the full qualification instead of focusing on complete courses. The aim of the concept of “units of learning outcomes” is to understand both foreign and national education and training courses as an ensemble of complex parts. It therefore offers a system for comparing *parts* of qualifications and evaluating their equivalence.
- Vocational qualifications are qualifications which, pursuant to the BQFG, may also be demonstrated via “[...] *occupational experience gained abroad or domestically* [...]”³⁵. Alongside the theoretical challenges posed in terms of identifying occupational experience in examinations, such an approach also necessitates a methodological concept for the recording and description of occupational experience, something for which the “units of learning outcomes” would offer a viable grid.
- For the case that foreign and national qualifications are not congruent, the BQFG provides for so-called compensation measures, which should be restricted to “[...] *the essential differences ascertained between the qualifications* [...]”. It is to be expected that on the basis of education and training courses described in “units of learning outcomes” and on the basis of education and training provision presented in the same way, the identification of such compensation measures and the content selection of relevant subsequent training should be transparent and easy to arrange.

3. Conclusion: Level of awareness rising – specific added value still not identified in many areas: The implementation of ECVET requires support and time

In 2014, the EU Recommendation for the Establishment of a European Credit System for Vocational Education and Training will be reviewed and evaluated. In order to introduce proposals for the substantiation and further development of the ECVET concept into the European discussion process, it would be necessary to have had the broadest possible practical experiences with the instrument. These, however, have not been gained thus far. As far as the revision of the ECVET Recommendation is concerned, therefore, the main focus needs to be on evaluating the criteria conducive to implementation.

³³ Cf. ECVET National Coordinating Agency 2012, p. 3

³⁴ [BQFG] “Law to improve the assessment and recognition of vocational education and training qualifications acquired abroad”

³⁵ Cf. *ibid.* §3

Looking once more at the above definition of implementations as *“the execution or application of the laws and other action programmes which have originated within the process of policy development”*, it is clear that the ECVET policy process is still in its infancy. We have already seen that the policy phase of instrument development has brought only a low level of participation. Only time will tell whether the reasons for this lie in the differently structured strategic interests of the organisations or in a lack of knowledge of the opportunities offered by the instrument. It remains conspicuous that institutions within the educational sector in particular, especially in contrast to companies and associations with close links to trade and industry, did not participate in the consultation and still now do not possess much knowledge of ECVET. The question is the extent to which successful implementation of an instrument can take place *without* this part of civil society. By the same token, this diagnosis would also form the basis for the derivation of further action required, such as in the form of a continuation and intensification of ongoing information activities.

There is no doubt that great significance will be attached to raising the level of awareness of the concept and to functioning support structures for successful implementation and broadly based deployment of the instrument. At present, the transnational mobility stakeholders are in particular receiving support from the ECVET National Coordinating Agency, from the national team of ECVET experts and from the ECVET initiatives of the EU. Their tasks over the next two years will be to achieve the broad transfer of functioning ECVET applications via network building and to use constructive proposals emerging from practice for the further development of the ECVET concept. The fact that no practicable credit point or credit system for the recognition and accumulation of learning outcomes has been developed in Germany thus far does not diminish this added value. The qualitative learning outcomes approach will be the key to more transparency and recognition both for competences acquired abroad and for the improvement of permeability within the national systems, not the quantitative credit points approach. Such a fundamental paradigm switch from input to output orientation will require more than just information and support. What will be needed in particular is *time*, in order for implementation to take place in a practically related and sustainable manner.

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What remains of ECVET in MOVET?

Markus Müller

The present article highlights what elements of ECVET remain after the conclusion of a major project in the continuing implementation of mobility practice. Following a description of the MOVET project and its transparency instruments, an analysis is given of the extent to which it was actually possible to implement the construction characteristics of ECVET. The second part provides insights into experiences and findings emerging from the work with ECVET with regard to internal and external effects.

1. Description of the MOVET project

The project “Modules for Vocational Education and Training (MOVET)” was initiated as a so-called Leonardo da Vinci “innovation transfer project” (2008 – 2012) as part of the EU Programme for Lifelong Learning and was designated as one of the “beacon projects” for the ECVET priority in Germany by the National Agency “Education for Europe” at the Federal Institute for Vocational Education and Training (NA at BIBB).

1.1 Initial situation and aim of the project

The Munich Vocational School of Production Engineering already had many years of experience of exchange programmes. The objective was to act in conjunction with its partner schools in Finland and Denmark to achieve further progress for the participating pupils, the idea being to make it easier for participants to recognise what they will learn within the scope of periods of training spent abroad. For this purpose, a project was launched within the framework of the “innovation transfer” funding line of the Leonardo da Vinci Programme. The plan was for the concept “Vocational Qualification Transfer System (VQTS)” (LUOMI-MESSERER/MARKOWITSCH, 2006), developed within a pilot project, to serve as a basis for innovation and be transferred into reality. The MOVET project began in 2008 with 15 partners from five countries and a project term of two years. The goal was to draft three units of learning outcomes derived from the mandatory curriculum of the three participating vocational schools and companies and to present the learning outcomes in a transparent manner so as to facilitate recognition in the home institution. Monitoring of learning outcomes was to take place in the host institution. Finally, the plan was to pilot the units of outcomes developed in reality. The necessary exchange of pupils and trainees in initial training carried out for this purpose was an object of application and funding within the framework of the Leonardo da Vinci Programme. In the first project “MOVET I”, a total of approximately 50 trainees from three nations were involved in the piloting of the units developed.

When the Recommendation of the European Parliament and of the Council on ECVET was published in 2009, the MOVET partners realised that some of the project’s starting points exhibited a high degree of affinity with ECVET. The piloting of ECVET was, therefore, explicitly formulated as a priority in the second phase of the project in 2010 (MOVET II). The plan was to add four new units of learning outcomes to the existing three units. In addition, two new partner schools from Germany and Slovakia were integrated. A total of approximately 100 further trainees at five vocational schools in four countries were involved in the piloting of the seven modules (the terms module, unit, and unit of learning outcomes are used synonymously).

In 2011, the project received the “Programme for Lifelong Learning (PLL) AWARD” from the National Agency Education for Europe at BIBB in the category of transparency and recognition of learning outcomes. This once again underlined just where the strength of the conceptual approach of this project lays – the systematic and transparent description of learning outcomes using two main instruments in the form of a competence matrix and a taxonomy table. These are explained below.

1.2 Instruments in MOVET

The MOVET concept uses two main instruments for the systematic and transparent description of learning outcomes – the competence matrix and the taxonomy table.

The units of learning outcomes aimed at are first located in a competence matrix. The prerequisite is that this matrix sufficiently maps the relevant national VET courses together with their learning aims. Two such competence matrices are currently being used In MOVET. The matrix for mechatronics was adopted from VQTS and modified in individual points, and the matrix for industrial mechanics was developed in MOVET. A competence matrix presents the areas of competence within an occupation or the relevant skills with a European context. Areas of competence (according to VQTS there can be a total of between 5 and 25 such areas) are aligned vertically. In each area of competence, stages of competence development are differentiated according to increasing degree of development presented horizontally. Units of learning outcomes are usually each aligned to an area of competence at a certain stage of competence development.

Vocational School of Production Engineering	Contents/learning outcome	PLC modules
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This table can be used

- to locate the **learning outcomes** in the contents of the PLC-Module
- and also the allocation within the **taxonomy table**

Example:

- In Chapter 2.1 Hardware config. information, the verbs **understand** and **interpret** are used to describe the learning outcomes.
- The verbs indicate complexity **2** in the cognitive process dimensions, the types of knowledge are **F** which stands for factual knowledge and **Ca** which stands for causal knowledge.

	Contents	Learning outcomes	Page	Taxonomy table
1. Introduction PLC				
1.1	History of PLC	<ul style="list-style-type: none"> The S. is able to recognise important step landmarks of the history of PLC S. Is able to recognise the reasons for the development of the PLC 	1	1F, 1Ca
1.2	Difference of CPC-PLC	<ul style="list-style-type: none"> S. Is able to recognise the difference between CPC-PLC 	2-3	1F, 1Ca
2. Modular PLC				
2.1	Hardware config. information	<ul style="list-style-type: none"> S. is able to understand and interpret the meaning of hardware configuration 	4-5	2F, 2Ca
2.2	Puzzle modular PLC	<ul style="list-style-type: none"> S. is able to carry out a standard hardware configuration by means of a puzzle 	6	3P
2.3	Worksheet modular PLC	<ul style="list-style-type: none"> S. is able to recall the modules and their functions 	7	1F, 1Ca
2.4	Hardware configuration station	<ul style="list-style-type: none"> S. is able to make a list of modules mounted at their station (exemplify) 	8	2F
2.5	Hardware configuration	<ul style="list-style-type: none"> S. is able to carry out HWK with SIMATIC Manager 	9-12	3Ca
3. Addressing				
3.1	Addressing information	<ul style="list-style-type: none"> S. is able to execute the addressing of DI and DO-modules S. is able to differentiate between DI and 	13-14	3Ca, 4Ca

		<ul style="list-style-type: none"> DO-modules and the necessary addresses, S. is able to check the addressing by means of the hardware configuration and the information given 		5F
4. Programming				
4.1	Basic bit logic	<ul style="list-style-type: none"> S. is able to recall the logic of OR, AND, SR and differentiate between them, using also the help function of the SIMATIC Manager 	15	1F, 1Ca 4Ca
4.2	Programme exercise 1	<ul style="list-style-type: none"> S. is able to understand why and how she/he use the logic functions S. is able to implement and organise simple programming 	16-18	2P, 2Co 3Ca 4Ca, 4P
4.3	CPU cycle information	<ul style="list-style-type: none"> S. is able to explain the CPU-cycle 	19-20	2F, 2Ca, 2P
4.4	CPU information	<ul style="list-style-type: none"> S. is able to recall the modes of the CPU S. is able to choose and carry out the correct mode of the CPU 	21-22	1F, 1Ca 3Ca
4.5	Using the glossary	<ul style="list-style-type: none"> S. is able to understand how to use the Glossary of the SIMATIC Manager 	23-24	2F
4.6	Using the help instruction	<ul style="list-style-type: none"> S. is able to interpret the use of the Help Instruction. S. is able to carry out (work with) the information given in the help instruction. 	25-26	2F, 2Ca, 2P 2Co 3Ca, 3P
5. Analysing				
5.1	Variable table	<ul style="list-style-type: none"> S. is able to interpret the instruction for the use of the Variable Table S. is able to implement (use) the Variable Table to monitor and modify in- and outputs 	27-28	2F, 2Ca, 2P 3F, 3Ca, 3P
5.2	Symbol table	<ul style="list-style-type: none"> S. is able to recall the difference between the Variable and a Symbol Table S. is able to implement a Symbol Table in the existing programme 	29	1P 3P
5.3	Analyse outputs	<ul style="list-style-type: none"> S. is able to recall how to draw a pneumatic diagram S. is able to implement a pneumatic diagram S. is able to organise the movement of cylinders in a correct order manually, and with the Variable Table S. is able to complete and check the complete Symbol Table with the help of the Variable table 	30-32	1F, 1Ca, 1P 1Co 3Ca, 3P 4F, 4Ca, 4P 4Co 5F, 5Ca, 5P 5Co
5.4	Electrical circuit	<ul style="list-style-type: none"> S. is able to understand (summarise) an electrical circuit S. is able to carry out the drawing of an electric circuit by means of an simulation program S. is able to differentiate between the functions of the parts of the electric circuit 	33	2F, 2Ca, 2P 2Co 3F, 3Ca, 3P 4Ca, 4P, 4Co
6. Sequence chain				
6.1	Structured programme	<ul style="list-style-type: none"> S. is able to recall the structure of a program S. is able to exemplify why a program should have a structure and how it can be structured 	34-36	1F, 1Ca, 1P 2Ca
6.2	Sequence chain	<ul style="list-style-type: none"> S. is able to exemplify the principles of o a sequence chain S. is able to implement a sequence chain into FC 2 S. is able to organise a programme in different FCs S. is able to check and evaluate his own programme 	37-39	2P, 2Co 3Ca, 3P, 3Co 4P, 4Co 5F, 5Ca, 5P 5Co
6.3	Push buttons and switches	<ul style="list-style-type: none"> S. is able to implement a standard set of push buttons and switches S. is able to organise the different functions of the mechatronics system by 	40-41	3Ca, 3P, 3Co 4P, 4Co

6.4	FC1 Modes of operation	<ul style="list-style-type: none"> means of the switches and pushbuttons S. is able to compare the different modes of operation S. is able to carry out and organise the programming of the necessary networks for the modes of operation S. is able to check the correct operation of the modes of operation 	42	2P, 2Co 3 Co4P, 4Co 5F, 5Ca, 5P 5Co
6.5	FC4 indication	<ul style="list-style-type: none"> S. is able to carry out and organise the programming of the necessary networks for the indication lamps S. is able to check the programming of a network that indicates an error 	43	3Co4P, 4Co 5F, 5Ca, 5P 5Co

Figure 1: Example of the MOVET competence matrix, source: Bock/JORETZKI/SCHAUHUBER, BSFT Munich. Status: 30.09.2010

Experiences with the competence matrix have shown that the description of a stage of competence development within the scope of one or two sentences has proved to be too rough. In order to do justice to the systematic and transparent approach, this necessitated the development of a further instrument for the description of units of learning outcomes within the meaning of a specific presentation of learning outcomes.

Cognitive process	Remember [1]		Understand [2]						Apply [3]		Analyse [4]		Evaluate [5]		Create [6]				
	Recognising	Recalling	Interpreting	Exemplifying	Classifying	Summarising	Inferring	Comparing, Contrast	Explaining	Carrying out, Execute	Implementing	Differentiating	Organising	Attributing	Checking	Critiquing	Generating	Planning	Producing
Factual knowledge (knowing WHAT) [F]	1.1 1.2	2.3 4.1 4.4 5.3 6.1	2.1 4.6 5.1	2.4 4.5		5.4			4.3	5.4	5.1		5.3		3.1 5.3 6.2 6.4 6.5				
Causal knowledge (knowing WHY) [Ca]	1.1 1.2	2.3 4.1 4.4 5.3 6.1	2.1 4.6 5.1	6.1		5.4			4.3	2.5 3.1 4.4 4.6 5.4	4.2 5.1 5.3 6.2 6.3	3.1 4.1 5.4	4.2 5.3		5.3 6.2 6.3 6.4 6.5				
Procedural knowledge (knowing HOW) [P]		5.2 5.3 6.1	4.6 5.1	4.2 6.2		5.4		6.4	4.3	2.2 4.6 5.4	5.1 5.2 5.3 6.2 6.3	5.4	4.2 5.3 6.2 6.3 6.4 6.5		5.3 6.2 6.3 6.4 6.5				

Figure 2: Example of a taxonomy table PLC module, example Chapter 5.3: Analysis outputs can be found in different cognitive processes and different types of knowledge.

The taxonomy table represents a combination of the cognitive process dimensions according to ANDERSON and KRATHWOHL (2001) and the construct of practical knowledge according to SCHELLEN (2010). The cognitive process dimension in the taxonomy table corresponds to the hierarchical structure of ANDERSON and KRATHWOHL up to level VI. These levels are aligned along an increasing

complexity continuum. The taxonomy is constructed in such a way that each next higher level encompasses the content of all lower ranking levels. This taxonomy is now expanded by adding the types of knowledge constituting practical professional knowledge according to SCHELTEN. The taxonomy table is completed by a set of verbs offering a selection of ways of describing a learning outcome for each cognitive process dimension. This set of verbs was the result of a synopsis of German, Danish and English terms used in a comparable context and is considered to be consensually agreed between the partners in MOVET. A formulation contained within the Munich module on control engineering can provide an example in this regard: “The student is able to complete the symbol table with the missing output addresses.”

HINWEISE ZUR FORMULIERUNG VON LERNERGEBNISSEN FÜR DIE TAXONOMIE TABELLE

Lernergebnisse werden kurz und präzise beschrieben, komplizierte Sätze und unnötiges Fachvokabular sind zu vermeiden. Ein Lernergebnis wird idealerweise in einem Satz formuliert.

Beispiel: Der Schüler kann den CPU-Zyklus erklären. [2F, 2Ca, 2P]¹

Für die sechs kognitiven Prozessdimensionen steht jeweils eine Auswahl an möglichen Verben für die Formulierung von Lernergebnissen zur Verfügung.²

Erinnern ist die Fähigkeit sich Informationen gegenwärtig zu machen, bzw. sie zu wiederholen, ohne sie notwendigerweise zu verstehen.

Arrangieren, auflisten, aufzählen, aufzeichnen, benennen, beschreiben, bezeichnen, beziehen, in einer Tabelle darstellen, definieren, erinnern, erkennen, erzählen, feststellen, herausfinden, identifizieren, nacherzählen, ordnen, präsentieren, sammeln, sich entsinnen, sich merken, skizzieren, untersuchen, vielfältigen, wiedergeben, wiederholen, zeigen, zitieren.

Verstehen ist die Fähigkeit gelernte Informationen zu begreifen und interpretieren zu können.

Assoziieren, ausdrücken, auseinanderhalten, auswählen, ausweiten, berichten, beschreiben, dekodieren, differenzieren, diskutieren, einmischen, erkennen, erklären, gegenüberstellen, generalisieren, hinweisen, identifizieren, illustrieren, interpretieren, klären, klassifizieren, konstruieren, lokalisieren, lösen, wieder nennen, schätzen, noch einmal schreiben, überdenken, übersetzen, umschreiben, umwandeln, unterscheiden, verstehen, verteidigen, vorhersagen, wechseln.

Anwenden wird als die Fähigkeit definiert, erlerntes Material in neuen Situationen nutzen zu können.

Anwenden, ausprobieren, auswählen, bedienen, beenden, berechnen, beschäftigen, beurteilen, demonstrieren, entdecken, entwickeln, finden, gebrauchen, illustrieren, interpretieren, konstruieren, lösen, manipulieren, modifizieren, organisieren, planen, praktizieren, produzieren, prüfen, skizzieren, transferieren, übertreiben, veranschlagen, voraussagen, vorbereiten, wählen, wechseln, zeigen.

Analysieren wird als die Fähigkeit bezeichnet, Informationen in ihre Bestandteile zu zerlegen, z.B. um Zwischenbeziehungen und Vorstellungen herauszuarbeiten.

Ableiten, analysieren, arrangieren, auseinanderhalten, ausführen, berechnen, bestellen, bestimmen, beurteilen, beziehen, debattieren, differenzieren, dividieren, ermitteln, experimentieren, folgern, fragen, gegenüberstellen, herausstellen, identifizieren, illustrieren, kategorisieren, klassifizieren, kritisieren, prüfen, testen, trennen, unterscheiden, untersuchen, unterteilen, verbinden, vergleichen, zerteilen.

Bewerten ist die Fähigkeit, die Bedeutung, die Qualität und den Wert einer Sache zu beurteilen.

Anhäufen, argumentieren, arrangieren, neu arrangieren, aufbauen, ausdenken, bewerten, beziehen, einrichten, entwickeln, erfinden, erklären, formulieren, generalisieren, generieren, hervorbringen, integrieren, kategorisieren, kombinieren, konstruieren, kreieren, machen, managen, modifizieren, organisieren, planen, rekonstruieren, reorganisieren, sammeln, noch einmal schreiben, überarbeiten, vorbereiten, vorschlagen, zusammenfassen, zusammenfügen.

Gestalten ist die Fähigkeit, vorhandene Elemente neu zusammen zu setzen und zu ergänzen, so dass ein neues konsistentes Produkt entsteht.

Aufbauen, bauen, bearbeiten, einführen, entdecken, entwerfen, entwickeln, erfinden, eröffnen, errichten, erschaffen, erstellen, produzieren, erzeugen, herbeiführen, herstellen, initiieren, innovieren, konstruieren, multiplizieren, steigern, veranlassen, verarbeiten, verursachen, vorfertigen

¹ [2F, 2Ca, 2P] steht für die Einordnung des Lernergebnisses in der Taxonomie Tabelle jeweils in die Spalte Verstehen [2] und in die Zeilen Faktenwissen [F], Begründungswissen [Ca] und Verfahrenswissen [P]

² Diese Liste erhebt keinen Anspruch auf Vollständigkeit

Figure 3: Verb list used in MOVET

In the European Qualifications Framework (EQF), the purpose of the two instruments of the competence matrix and the taxonomy table is to determine “knowledge” and “skills” for a description of the learning outcome, whereas in the German Qualifications Framework (DQR) they are aligned to the category of “Professional competence”, which in turn is divided into the two parts of “knowledge” and “skills”.

For a more detailed treatment of these instruments, reference is made to FLACKE/MÜLLER/SCHULTEN (2010a; 2010b; 2012a; 2012b) and to MÜLLER (2010).

1.3 ECVET in MOVET – MOVET in ECVET

The purpose of the MOVET project is to pilot ECVET. The construction characteristics of ECVET will now be briefly outlined to provide a better overview. The subsequent analysis shows the proportion to which a conflicting relationship exists between the construction idea of ECVET and implementation in MOVET.

1.3.1 Construction characteristics of ECVET

The Recommendation of the European Parliament and of the Council on the Establishment of a European Credit System for Vocational Education and Training (ECVET)³⁶ presents basic principles and technical specifications for the structuring of four essential aspects (EUROPEAN PARLIAMENT AND COUNCIL OF THE EUROPEAN UNION, 2009, pp. 15-18).

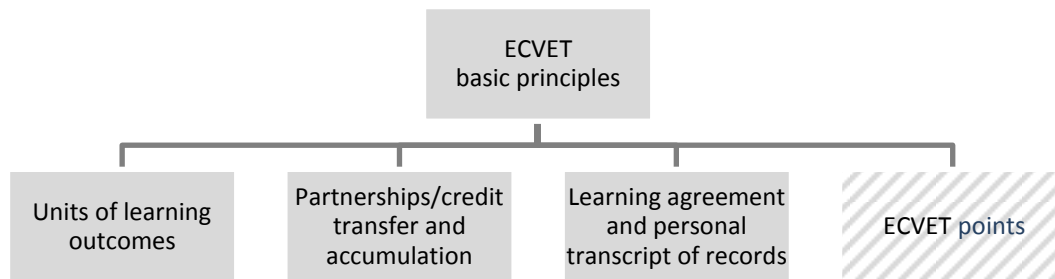


Figure 4: ECVET basic principles

The basic principle of ECVET is orientation to **learning outcomes**. Units of learning outcomes (units) form components of one or more qualifications – in German the term “occupational profile” would be used – and comprise a coherent set of knowledge, skills and competences. A qualification always encompasses several units of learning outcomes. For this reason, qualifications are acquired via accumulation of the required units irrespective of where acquired.

The establishment of partnerships is recommended for the **credit transfer and accumulation** of units of learning outcomes. This means that two or more (international) partners agree the criteria and procedures for such credit transfer processes. These partners are responsible institutions according to the respective national guidelines, such as vocational schools, competent bodies, companies offering training amongst others. This institutional framework is adopted in a so-called Memorandum of Understanding.

A **learning agreement** is concluded between the trainee and the host institution. This includes the personal details of the learner, the duration of the phase of learning and the expected learning outcomes. This means that the learning agreement represents the specific vehicle for implementation within the Memorandum of Understanding.

ECVET points may be appended in order to indicate the relation of individual learning outcomes to the qualification as a whole. The national competent body may allocate a total number of points to a qualification and subsequently determine the significance of a unit of learning outcomes within this framework.

³⁶ A conscious decision has been made not to use the German translation of ECVET. This contains the term “credit point system” (instead of simply “credit system”). In my view, “credit point system” is a misleading designation. The aspect of points represents only a part of the proposal and within the scope of current debate tends to be of little practical relevance and scarcely possible to realise in policy terms.

1.3.2 MOVET as exemplary implementation of ECVET

With reference to the four construction characteristics of the technical specification of ECVET (see above), we are able to ascertain that the aspect of *learning outcomes* indicated exhibits a particular significance in MOVET.

A more detailed analysis reveals that the essential aspects arising from ECVET are fulfilled.

- a) Designation of the unit of learning outcomes
- b) Designation of the related qualification
- c) Referencing to the EQF/NQF
- d) Operational description of the learning unit – a particular strength of the instruments in MOVET
- e) Procedures and criteria for the evaluation of the learning unit

By way of contrast, two aspects are not included in MOVET – the stipulation of a period of validity and the allocation of credit points (with the exception of Finland, where returning pupils receive workload-based FIN-ECVET points).

Each units of learning outcomes has a duration of three weeks. The number of learning outcomes formulated is approximately between 20 and 40 per unit of learning outcomes.

The establishment of a multilateral partnership (five vocational schools acting as central partners in four countries) worked well in this project. The units of learning outcomes were revealed to be fundamentally capable of credit transfer in all vocational education and training systems involved. The degree to which actual credit transfer and accumulation takes place is, however, dependent on the respective national state regulations and organisational and administrative procedures. To this extent, we may assume that the type of recognition that takes place does not in all cases necessarily lead to credit transfer and accumulation.

In conceptual terms, however, the procedure in MOVET is designed in such a way so as fundamentally to facilitate credit transfer. Although relevant formal procedures, such as for a partnership agreement, would theoretically be available, they are, de facto, no longer absolutely necessary due to the fact that the climate of trust makes cooperation possible on demand. This means that a partner school informally notifies the other partners of the availability of a module, and then participant contracts/learning agreements merely need to be drawn up. A critical note must, however, be sounded here with regard to the restricted continuous availability of each partner. Outside a financing situation in an innovation transfer project, not every partner is in a position to commit to module offers, even in the medium term.

Learning agreements are prepared in various layouts. The foreign partners are mostly still using their own forms or national templates. From the current school year 2013, the European template “learning agreement” is being tested for German mobility measures. Learning outcomes achieved are confirmed in the Europass Mobility.

The MOVET approach blocks out the fourth part of the basic principles and technical specifications of ECVET to the extent that, of the participating nations, only Finland actually awards credit points, albeit based on workload. This aspect is, therefore, not taken into account in MOVET.

A summary evaluation could indicate the following degrees of implementation for the four essential construction characteristics of ECVET in MOVET.

- (1) The aspect of the description of the learning outcome has been robustly implemented.
- (2) The establishment of partnerships has been successful.
- (3) Learning agreements have been added and are easy to implement.
- (4) Restrictions apply in respect of actual credit transfers, which need to viewed in highly differentiated terms. Credit points are considered as irrelevant.

2. Experiences and findings from the work with ECVET

2.1 Internal effects of the unit-based approach and of the instruments

Obligatory and additional recognition

As described at the start, the Munich Vocational School of Production Engineering had already been able to gain experience of mobility measures in earlier years, although these measures were not unit-based. During this period, it was admittedly difficult to identify any learning outcomes at all from the mobility measures and thus render such outcomes recognisable. Since periods spent abroad within the scope of MOVET have followed the structure of units (modules), recognition of learning outcomes has been considerably simplified.

This begins as early as the initiation of the mobility measures. For the Munich participants, the procedure takes the following form. The Vocational School of Production Engineering maintains contact with providers of the foreign modules, agrees the dates of the modules and submits an application for the Leonardo mobility measure. The school then offers companies providing training under the dual system places in the foreign module for their trainees. On the basis of the module descriptions, the companies know which learning outcomes can be achieved. Participants are selected by the companies. The modules developed in MOVET are aligned to the training occupations of mechatronics fitter and industrial mechanic. Most participants originate from these two occupations. Some companies also decide, however, to send trainees from other occupational specialisms. With regard to the recognition of the learning outcomes, this makes a difference to the extent that the unit of learning outcomes may not be taken from the respective curricula. For mechatronics fitter and industrial mechanics, recognition thus usually takes place within the scope of the relevant curricula, whereas for other occupations the learning outcomes are recognised additionally. Recognition itself primarily take place via credit transfer to company-based learning time in dual training. Depending on the company structure, it is not always possible to avoid redundant learning outcomes at the company providing training. Recognition of learning outcomes acquired abroad can often be individually achieved within the framework of vocational school teaching by giving pupils consecutive additional tasks for advanced participants as part of a system of internal differentiation. Taking students with experience abroad out of the whole class situation is currently not feasible for organisational reasons.

Operative challenges

With regard to the specific implementation work, the aim here is to identify aspects relating to the challenges and opportunities of ECVET within the context of transnational mobility measures taking the Munich Vocational School of Production Engineering (BSFT) as an example.

The conventional school structure, the given administrative apparatus of which means that it is insufficiently geared to European cooperation agreements, is reflected in many areas of the project mode. This applies to the project development phase, submission of application, later managing of funding and extends to reporting. It is particularly conspicuous compared to other countries involved. In the Nordic member states, vocational schools frequently have a department dedicated to dealing with administrative tasks of this nature. Such comparatively high administrative costs, for example for ECVET projects, are not initially taken into account in the resources plan of a German vocational school.

Appropriate resources are required for the long-term execution of ECVET modules. This refers to aspects such as extra administrative work by teaching staff, approval for trips or authorisations for the support of national dissemination activities for ECVET. Tasks of this kind are not included within the educational remit. There may also be fears regarding excessive modularisation of German vocational education and training arising from European work. It is problematic that provision varies to the extent that the Munich Vocational School of Production Engineering offers two modules per

school year, whereas the Danish and Finnish partners are not currently making any available. Companies providing training and trainees should be notified of this imbalance in the distribution of the burden.

In overall terms, it needs to be noted that the execution of mobility measures abroad, particularly when unit-based, currently still represent a considerable additional burden for vocational schools with regard to the provision of modules for foreign participants. Nevertheless, the unit-based approach shows synergy effects when repeated execution takes place and participants are able to communicate more rapidly via a common language.

Vocational pedagogy (opportune) effects

At the same time, however, positive effects are revealed that relativise the challenges. Dealing with ECVET and descriptions of learning outcomes brings expedient benefits for school development and teacher training. The various ways of implementing the learning routes/modules for the European work enter everyday teaching. The instruments for the description of learning outcomes are considered to be focal points for the revision of existing learning situations in everyday teaching. The instruments, in particular the taxonomy table, continue to be deployed in teacher training at the BSFT, such as in the metal engineering methodology seminar for those studying for a teaching qualification, in the metal working seminar for trainee teachers, in university school seminars and in continuing training provision for teachers.

In addition to this, intensification of learning venue cooperation with the companies providing training is experiencing considerable progress. Joint execution of the modules is creating a growth in both personal and professional relationships. The Munich Vocational School of Production Engineering can now in a certain way be considered as a leading player for ECVET implementation within the local government school system in the city. And, last but not least, the ECVET work it has conducted thus far has enabled this vocational school to position itself in a form that obviously facilitates the establishment of new partnerships and the enjoyment of a certain advancement of trust (MÜLLER, 2012).

2.2 External interest, transfer and approaches towards consolidation

The concept of the unit-based approach within the framework of MOVET has clearly attracted interest. In his capacity as coordinator of MOVET for foreign schools, the author of the present article has, for example, been approached regarding participation in continuing projects. The aim of the new projects is to progress the concept of the description of learning outcomes with the help of the MOVET instruments.

A Dutch-coordinated partnership project has come into being, in which the objective is to develop units for the fields of metal working, electrical engineering and construction technology. 12 partners from 10 countries are involved. For the Munich Vocational School of Production Engineering, this means continuing to pursue the concept of the unit-based approach, continuing to offer its own modules and continuing to use existing models at foreign partners whilst at the same time integrating new partners. The aim is to achieve a higher likelihood of implementation for planned modules (units) by expanding the number of potential module providers.

A further objective is to transfer the concept of the MOVET unit-based approach from the field of the industrial manufacturing occupations to the sector of the motor vehicle mechatronics technician. The plan is for a Danish-coordinated consortium comprising seven partner vocational schools to develop units which will be located in a matrix for automobile mechatronics technicians, also to be developed. From the Munich point of view, the medium-term aim is to integrate the vocational

school for automotive occupations in unit-based mobility measures alongside the Vocational School of Production Engineering.

As well as these aspects of interest in the unit-based approach, a further very specific effect of describing learning outcomes in units has become apparent. In the implementation of the two Munich modules within the scope of MOVET during the current school year, participants from two previous partner schools dropped out at short notice. Because of the transparency of the existing descriptions of learning outcomes, it was possible to fill the vacant places very quickly from a new partner school in Holland. The module descriptions including the operational learning outcomes were obviously so clear that the new school was able to dispatch suitable pupils to the module without the need for extensive queries. This form of transparency provides a vehicle via which trust can quickly develop.

3. Summary

The MOVET project was initiated in 2008 and developed a unit-based concept before the technical specifications for ECVET were published. The fundamental idea was to work with foreign partner schools to draw up three modules (units) originating from the mandatory curricula of the participating countries in terms of content. The purpose of the instruments of the competence matrix and taxonomy table was the transparent description of learning outcomes, and these instruments formed the joint communication basis in the project. The units can be located in the competence matrix (for mechatronics). The taxonomy table is used for the operative and transparent description of the learning outcomes themselves.

Within the scope of the extension of the project, a further competence matrix for industrial mechanics was developed and it was possible to develop a total of seven modules (units) and to pilot these with 150 trainees from four countries. In the meantime, the Recommendation for the Establishment of ECVET was published (EUROPEAN PARLIAMENT AND COUNCIL OF THE EUROPEAN UNION, 2009, pp. 15-18).

If we now consider the extent to which MOVET has made the elements of ECVET usable and what will remain firmly established, the result is as follows.

- (1) The aspect of learning outcome orientation in units was robustly implemented and is firmly in place. Future modules in the form of transnational mobility measures will also be executed within this concept.
- (2) The establishment of partnerships can be described as successful, even if endeavours to retain and further expand these to form partner networks are required. The extent to which Memoranda of Understanding will be deployed in future remains to be seen. Alternatively, other forms of cooperation, such as Leonardo partnerships, could assume this function.
- (3) Learning agreements have been added and are easy to implement. Various forms have been used for this purpose thus far. Alignment to the standardised European template seems useful.
- (4) Restrictions apply with regard to actual credit transfer. These need to be considered in a highly differentiated manner, both within the respective national context and as relating to the individual training situation.
- (5) Points are considered as irrelevant.

A further positive aspect is the fact that the findings are being used for internal teaching development as well as within the framework of teacher training for vocational schools.

Notwithstanding this, it should be mentioned that the initial development of units or modules can sometimes tie up considerable resources. Nevertheless, the investment is worthwhile due to the fact that improved quality for transnational mobility measures is achieved and transferability of learning outcomes is made possible in the first place.

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ECVET as a strategy of Catalonia

Isabel Prat Garcia

1. The system of Vocational Education and Training (VET) in Catalonia – historical outline and current status

The system of Vocational Education and Training (VET) in Catalonia has traditionally been organised in three sub-systems. These are Initial Vocational Education and Training (IVET), or formal VET defined and managed by the Department of Education of the Generalitat of Catalonia, and Vocational Education and Training for Employment (CVET), subdivided into occupational training for unemployed persons and continuous training aimed at people who are working – both managed by the Department of Employment of the Generalitat of Catalonia.

In 1990, IVET was organised in courses that were classified into 22 professional families corresponding to different branches of economic activity and at two levels – intermediate and higher. Workplace training was compulsory in all courses, with a duration between 300 and 600 hours depending on the course, and evaluated as a normal subject. The training was rigid, in the sense that students had to attend complete courses, i.e. from 1,400 to 2,000 hours of training, and therefore directed at (young) people doing full-time studies.

CVET was much diversified. Courses had variable durations from 30 hours to 700 or 800 hours, and were organised in 28 professional families which had no direct relationship with the education system.

Work to establish the National Qualifications Framework began in 2002 following the adoption of the Law of Qualifications and Vocational Education Training. This was the first step in Spain to integrate the three sub-systems of VET. At that moment, qualifications became the reference for the definition of all academic diplomas or certification of professional training – the IVET diplomas from the education authorities and the certificates of professionalism from the Labour Administration. Qualifications are divided into units of competency sometimes common in VET diplomas and into certificates of professionalism and thus for the first time allow a real gangway between the VET systems in both administrations.

In 2005, the Department of Education adopted a number of measures to build a flexible system of Initial Professional Training in order to facilitate the incorporation of new groups in vocational education and training, answering demands for specific training and for singular collectives. They established routes for part-time studies and offered distance learning courses and blended learning courses, among other measures.

With these changes, the initial differentiation of the IVET system and the CVET system, according to the target audience, began to disappear regarding the Department of Education. High schools were a flexible supply of education and began to receive adult people, working or unemployed, who could take part in vocational training courses to complete or improve their professional skills.

Since 2006, both the National Qualifications Framework and the IVET Diplomas and the Certificates of professionalism have been classified into 26 professional families. Currently and progressively, the

IVET courses derived from the Organic Law of General Education System (LOGSE, 1990) are being substituted for the new diplomas of Technician and Higher Technician of the Organic Law of Education (LOE, 2006) and under the Law of Education of Catalonia (LEC, 2009). New certificates of professionalism are also being rolled out.

At present there are two possibilities of IVET, one at intermediate and one at higher level. To obtain access to intermediate IVET, pupils need to graduate from Secondary Compulsory School (ESO) or its equivalents. For the higher IVET courses, pupils need to achieve an A-Level qualification (Baccalauréat) or its equivalent. These higher level courses also can be pursued after graduating in intermediate level IVET courses and passing an entrance examination. The intermediate level of IVET leads to a Technician diploma (técnico de grado medio), the higher IVET courses lead to a Higher Technician diploma (técnico de grado superior).

An alternative for people not having the required academic qualifications for entry to IVET is to take the examinations that are held annually for access to IVET courses, at intermediate and higher level.

IVET is integrated into post-compulsory secondary education, whilst the higher level is considered to be higher education. IVET courses have a professionalising purpose at both levels. Despite having the goal of getting a job, IVET courses can be used as an alternative means of access to university. The length of IVET courses is 2,000 hours in total, and between 300 and 600 hours of these 2,000 hours, depending on the course, are taken in the workplace and evaluated as a normal subject.

IVET courses are organised in areas called “professional modules”, normally between 100 and 250 hours in duration, which are in turn subdivided into “training units”, normally between 30 and 100 hours’ duration, each course being of variable length. The training units are defined in terms of one or more learning outcomes and combine procedural, conceptual and attitudinal contents in line with KSC (Knowledge, Skills and Competence). Adults can take a full training course or part-time course attending some professional modules, or even some training units. The system is flexible and allows the construction of individualised learning pathways based on the interests and needs of professional qualification.

The Department of Employment’s training system provides courses of variable durations leading to certificates of professionalism (usually between 600 to 900 hours of training, including work placement). The system is flexible and allows the achievement of partial units of competency that make up the certificates.

Those who succeed and achieve the full unit of competency as defined in the National Qualifications Framework can obtain the appropriate accreditation. The accredited units of competency enable people to switch from the educational system to the labour system and vice versa and thus reinforce and capitalise upon the learning outcomes for which they have already received recognition.

In terms of geographical mobility, Catalonia has for many years been using its geographical location and long tradition of European orientation to promote cross-border mobility that delivers considerable benefits for students at different levels – compulsory secondary education, post-compulsory secondary education and university education.

The Department of Education of the Generalitat of Catalonia has encouraged student and teacher mobility at all levels of education – compulsory secondary education (12-16 years) and high school (17-18 years) – and, through the General Direction of Initial Vocational Education and Training, has promoted student mobility in IVET. It has also actively taken part in many projects of the European Commission and the Parliament in order to attain strategic goals.

In 2006, Catalonia participated in the European project ECVET Connexion, studying the feasibility of the ECVET implementation for IVET systems across many countries. The results of the study showed that the IVET system in Catalonia did not put impediments or barriers to the implementation of ECVET, in terms of technical specifications of the system, the necessary condition of the training centres autonomy flexibility of pathways or the permeability of the system. The evolution of the vocational education and training system in Catalonia in recent years towards more flexibility and permeability has brought it closer to ECVET.

The Second Master Plan for Vocational Education and Training in Catalonia, drawn up in 2007, has a priority line of adaptation and innovation of devices and training resources to the needs of the Catalan economy and the goal of “promoting trans-nationality under the European Qualifications Framework”. From these lines, measures were derived “to promote the involvement of the training centres and companies in exchanges for European trainers and users of all sub-systems training” and “promote the creation of networks encouraging trans-nationality”.

The Initial Professional Training, structured in IVET courses, is part of the education system of Catalonia and its regulation depends on the Department of Education. The system is delivered through public and private training provider centres. Both are limited to following the organisation of courses and curricula that are developed by the Inspectorate from the Department of Education. This Inspectorate has a specific area dedicated to IVET and is responsible for monitoring and ensuring system development.

Finally, the Catalan IVET system has since 2009 built up a series of processes for adult people with work experience, volunteering and personal experience, that take this experience into account. This process has become a key for career guidance, giving advice to people on potential vocational pathways in which they are interested. These processes are regulated by specific rules in each case and also are monitored and ensured by the Inspectorate of Education Department from IVET.

2. ECVET in Initial Professional Training (IVET)

ECVET, as a technical framework that allows transfer, recognition and accumulation of individual learning outcomes achieved by people in the context of formal education, non-formal and informal, in order to obtain a professional qualification, fits seamlessly into the VET system of Catalonia. This system is open and flexible and makes it easy to capitalise training.

Established by the Recommendation of the European Parliament and of the Council of 18 June 2009, concerning the creation of the European Credit System for Vocational Education and Training, ECVET can be analysed from different points of view.

According to the form and the means through which people have obtained the professional competence, we may speak of formal education or regulated training, non-formal education or non-regulated and adults training whenever the existence of teachers and students is implied and of informal education – related non-classroom work experience but coming from the work experience, volunteer or life experience.

We may speak of acquiring new professional competences horizontally if the range of professional qualification is expanded at the same level and of achieving competences vertically by increasing the level of qualification.

New professional competences can be acquired through geographical, transnational mobility or between regions, or simply through internal mobility along various pathways established in the initial vocational training of the education system or within the work system.

In Catalonia the national qualifications framework has three levels. The first level, level 1 qualification, is the most basic level of training, corresponding to the *Initial Professional Qualification Programmes*, which are outside the scope of this article. Levels 2 and 3 correspond to the IVET diplomas, intermediate and higher level respectively. Level 2 rating refers to jobs where the worker must have competence in activities that require a certain autonomy, must use tools and techniques and must meet the technical and scientific activities of the process. Level 3 qualification covers jobs where the worker must master the techniques and execute them independently, have supervisory responsibilities and carry out specialised technical work and understand the technical and scientific activities of the process. Levels 4 and 5 qualifications are reserved to Colleges. The correspondence of the national qualification levels to the European Qualifications Framework (EQF) states that national level two corresponds to the level III of the EFQ and level three national corresponds to levels IV or V EFQ.

The IVET system in Catalonia allows people to achieve professional qualifications through a flexible and permeable system with levels of education established legally in the curricula and guaranteed by the inspection of the education system. On the other hand, it ensures that those who obtain the Technician or Higher Technician diploma gather the academic requirements established by the law.

Currently capitalisation of professional competence in the context of IVET is divided in two main contexts. These are formal training, which of course includes training offered in different sub-systems, and the context of non-formal and informal education, recognition through work experience, social activities or voluntary work and life experience.

1. In the context of the formal training, capitalisation of the learning outcomes materialises the accumulation of training

1.1. Through internal mobility within the IVET courses themselves, which can be horizontal or vertical

IVET allows people to transfer and capitalise training units obtained in the education system itself. This process can be horizontal or vertical. The basis of internal mobility is a system organised in a modular way where subjects called professional modules are subdivided into training units. These units contain one or several learning outcomes. The system allows the capitalisation of the learning outcomes achieved.

The transfer between different IVET courses in the educational system of learning outcomes that has already been acquired take place through training units as provided by law. Horizontal capitalisation takes place if the training units are transferred between the same level diplomas. Vertical capitalisation occurs if the training units are transferred from certain level of competence towards to a higher level title. Some examples to illustrate these cases are as follows. In the vocational area of administration and management, IVET sets an intermediate level course called *Administrative Management* at level 2 at the National Qualification Framework (NQF) and a higher level course, *Administration and Finance*, at level 3 at the NQF. Both titles, which can be taken separately, include professional competence in recording data in computer applications (defined level 2 at NQF). There are students who have chosen to pursue the two diplomas consecutively. In this case, a student who has already successfully completed the training unit related to this competence, typing and data recording, in the intermediate level course *Administrative Management*, can capitalise on this skill in the higher level course *Administration and Finances*. This is an example of vertical capitalization.

There is a second VET course of higher degree in the field of administration and management called *Assistant Management*. The two higher level courses, *Administration and Finance* and *Assistant Management*, have some common training units, composed, of course, of the same learning outcomes. A student who attends both courses can capitalise on learning outcomes already achieved in the second course pursued. This is an example of horizontal capitalization.

1.2. Through transnational geographical mobility – training in workplaces or in studies

Through formal education, the transfer and capitalisation of learning outcomes with academic recognition is obtained by the students in the VET systems of foreign countries. We need to remember that one of the foundations of ECVET is the permeability of the VET system. This means the opportunity to validate learning outcomes achieved in other school systems. For this to take place, there must therefore be mutual trust between training providers.

With regard to the transfer, capitalisation and recognition of learning outcomes, it is first of all necessary that the competent VET authorities in both countries provide a general framework of cooperation, and an agreement reflected in a Memorandum of Understanding. Secondly, it is necessary that the two competent institutions involved in the training, home and host, should conclude a learning agreement and use personal transcripts.

Trainees from Catalonia who want to take part in mobility programme in a foreign country need to distinguish between two sorts of ECVET recognition. There is work placement recognition, with positive evaluation, and studies recognition, completed and positively evaluated and granted by the host institution.

In the case of work placement recognition, the teacher responsible for this period coordinates contents and activities with the enterprise. These contents and activities are chosen from the contents of the current curriculum. The final qualification obtained by the student is a qualitative grade, fit or unfit. Students can remain at the company for the total amount of hours (350 hours plus a 20% increase if convenient for both parties) or for only part of the amount of hours. In this case, the student must complete the rest of the total amount of hours at a company in Catalonia.

In the ECVET studies recognition case, both parts sign a learning agreement to fix the contents, procedural, conceptual and attitudinal, that the student should take in the host country. They also agree which learning outcomes units will be transferred, the nature of the assessment system, which instruments and which rating scale will be used, and how the acquired learning outcomes will be certified. The home country will manage how to recognise and to validate the credit obtained by the student and how to fit in the personal transcript.

The transferable and capitalisable learning outcomes units can match a complete training unit in the Catalan curriculum or they may only form a part of such a training unit. In any case, the training units always correspond to one or more complete learning outcomes. In Catalonia, evaluation takes place by training units and each learning outcome. This means that there is no problem in incorporating a qualification obtained in another country, if this has been passed. If an ECVET unit of learning outcomes has not been passed, the competent body must decide how to proceed. In this case, our system does not provide the learning outcomes units internally.

Obviously, there are some professional profiles that match very well with mobility, such as the VET higher degrees of *International Trade, Transport and Logistics*, or *Assistant Management*.

Currently in Catalonia, experimentation is taking place in the ECVET framework of NETINVET. This network, created in 2011, is the result of various projects of the European Commission, COMINTER (Creation and implementation of a common European qualification in International Trade) and

RECOMFOR (Network for training and education Import Export Sales Assistant) related to International Trade. This association was founded with the participation of employers, the chambers of commerce, the competent bodies and teaching institutions that offer VET in this field from different countries of the European Union. In 2012, employers and education institutions from the Transport and Logistics sector were also integrated into NetinVet, this being the result of another European project EURO-TRANSLOG (Creation and implementation of a common European qualification V in Transport and Logistics). So nowadays NetinVet is a European network that promotes mobility for learners to complete vocational training courses and work placement in International Trade and in Transport and Logistics. 10 countries are currently taking part in the network, and there are a total of 53 training centres: France (24), Catalonia (12), Netherlands (9), Belgium (2), Italy (1), Portugal (1), Greece (1), Romania (1), Slovenia (1) and Germany (1).

NetinVet offers many instruments for mobility – including mobility tools, contacts, good practices, the NetinVet brand in itself, and the results obtained. One example of results and best practices is the fact that mobility measures under Netinvet can vary from two weeks until three months or beyond. A long length of stay of at least two months is, however, recommended for both work placements and study mobility.

In Catalonia, commitment to the promotion of ECVET European mobility is considered a key strategy, and for this reason most of the Catalan training centres in this sector are part of the network NetinVet network.

This experimentation was carried out in Catalonia in higher VET degrees, which are considered higher education. ECTS (European Credit Transfer and Accumulation System) are therefore assigned to each professional module. However, at the moment, it is not essential to allocate ECVET points to the learning outcomes. If these were implemented, they would provide information about learning outcomes. They have not, however, been necessary thus far.

1.3. Through internal mobility between the education system and the labour system of vocational training

The transfer of learning outcomes between VET diplomas from the educational system and certificates of professionalism from the labour system is accredited through units of competency. The units of competency correspond to professional modules and training units expressed in learning outcomes.

2. In the context of non-formal and informal training, capitalisation of learning outcomes is realised by the recognition of work experience, voluntary work or social activities or life experience, through accredited programmes and processes that allow professional competence and the validation and recognition of the corresponding training

It should be noted again that one of the ECVET foundations is the permeability of the VET educational system, defined in this section as the ability of recognition and validation of learning outcomes that have been acquired in different contexts of formal education.

During the last two years, different ways to recognise work experience for adults have been implemented, seeking guidance and/or reorienting people about their professional qualification and path to follow, according to their interests, preferences and possibilities. They can be effective in improving professional qualification or guiding them towards another area or sector. Educational systems and vocational training are wide and varied, and the flexibility and permeability of the system recommended us to improve the guidance. Moreover, the high unemployment rate, unskilled persons or persons in training that wish to return to the labour market, means that it is essential to redirect people towards other branches of economic activity.

These processes are carried out with the participation of the economy and social agents. In Catalonia, the Catalan Council of Vocational Education and Training is the agency that coordinates the vocational education and training supply, IVET and CVET, and validation and accreditation processes. The purpose of the coordination is to respond to the needs of different territories, maximising the use of the resources and therefore avoiding duplication of training provision that is complementary.

From 2009 to 2012, the *Qualifica't Programme* allowed experimentation with the validation of experience gained in work, social activities or volunteer experience, and personal life, for adult people with a minimum of 2 years of work experience, through a procedure performed in some VET centres that owned the quality certification chart and were experts in some VET courses. This programme has been replaced by the *Service of learning recognition programme*. This is managed by the VET educational system and allows adults with work experience to obtain recognition of their learning outcomes achieved throughout life.

Competence accreditation processes allow adults to obtain recognition for their learning outcomes achieved throughout work experience, volunteer and life based on units of competency.

3. Strengths and weaknesses of a flexible and permeable system

The recognition and capitalisation of learning outcomes achieved in formal systems of VET or in non-formal and informal contexts has the strength to improve employability and the rationalisation of resources used in training to prevent people from repeating training.

The first weaknesses focuses on the complexity of organisation and management of the VET system. The system of VET diplomas – Technician and Higher Technician – and Certificates of professionalism – which are modular and cumulative allows participation in a scenario with many pathways. The second weakness lies in the cost of procedures for the recognition of learning outcomes and the accreditation of competencies.

In the specific case of the transfer and recognition of learning outcomes acquired in non-formal and informal contexts, a need has been identified for recognition processes that are highly standardised and rigorous to ensure that people who may have passed can pursue without problems the pathways that allow an improvement of their professional skills.

Regarding transnational geographical mobility in relation to students travelling to another country, there is a strong added value for such students be in a foreign country, in terms of technical skills or experience gained, and personal autonomy and responsibility is increased. Proficiency in a second language is also improved. As for the students of the receiving country, hosting foreign students forces coexistence, is highly positive and often promotes a motivation to perform other mobility measures and exchanges. Finally, with regard to teaching, vocational contact with other countries and companies allows a reflection on the system itself often resulting in the introduction of changes and improvements.

The young students encounter some barriers, such as being exposed to the difficulty in mastering a foreign language and costs that must be borne. The adult students experience added language barriers, family responsibilities and work. As for the teachers, there are also language barriers, and weaknesses are repeated complexity of the documentation for the execution of the mobility measure and funding, a lack of fluidity in the relationship with foreign partners often due to the difficulty in understanding different VET systems, and finally, and due to the current economic situation, difficulties in finding companies to receive students in mobility measures.

4. Future prospects

The IVET system should remain flexible, open and permeable and even progress in these areas. Years ago, the diplomas in themselves were very important and were the basis of the curriculum vitae of those looking for work. Nowadays, the situation has changed. For many years the European CV (Europass) has emphasised capabilities and skills learned and developed by people in non-formal and informal contexts and focuses not only on the diploma achieved.

Increasingly in the process of recruitment and selection of people, companies also take the pathways of future workers and their experience into account, not only professionally but in terms of the life situation. Given the same conditions, the companies and organisations choose workers that are versatile, flexible, and have ability to work in teams and in multicultural environments with autonomy and initiative rather than making a selection on other profiles based only on traditional expertise. Therefore, training systems must enhance these skills and attitudes to facilitate, as far as they will be able, access to vocational education and training as a tool for competitiveness.

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Netinvet network: <http://www.netinvet.eu/>

ECVET in Sweden – in search of the Holy Grail

Pernilla Öhberg/Andreas Mårtensson

"For the first time I understood precisely what my qualification was about and what I would be able to do, understand and know when returning home from the Netherlands. The funny thing was that I understood the description of this learning opportunity better in English than I have ever done trying to interpret the learning content of the national courses in automation in Swedish." Swedish EURIAC mobility student

1. EURIAC: Matching industrial needs and training provision by using ECVET

The European Industrial Automation Class (EURIAC) is the second major ECVET project to be carried out in the municipality of Kungsbacka, Sweden. These projects mean that no municipality in Sweden probably has greater experience of working with ECVET than Kungsbacka.

There are several reasons why the Kungsbacka municipality chooses to participate in international projects and wishes to be involved in the development of ECVET in particular.

- A major motivation to participate in this type of project is that it contributes to the development of educational programmes and school organisation.
- Participation in international projects and the opportunity for students to participate in international internships also lead to an increase in both the status of vocational education and young people's interest in vocational programmes.
- A Swedish School Inspectorate report noted several weaknesses in workplace based learning in Sweden. For instance, there is often no agreement between the school and the internship provider and it is unclear for the student what he/she should achieve during his/her training period and how the student's performance should be assessed. This could be averted by also using the ECVET tools for domestic practice.

The EURIAC project was therefore created to bridge the following gaps.

- (1) **Interest gap** – According to the communication from the Commission "A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy" (EUROPEAN COMMISSION, 2010), young people in Europe do not find vocational education attractive due to low quality. However, a recent Swedish study indicates that opportunities to study and work in an international environment during their training attract young people, since they think international experience will provide them with opportunities to improve their language skills and gain new perspectives on life and personal growth. Moreover, the study "Arbetsgivarens syn på utlandserfarenhet" (CONFEDERATION OF SWEDISH ENTERPRISES, 2010) shows that international experience will increase the students' employability both at national and European level since the employers highly appreciate the competences the students gain abroad, such as a sense of responsibility, communication skills, and the ability to act on their own initiative.
- (2) **Knowledge gap** – Due to the rapid technology shift in industry – causing multi-skills needs in industrial automation – and the lack of communication and cooperation between vocational centres and the industry, a mismatch on industrial needs and the learning outcomes of

students in vocational training has arisen. Industry claims students are poorly educated and trained and are therefore not employable.

- (3) **Opportunity gap** – There are still few vocational training centres offering international mobility opportunities and fewer thus offer students in vocational training in automation the opportunity to study or work abroad as part of their qualification. However, the aim of the new programme Erasmus for all is to increase this quota to 6%, providing 5 million people with an opportunity to study or work in accordance with the objective of the European 2020 strategy. Of these 5 million people, 1.5 million should be students in vocational training. The professional profiles in industrial automation are all highly international. Students could work anywhere in the world after graduation, and would thereby greatly benefit from international learning opportunities.
- (4) **ECVET-gap** – Studies, initiatives, and projects aiming to develop and utilise the ECVET devices in vocational training have been conducted, and there is an ongoing process of mapping National Qualifications Frameworks (NQF) to the European Qualifications Framework (EQF) to provide a common reference that will simplify the comparison of VET in Europe. However, more work on the practical implementation of ECVET in national VET is required to increase and ensure transparency and transferability to the national system of learning outcomes gained abroad.

The EURIAC project aims at creating units of learning outcomes in industrial automation in line with European industry skills needs in order to increase the volume of and improve the quality of international mobility opportunities in vocational education. The main target group for the EURIAC project is vocational students participating in initial vocational training in industrial automation at EQF levels 4 and 5. The core of the EURIAC consortium is composed of a selection of renowned and experienced professionals from vocational training centres in Sweden, Finland, the Netherlands, and Spain together with representatives from the industry in Sweden and Switzerland and representatives from the public sector in Sweden and Germany. The project runs from October 2011 to September 2013 and is led by the municipality of Kungsbacka, Sweden.

2. Starting the ECVET implementation by understanding each other's contexts

The EURIAC project applies a step-by-step and bottom-up approach towards utilising the ECVET tools. Establishing mutual understanding of the framework and tools of ECVET was difficult at the start since few of the project members had previous experience or knowledge of ECVET. As a remedy, an "ECVET Glossary" was created to explain and translate the ECVET terminology by reflecting the ECVET principles in the national educational systems.

Using the glossary, the project team was able both to understand the meaning of the ECVET term 'Qualification', in what ways the educational systems involved differ and how these differences may cause both obstacles and opportunities when it comes to ECVET implementation. The ECVET Glossary has proved to be a vital tool to establish common ground among the project group and for learning to understand the ECVET framework. Furthermore, it helped to clarify elements of the Memorandum of Understanding such as competent institution, Assessment, Validation, Recognition etc. for the team members involved in the work.

For instance, the example below shows the translation of the term 'Qualification' in the ECVET Glossary.

ECVET Glossary – Starting point in EURIAC

Qualification (Terminology used in the ECVET recommendation (Annex 1))

→ means a **formal outcome of an assessment and validation process which is obtained when a competent institution determines that an individual has achieved learning outcomes to given standards,**

The Netherlands	Finland	Sweden	Spain	Germany
Qualification in the Netherlands is seen as the achieving of a “vocation” (a full qualification based on training regulations).	The qualifications are placed in the national framework according to the learning outcomes required by the different qualifications.	A student who completes an upper secondary programme receives a diploma. Each programme has its own diploma goals.	A professional VET qualification is the blends of professional and academic competences, which can be achieved through module based training and other types of training, as well as through work experience.	Qualification in Germany is seen as the achieving of a “vocation” (a full qualification based on training regulations). At the end of training the student achieves a journeyman’s certificate. Partial qualifications are not foreseen in the German context, i.e. students enter the labour market with the entitlement of a journeyman with a certain societal status. Salaries are based on the journeyman’s certificate and not on gained experiences in the job. Whether the training is passed successfully has to be assessed by the competent institutions in final examinations after three (3,5) years of training..
At the end of training the student achieves a certificate.	Although a qualification may contain elements from several levels, it is placed on the level it suits best as a whole.	The achieved learning is assessed by the competent institution, i.e the VET school.	A person is “qualified” when they achieve certain expected results in the development of their studies. In Spain, achieved learning outcomes are assessed by the competent institution throughout the 2 years of training which includes 360-385 hours (corresponding to one unit of competence) of work place based learning.	
The achieved learning outcomes are assessed in final examinations after a number of years of training (depending on the education and the NQF level it could be 2, 3 or 4 years).	Qualifications that are placed on the same level might emphasize different dimensions of learning. The same types of qualifications are primarily placed on the same level.	After completion of a vocational programme, students should be well prepared for working life. It should be possible for students to immediately begin their professional career on completion of the education.		

3. Designing the EURIAC units of learning outcomes

The units of learning outcomes were designed by the EURIAC professionals (i.e. VET teachers) of the participating countries. They are all responsible for interpreting their national curricula and for carrying out the training in the ordinary qualification in practice. They are the ones most familiar with what training it is possible to carry out at each vocational centre in relation to the available resources and the students' competence level. They are also the most suitable persons to decide what prerequisite competence the students require to participate in the training carried out within the EURIAC units. Although the VET teachers are high status professionals in their fields, the designing of units of learning outcomes proved to be a challenge.

The following difficulties were discovered along the way.

- Understanding the concept of learning outcomes in contrast to learning input
- Phrasing learning outcomes and establishing mutual understanding of the words
- Establishing the right level of details for learning outcomes to support professionals and avoid misunderstandings whilst still keeping the units open enough to allow for technical development
- Designing a pragmatic template for the units of learning outcomes
- Handling industry skills needs in relation to national curricular requirements
- Handling the requirements and limitations of each qualification involved in the EURIAC project in accordance with the design of the national educational system, the resources available at the local vocational centres, and the competence and pedagogical experience of the VET teachers involved
- Establishing a mutual understanding of the term “competence” used for creating learning outcomes

One challenge the project team faced was the difficulty in matching industrial needs with educational framework conditions. The market investigation carried out in the first months of the EURIAC project

proved that industry requires broader skills than the range of qualifications available in the participating countries. To meet the expectations and needs of the industry, it was decided that four EURIAC units should be designed including learning outcomes corresponding to the most requested skills needs, i.e.:

- Working with FMS (Flexible Manufacturing System) systems
- Working with motor controllers
- Working with analogue signals
- Working with safety systems

A EURIAC unit is defined in terms of: title of the unit, prerequisites, work tasks, learning outcomes, reference to national qualifications, reference to EQF level and assessment procedure. The learning outcomes are described in terms of knowledge, skills, and competences. They are measurable and described in enough detail to avoid misinterpretations and provide support to professionals in carrying out the training in practice.

Working in Industrial Automation



Unit D Sweden	Title of the unit: Working with safety systems		
Prerequisites:	<ul style="list-style-type: none"> - Basic knowledge about most common sensors (optical, inductive, capacitive, mechanical) - Basic knowledge of machine safety - Basic knowledge of electricity - Basic pneumatic systems 		
Work tasks:	<ul style="list-style-type: none"> - Assembly, programming and commissioning of a production line including a ST-programmed Mitsubishi module based PLC-system. - Assembly, programming and commissioning of a production line controlled by a PLC-system including a safety system. (Failsafe PLC, electrical and mechanical safety components.) - Perform a risk assessment on a PLC-controlled production line. - Fault finding in a PLC-controlled production line including a variety of sensors and actuators. 		
Learning Outcomes:	<i>Knowledge</i>	<i>Skills</i>	<i>Competence</i>
	<ul style="list-style-type: none"> - He/she knows how to recognize syntax of ST-language according to IEC 61131-3. 	<ul style="list-style-type: none"> - He/she is able to construct a simple logical function and/or sequence using ST-commands. 	<ul style="list-style-type: none"> - He/she is responsible for applying IEC 61131-3 to create a PLC-program using ST.
	<ul style="list-style-type: none"> - He/she knows how to describe the difference between safety components and normal industrial components. - He/she knows how to describe the function of EU's machinery directive - He/she knows how to define the relationship between directives and standards. 	<ul style="list-style-type: none"> - He/she is able to construct and connect a production module using a few components including a PLC. 	<ul style="list-style-type: none"> - He/she is responsible for applying risk evaluation protocol to perform risk assessment procedure according to EN ISO 14121 and EN ISO 12100.
	<ul style="list-style-type: none"> - He/she knows how to describe the difference between a failsafe PLC and a normal industrial PLC. - He/she knows how to describe the function of a few mechanical and electrical safety components. 	<ul style="list-style-type: none"> - He/she is able to connect mechanical and electrical safety components to a safety system controlled by relays or failsafe PLC. 	<ul style="list-style-type: none"> - He/she is responsible for creating a program with a failsafe PLC.
	<ul style="list-style-type: none"> - He/she knows how to recognize the symbols used in schedules for industrial purposes. 	<ul style="list-style-type: none"> - He/she is able to analyse a PLC-program and explain the function, including safety aspects. - He/she is able to test structural fault finding procedures in order to find faults in a production line controlled by PLC. 	<ul style="list-style-type: none"> - He/she is responsible for monitoring, analysing and modifying a PLC program after testing.
			<ul style="list-style-type: none"> - He/she responsible for sharing knowledge, experience and insights so that electro technical, safety and programmed products/systems will be tested properly.
Reference to national qualification:	Middenkader Engineering Technicus (crebo 94421) Level 4 (Netherlands) El och Energiprogrammet, inriktning Automation Level 4 (Sweden) Indutritekniska programmet, inriktning Drift och underhållsteknik Level 4 (Sweden) Teknikprogrammet, inriktning Produktionsteknik Level 4 (Sweden) Grundexamen inom el- och automationsteknik Level 4 (Finland) Grundexamen inom maskin- och metallbranschen Level 4 (Finland) Automatización y robótica Industrial Level 5 (Spain) Técnico Superior en Mecatrónica Industrial Level 5 (Spain) Técnico superior en Mantenimiento de Equipo Industrial Level 5 (Spain)		
Reference to EQF:	Level 4*		
Assessment:	Practical assessment assignment & theoretical validation of knowledge using industrial validation system ValidMaint		

* The EQF level for the unit of learning outcomes was established by comparing the learning content of the involved national qualifications during the EURIAC project



Another discovery that proved to be vital in terms of ensuring the recognition of the learning outcomes was the establishment of a level of detail to describe the learning outcomes. The more detailed the description of the learning outcomes, the easier it became for the VET teachers and the

representatives of the industry to understand what the training would be about. However, it was also found that if the learning outcomes become too detailed they would risk being immediately outdated.

It also proved important to describe the learning outcomes in measurable terms in order to facilitate the assessment and validation processes. Moreover, detailed and measurable learning outcomes open up opportunities to use the EURIAC units to validate and recognise informal and non-formal learning. However, this needs to be investigated further.

4. The EURIAC assessment concept

The EURIAC assessment process is carried out both theoretically and practically.

- (1) Theoretical: The students are tested prior to the mobility period in order to establish that they have acquired the prerequisite knowledge and to establish a general knowledge level before participating in the European class. At the end of the mobility experience, the student undergoes a new test based on the specific unit of learning outcomes with which he/she had been involved to establish his/her progression. The theoretical test is carried out using the electronic tool “ValidMaint”.³⁷ After validation, the students also receive a ValidMaint certificate that might help to gain industry recognition of the learning outcomes achieved.
- (2) Practical: During their stay abroad the students carry out a practical final work task that shows if the students have achieved the expected learning outcomes related to the specific unit. These final work tasks are similar to ordinary work tasks carried out at the workplace. The assessment grid includes assessment criteria related to the professional characteristics and skills described in the job profiles of the national qualifications. At the end of the mobility, students are given a short summary containing feedback on their academic and professional performance that can be used as input for validation and recognition in the national qualification.

However, assessment proved to be a challenge for the VET teachers involved. It was discovered that the teachers have little experience of assessment procedures other than standardised tests primarily assessing knowledge. The discussions regarding how assessment could be carried out in order for students to show that they are able to put their knowledge, skills, and competences into practice – that they have, in fact, achieved the expected learning outcomes – reached a dead end. For instance, one teacher stated that assessment was not a problem. If he had conveyed the learning outcomes to the students they would have achieved them.

It also became apparent that few of the students involved in the EURIAC project are familiar with project based learning. Most students are taught using the conventional teacher-led instructional training method. As a result, during the EURIAC test mobilities it was discovered that VET teachers accustomed to the project based approach to learning were better equipped to understand the potentials and obstacles of assessing learning outcomes. VET teachers accustomed to the teacher-led approach proved ignorant on how to assess competences such as responsibility and autonomy. This may also affect the process of referencing the units of learning outcomes to EQF levels.

Moreover, it was also discovered that educational systems using a graded system added to the difficulties of trying to create an assessment procedure for the EURIAC project. The Swedish educational system uses a graded system for assessment, but the other educational systems involved in the EURIAC project do not. Since the other educational systems do not deploy a graded system, it

³⁷ The ValidMaint system can be found at: <http://www.validmaint.be/indexen.html>

proved to be difficult for the professionals without experience of graded assessment to understand the discussion on how to assess learning outcomes using a graded assessment grid. However, since the EURIAC units only cover partial national courses in industrial automation in the Swedish qualification, the Swedish students will still have the opportunity to prove they have achieved the knowledge required for higher grades in other parts of the courses involved.

5. Recognising the EURIAC units of learning outcomes

All EURIAC units of learning outcomes are implemented in practice as they are part of the national qualifications involved. They are verified by carrying out four mobility exchanges with students from Finland, Sweden, Spain and the Netherlands. This is possible due to the autonomy of the vocational centres involved in the EURIAC project and due to the fact that the qualifications have proved “ECVET friendly”, i.e. they are all progressive and school based.

During the work process, a number of national qualifications at EQF levels 4 and 5, aiming at job profiles containing learning outcomes related to industrial automation, were identified into which the EURIAC units could be further integrated. For instance, the Swedish training centre involved in the EURIAC project has discovered that it will be possible to provide transnational learning experiences to students in higher vocational training as well as initial vocational training in industrial automation in Kungsbacka in subsequent rounds of EURIAC mobility.

It was challenging to find a suitable way to describe the recognition process pragmatically and to make it possible to open up the EURIAC units to new consortia and stakeholders. The example below is a draft version describing the recognition process and framework conditions of the EURIAC concept.



Framework conditions regarding EURIAC implementation - Amendment to the Memorandum of Understanding (MoU) -				
Units of learning outcomes	A Working with FMS (Flexible Manufacturing System) systems	B Working with motor controllers	C Working with analogue signals	D Working with safety systems
The unit will be carried out and assessed in	Spain (Bilbao)	The Netherlands (Breda)	Finland (Jakobstad)	Sweden (Kungsbacka)
EQF level	4	4	4	4
The units are integral part of the national qualification	Sweden	Specialutformat program Mekatronik		
		El och Energiprogrammet, inriktning Automation		
		Indutritekniska programmet, inriktning Drift och underhållsteknik		
		Teknikprogrammet, inriktning Produktionsteknik		
	The Netherlands	Middenkader Engineering Technicus (crebo 94421)		
	Finland	Grundexamen inom el- och automationsteknik		
		Grundexamen inom maskin- och metallbranschen		
	Spain, Basque region	Automatizacion y robotica industrial		
Técnico Superior en Mecatrónica Industrial				
Técnico superiro en Mantenimiento de Equipo Industrial				
Number of credits	To be completed	To be completed	To be completed	To be completed
Recognition process	By signing the MoU, the EURIAC institutions empower the receiving institution to <i>deliver a EURIAC unit of learning outcomes (see above) and to assess the learning outcomes by using specific work tasks and the ValidMaint tool</i> . The sending VET institution also consents to <i>transfer, validate, recognize and</i> - in cases where credits are implemented in the national VET systems - <i>to give credit</i> to the successfully completed units of learning outcomes. The achieved learning outcomes will be <i>documented</i> by using the EUROPASS Mobility. The achieved learning outcomes will not be carried out and assessed again on return. Although the units are assessed abroad they are not replacing a final examination at the end of training.			

A first step of recognition is to show that the expected learning outcomes are acquired by the students. This is the reason why “ECVET tools” such as the Memorandum of Understanding, Learning Agreements and Europass Mobility play a vital role. They assure the quality of the provision of the units of learning outcomes and they lay the ground for validation and recognition that takes place after the students return to their home institutions.

When designing the EURIAC Learning Agreement, the project team gathered a number of available templates of learning agreements from the Internet. It was discovered that many learning agreements used quite complex terminology and contained unnecessary information. The EURIAC project team therefore decided that the EURIAC Learning Agreement should be kept simple and short regarding layout, content, and language since it would be used to describe the principles and content of a learning experience to young people. Due to this fact, the EURIAC Learning Agreement only contains brief information about the student, sending and hosting institutions, details about the mobility placement including the unit of learning outcomes, a section about responsibilities of each party involved, and a section for signatures. A section on assessment will be added in due course.



LEARNING AGREEMENT

I. Participant	
Name: Ulrik Åkesson	
Date of birth: 1994-06-03	Passport No./ID:
E-mail:	Phone number:
Address:	
Country: Sweden	
Training programme in home country: Specialutformat program Mekanik	Year of training: 3

II. Sending institution	
Name of institution: Elof Lindälvs gymnasium	
Address: Lindälvs gata 3, 434 32 Kungsbacka	
Country: Sweden	
Phone number: +46 300 833500	
Contact person for exchange: Kenneth Karlsson	E-mail:
Position: Head teacher	Phone number:

III. Hosting institution	
Name of institution: Radius College	
Address: Terheijdenseweg 350, 4826AA, Breda, Noord-Brabant	
Country: The Netherlands	
Phone number: +31765733444	
Contact person for exchange: Debbie van Iersel	E-mail:
Position: English Teacher, project coordinator	Phone number:

IV. Period of placement abroad	
Date of arrival: 2012-11-18	Date of departure: 2012-12-01

V. Details of mobility		
Unit of learning outcome: Working with motor controllers		
Language: English		
Tasks to be performed:		
<ul style="list-style-type: none"> - Produce general scheme drawing of a production module using CAD systems - Assembly, programming and commissioning of a production module including Ladder programming with PLC and motor drivers. - Assembly, programming and commissioning of a production module including Sequence Ladder programming with PLC. - Using relays and contactors controlled by PLC in order to put the Y/D motor into service. - Applying general safety rules according to the low voltage directive - Working with frequency controllers - Using basic principles of measurement in a motor control circuit for fault finding 		
Knowledge: <ul style="list-style-type: none"> - He knows how to define the basic processes using Ladder methods. - He knows how to recognise syntax of Ladder-language according to IEC 61131-3. - He knows how to describe how to program the production modules. 	Skills: <ul style="list-style-type: none"> - He is able to analyse the process that has to be controlled. - He is able to run through a PLC program, using a given Ladder, and check if it works properly. 	Competences: <ul style="list-style-type: none"> - He is responsible for applying IEC 61131-3 to create a PLC-program using Ladder.
<ul style="list-style-type: none"> - He knows how to define the basic components of a frequency controller. - He/she knows how to define the basic parameters and connections of the motor. 	<ul style="list-style-type: none"> - He is able to connect a frequency controller to a motor. - He/she is able to connect input to start frequency controller. 	<ul style="list-style-type: none"> - He is responsible for applying the right combination of settings of the frequency controller with the parameters of the motors. - He/she is responsible for applying the correct wiring of Y/D motor with its contactors
<ul style="list-style-type: none"> - He knows how to define the basic principles of a CAD systems. - He/she knows how to recognise electro technical symbols and knows how to use them. 	<ul style="list-style-type: none"> - He is able to produce a drawing using CAD. 	<ul style="list-style-type: none"> - He is responsible for creating a new up-to-date drawing when changes have been made.
<ul style="list-style-type: none"> - He knows how to describe the general safety rules for the low voltage directive. 	<ul style="list-style-type: none"> - He is able to point out when a machine doesn't meet with certain safety standards - He/she is able to work in proper conditions, trying to avoid any kind of risk. 	<ul style="list-style-type: none"> - He is responsible for applying general and specific branch related safety rules and procedures according to low voltage directives in his/her work.
<ul style="list-style-type: none"> - He knows how to explain the method of measuring the parameters of a motor controlled by a frequency controller. 	<ul style="list-style-type: none"> - He is able to measure the current voltage and power of a motor controlled by a frequency controller. 	<ul style="list-style-type: none"> - He is responsible for analysing the condition of the motor using the measuring results.
		<ul style="list-style-type: none"> - He is responsible for sharing knowledge, experience and insights so that electro technical products and systems will be tested properly.

VI. Responsibilities			
Responsibility for	Sending institution	Hosting institution	Student
Signature of Learning Agreement.	√	√	√
Prepare the students for the mobility (assignment).	√		√
Health- leisure- and travel insurances for the time abroad.	√		√
Sending of information about accommodation and internal travel arrangements.		√	
Payment for mobility student (travel and subsistence expenses).	√		
Arrangement of accommodation for the training period abroad.		√	
Providing of working clothes and/or protection equipment during the mobility period abroad (if needed).		√	
Defining the LO of the mobility.	√	√	
Assessment of LO.		√	
Recognition of LO.	√		
Accompanying tutorship.	√		
Language spoken during the mobility period.	EN	EN	EN

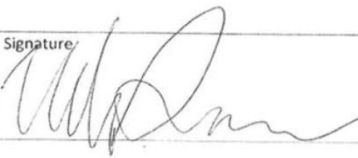
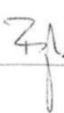




EUROPEAN INDUSTRIAL AUTOMATION CLASS

Education and Culture DG
Lifelong Learning Programme
VII. The student participating in the mobility abroad will assure to:

- a. comply with all arrangements for his/her mobility and doing his/her best to make the mobility a success;
- b. abide by the rules and regulations of the hosting institution, its normal studying hours, code of conduct and rules;
- c. submit a report in the specified format and any required documents at the end of the mobility;
- d. inform the sending school about any illness that requires special care or treatment.

Students behaving badly during the mobility may be sent home on his/her own expense.

VIII. Commitment of the three parties		
Participant		
Place/Date	2012-10-17 Elof Lindälvs gymn. Kungsbacka	Signature 
Sending institution		
Place/Date	2012-10-17 Elof Lindälvs gymn. Kungsbacka	Signature/Stamp   ELOF LINDÄLVS GYMNASIUM Lindälvs gata 3 434 32 Kungsbacka
Hosting institution		
Place/Date	12 / 10 / 2012 Radius College, Breda	Signature/Stamp 

6. Next steps: Allocating ECVET points and referencing the EURIAC units to EQF levels

The EURIAC project is still ongoing and will be finalised in September 2013. Some work remains to be completed.

Referencing the units to the EQF

At the beginning of the EURIAC project and in order to get to know each other's contexts and the ECVET framework, the involved vocational centres needed to investigate if the qualification involved in the EURIAC project had been referenced to either a national qualification level (NQF) or a European qualification level (EQF). It was soon discovered that none of the qualifications involved had been referenced to NQF, but there had been suggestions for EQF levels by policy makers. Due to this, it was decided that since the EURIAC units would be designed in line with the qualifications involved, the units would use the same EQF level as suggested for these qualifications.

The EURIAC project team has now carried out the four EURIAC units in practice with students from Finland, Sweden, Spain, and the Netherlands. The mobility exchanges have proved excellent means to verify the units. The evaluation of the mobilities will provide useful input to the discussions about EQF levels. So far, indications are that the EQF level should be lower for some units and higher for others. The design of vocational education and the professionals' choice of pedagogical methods seem to have grave effects on the EQF level of the learning content. Especially the EQF indicators for competence seem to be difficult for some qualifications to achieve.

Allocating ECVET points to the units

Previous work on the ECVET Glossary and discussions on ECVET points have shown that not all countries involved in the EURIAC project deploy a credit point system. Due to that, difficulties regarding allocation of ECVET points have already arisen since the discussions about the concept of credits and relevance and weight of learning content have proved difficult for the participating members of the project team to handle.

However, recently the Swedish National Agency for Education presented a recommendation in *Redovisning av uppdrag om införandet av det europeiska stödsystemet för meritöverföring inom yrkesutbildningen (ECVET) (2012)*, on how to allocate ECVET points to units of learning outcomes in Swedish upper secondary education. This recommendation will be piloted in the EURIAC project to try to provide ECVET points for the EURIAC units.³⁸ It would therefore be possible to allocate ECVET points to the EURIAC units of learning outcomes from a Swedish perspective in the following way. The learning content covered by the EURIAC units is analysed and compared to the Swedish corresponding courses, each worth 100 Swedish Credit points (Scp), according to its weighting and relevance. The analysis shows that a EURIAC unit covers 50% of the learning content of the corresponding Swedish course. The EURIAC unit would therefore be worth 50 Scp. Using the recommended conversion rate of 0.072 ECVET points/Scp x 50 Scp would give 3.6 ECVET points/EURIAC unit.

³⁸The recommendation from the Swedish NetECVET team states that 60 ECVET points should be allocated to one year of full time study, resulting in 180 ECVET points for a vocational qualification completed in three years. The corresponding amount of Swedish credit points (Scp) for the qualification is 2500 Scp. Using these parameters, a conversion rate can be established: 1 Scp = 0.072 ECVET points. The assumption is that all courses at upper secondary level have the same weighting and relevance.

Allocating and implementing credits have generated a number of questions that need to be addressed.

- (1) To begin with, what if a EURIAC unit ends up being worth different amounts of ECVET points due to different relevance and weighting in relation to the other qualifications involved? This will mean that it will become more difficult to describe the units of learning outcomes in a consistent way to new stakeholders and target groups.
- (2) Secondly, it is stated in the ECVET specification that ECVET points should be allocated to learning content not based on learning context or amount of time. However, the Swedish recommendation is based on time, allocating 60 ECVET points to one year of full time study. The ECVET point concept then loses some of its relevance.
- (3) Thirdly, in the Swedish educational system, it is not possible to recognise partial courses. Only complete courses can be accumulated and transferred. Although the learning outcomes achieved abroad can be described in terms of ECVET points using the Europass Mobility, the question remains if it would be meaningful and applicable since the concept of ECVET points still has no relevance either to study or work in Sweden or in the member states involved in the EURIAC project.

The EURIAC project team has so far arrived at the conclusion that the ECVET point concept still has a long way to go to be ready for implementation and to be used as a generally accepted concept for describing the relevance and weight of learning content.

7. Added value using ECVET in the EURIAC project

Using the ECVET framework, its tools and processes in the EURIAC project to create and carry out transparent and recognisable transnational learning opportunities has proved to add value in a number of ways.

To begin with, the EURIAC international learning opportunity has proved attractive to young people. The students' evaluations of the mobilities are all very positive. Interestingly enough, they do not mention conventional effects of mobility opportunities such as development of personal core skills and linguistic development. Instead they speak about the new technology and equipment they have been given the opportunity to work on and the new vocational knowledge, skills, and competences they have gained. They also mention that they have been confronted with work tasks and a learning situation they were not previously familiar with, they have expanded their personal network, that they have realised their linguistic skills works very well in professional circumstances, and that they now feel they can go anywhere in the world to work. The Swedish students especially pointed out the differences in pedagogical approach and role of the teacher in the classroom. This fact was also mentioned by the professionals involved, who were very impressed by the degree of autonomy and sense of responsibility among the Swedish students.

Secondly, it has been shown that designing a predefined set of units for transnational mobility has generated difficulties. In the case of the EURIAC project, the VET teachers at the Dutch vocational centre realised they would hence not be able to provide training for a certain EURIAC unit of learning outcomes. The organisation and educational design of the qualification differs too much from the EURIAC units, as it is based on work procedures carried out different periods of the school year. This mean that the Dutch vocational centre had to organise a separate class for the EURIAC students to provide the training agreed upon in the specific EURIAC unit and that this would be too costly to arrange in the future. Although the Dutch vocational centre will still participate in the future EURIAC

mobility exchanges, they will then only be able to provide training for the learning outcomes that are carried out at that moment. Nevertheless, having been accustomed to the learning outcome approach, the vocational centres and professionals involved in the EURIAC project state it has become easier to identify and agree on what learning outcomes the students should achieve during a mobility experience.

Finally, organising training for international students has been highly stimulating for the VET teachers involved. Due to the EURIAC mobility exchanges, they have been faced with new pedagogical aspects as well as different views on assessment and validation procedures. They have also been able to update and benchmark their own professional competence and equipment used at home.

Along the way, the EURIAC units of learning outcomes have especially proved to be a great support for all people involved in terms of understanding one another's requirements and limitations, functioning as a single point of reference in discussions and serving as input on how to organise the training to be carried out during each mobility period.

Besides the experiences previously mentioned, the following should also be stated.

- ECVET provides excellent means for partners to establish good working relations and to avoid misunderstandings. The ECVET tools make it easier for partners to identify and clarify roles, responsibilities, and expectations prior to, during, and after a mobility exchange.
- The process of establishing collaboration was facilitated using the Memorandum of Understanding since the agreement added structure and content to the discussions. It was also discovered that the EURIAC Memorandum of Understanding could quite easily be changed and used for establishing cooperation with European social partners to carry out international work placements. However, this needs further investigation.
- The units of learning outcomes provide a single point of reference and a 'language' that facilitates the communication between professionals in the training centres and social partners about the learning outcomes of a qualification. It is important, however, that the learning outcomes are detailed and measurable.
- The training centres involved experienced that using the learning outcomes approach to design and agree on what to expect and deliver during the mobilities facilitated the recognition of the students' achieved learning outcomes. In this way, the professionals felt that misunderstandings and wrong expectations could be eliminated at an early stage.
- Nevertheless, designing specific units of learning outcomes for mobility has also been shown to add difficulties. The EURIAC units were designed as stand-alone units to be integrated into any vocational qualification at EQF 4 or 5. This may, however, require the hosting training centre to organise a separate learning experience to the ordinary one. The training centre may also need to allocate specific resources to handle this parallel learning situation.
- Due to the fact that there are still few practical examples of using ECVET to facilitate transparent and recognisable international learning opportunities, it has proved quite easy to attract interest in the initial results of the EURIAC project at European level. Already, two new consortia have contacted the EURIAC project team to ask for permission to exploit its products to carry on the development and verification of the EURIAC concept organising transnational mobility based on ECVET.

- Deploying ECVET in the EURIAC project has also proved that it is absolutely necessary to improve the understanding of different educational systems and philosophies, pedagogical approaches and assessment methodologies among professionals in vocational training in Europe in order to create and organise opportunities for vocational students to study in another European country.

The ECVET framework and tools used in the EURIAC project have in different ways been shown to provide excellent support to bridge the identified problems (gaps) mentioned at the beginning of this article.

- **Opportunity gap:** Three of the vocational centres involved have decided to carry on with the EURIAC mobility exchanges providing transnational learning opportunities for vocational students. Moreover, the project team has been approached by two new consortia interested in using the EURIAC units to offer international training opportunities for their students. Experiences and early results from the EURIAC project have also proved it would be very meaningful to design units for work placement based on learning outcomes corresponding to the EURIAC units. Preparations for a new project and search for additional partners are already ongoing. The EURIAC units would ultimately offer vocational students in industrial automation transnational training and work placement opportunities.
- **ECVET gap:** The implementation of ECVET in the EURIAC project has not only increased the involved professionals' ECVET competence. It has also provided excellent input about added value and impediments of using ECVET in practice to the ECVET implementation process at both European and national level.
- **Knowledge gap:** The ECVET tools provided good support to identify and handle the EURIAC units and ensure that they provide training that corresponds to skills needs in the industry. However, industry skills needs are greater than the possible scope of the EURIAC units today.

The experiences from the EURIAC project show that the ECVET framework adds value in many ways. Its tools and processes may be used to facilitate both national interpretation of curricula as well as identifying and agreeing on learning content for transnational mobility.

However, the EURIAC ECVET experience also shows that many obstacles and impediments still require to be eliminated to make ECVET more widely used. Vocational qualifications and educational systems may be ECVET friendly, but great efforts are still required to create transparent and recognisable learning opportunities based on ECVET.

8. The added value of ECVET seen from a Swedish perspective: how “ECVET-ready” is Swedish VET?

The Swedish educational system at upper secondary level has recently been reformed. One major change is that students now have to choose, at the age of 15, vocational education or study preparatory education. Previously, all learning pathways (programmes) prepared students for admittance to higher education. Nowadays, as a consequence of the educational reform, fewer youngsters choose vocational education. For instance, in a recent article about the vocational training situation in Malmö, Sweden, it is stated that just a few years ago, 45% of the 15 year olds chose vocational education. Today, after the reform, only 29% choose this option.³⁹

³⁹ Fortsatt flykt från yrkeslinjerna. Sydsvenskan. February 18, 2013: <http://www.sydsvenskan.se/gymnasievalet/fortsatt-flykt-fran-yrkeslinjerna/>

Talking to youngsters and their parents, they state they are afraid vocational qualification will provide them fewer options in the future even though they are able to study extra courses on top of their training to gain general admittance to higher education. They also think that vocational education in Sweden is of low quality and that requirements for students in vocational training are low. This in turn generates a picture of vocational training as being an alternative for young people who lack ambition and competence.

Regarding ECVET, it is stated that the new Swedish educational system is “ECVET ready”⁴⁰ due to the following facts.

- (1) Vocational education at upper secondary level in Sweden is designed based on programmes including programme specific course modules which enable students to accumulate learning results. This means that students can end their training and change learning pathways and still be able to transfer or validate their accumulated learning to be admitted to other learning pathways.
- (2) The Swedish VET system is also based on credit points similar to ECVET points. The Swedish 'gymnasiepoäng' is used as a measure to describe the weighting of a course rather than a number of study hours required to complete the course. However, in practice the credit point measure is used as an indication of number of study hours.
- (3) The new design of course modules is similar to the design of ECVET units in the ECVET specification. The specification of Swedish course modules contains information about the aim of the course module and the courses included, credit points for the different courses, knowledge that students should be given the means to develop.

However, the reform adds a number of changes that decrease the level of “ECVET readiness”. For instance, the terminology used in the course modules to specify the learning content differs to a great extent from the definition of learning outcomes in terms of knowledge, skills, and competence in the ECVET recommendation. Knowledge in the Swedish course modules is described in terms of knowledge and skills compared to the ECVET recommendation. Competence, in the sense it is used in the ECVET framework and as an EQF reference indicator, stands for responsibility and autonomy. There is no equivalence to competence in this sense in the Swedish course modules.

Moreover, the Swedish course modules and courses are described in general rather than measurable terms in order to be open to individual interpretation by the Swedish professionals in vocational training. The aim is also to keep the course modules and courses general in order to be open to technical development and changes in society. However, in the EURIAC project it was discovered that it is important to describe the units and learning outcomes in measurable terms and in more detail. General learning outcomes provide scope for misinterpretations and obstruction of the recognition process.

In addition to the new design of programmes, course modules and courses, there is a new grading system to be used for Swedish formal education at compulsory school and upper secondary level. The scale runs from A-F. The new terminology used in the grading criteria differs from the terms used in the ECVET framework. For example, "The student structures the task with certainty and programmes or configures the facility with very good proficiency."⁴¹ What is meant by 'with certainty' and 'very good proficiency'? Difficulties arise when designing units of learning outcomes

⁴⁰ Redovisning av uppdrag om införandet av det europeiska stödsystemet för meritöverföring inom yrkesutbildningen (ECVET) (2012)

⁴¹ Translation of one of the grading criteria of the course Allmän automationsteknik, 100 poäng (<http://www.skolverket.se>)

and creating assessment for transnational mobility. How can the professionals easily ensure they have interpreted the terms in the same way and that their interpretation complies with the industry's requirements regarding proficiency?

More important is the question whether ECVET adds value to Swedish education. Experimenting with ECVET in the EURIAC project, the Swedish professionals discovered that using the ECVET tools would provide excellent support to professionals to interpret and implement the national curriculum.

As a consequence of the educational reform, the course modules have become more extensive than before, and the professionals state that the description of learning content of the course modules and courses provide poor guidance. A lot is left to the professional to interpret as he/she prefers. The problem is that few VET teachers may be able to handle this interpretation due to the following reasons.

- (1) There is a shortage of trained vocational professionals in Sweden today. The educated professionals are close to retirement and they have not carried out work in the industry for some considerable time. The unauthorised teachers lack the necessary training and experience on how to interpret the curriculum and the Swedish educational system in general.
- (2) Moreover, there is a gap between vocational education and social partners in Sweden. Social partners are not necessarily involved in vocational education at upper secondary level and therefore it is very much up to a single professional to interpret the curriculum and to choose how and what to carry out training about in relation to his/her often limited resources at school.

Some VET professionals at the Swedish training centre involved have now begun to experiment on applying the EURIAC learning outcomes approach and template to interpret national courses.

The learning outcomes approach has so far proved to open up to a number of opportunities and improvements:

- ✓ to interpret the national curriculum for professionals
- ✓ to make the course modules and courses understandable to students when they are described in detailed and measurable terms of work tasks, knowledge, skills, and competences. Early observations have shown that students' engagement in their learning process increases if it is designed using the learning outcomes approach.
- ✓ to improve the transparency of the learning outcomes of the local version of a national educational programme which in its turn improves the comparability and equivalence of vocational programmes in Sweden. This means that students' legal right to equivalent education and requirements would also increase.
- ✓ to quality assure and benchmark vocational training when the learning content is described in measurable terms
- ✓ to attract the interest of social partners to become engaged in the vocational training,
- ✓ to improve the recognition of vocational education in Sweden for work or continuous studying,

- ✓ to open up Swedish vocational training to new target groups both nationally and internationally. Describing a qualification in terms of detailed and measurable learning outcomes makes it possible for other vocational providers and students in Europe to understand what educational opportunities are provided in Sweden.

However, the interest in ECVET from colleagues, school management, local and regional authorities, and other stakeholders in Sweden is still weak, as experienced by Swedish EURIAC project members. Mobility exchanges in Sweden still seem to be very much a question of providing personal development opportunities for students, rather than formal learning opportunities that can be transferred and recognised. The Swedish project members in the EURIAC project think this may be due to the following reasons:

- Many vocational centres lack European contacts and knowledge of the added value of international cooperation. It is still merely a question for enthusiasts.
- The burden of administering European projects and transnational cooperation is too heavy for many vocational schools to carry. Many schools are very reluctant to initiate projects due to this.
- Few schools have dedicated and experienced personnel in the field of internationalisation.
- It also seems as if professionals involved in international cooperation often have to carry out the work related to this involvement on top of their ordinary work. International cooperation is time consuming and at times exhausting for many professionals.
- In most cases, international cooperation and exchanges rest on EU funding, not on national or local funding. Therefore, few schools and/or local authorities have long-term strategies for funding international learning opportunities by other means.

The EURIAC project is the only ongoing Leonardo da Vinci Transfer of Innovation project focusing on ECVET in Sweden at the moment, and there are still few mobility exchanges using the ECVET framework carried out in Swedish vocational pathways today. Therefore, the EURIAC project provides useful experiences of the obstacles and challenges of the practical implementation of ECVET in Swedish vocational qualifications at upper secondary level.

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ECVET in the Dutch context – an illusion or a solution?

Annejet Goede

By signing the recommendations in 2008, the Dutch Minister of Education agreed to the implementation of the European Qualifications Framework (EQF) and the European Credit System for Vocational Education and Training (ECVET). The National Qualifications Framework (NLQF) with reference to the EQF-levels was finalised in 2011, and National Coordination Points (NCP) for NLQF and ECVET were established in 2012. Although the Ministry encourages stakeholders to experiment with ECVET, for the moment no further policy initiative for the implementation of ECVET was taken.

ROC West-Brabant, a regional centre for Vocational Education and Training (VET), took up the challenge to experiment with ECVET. This was partly out of curiosity and partly based on the belief that ECVET can have an added value for their students and core business – training people for the increasingly international labour market. This paper outlines the experience of ROC West-Brabant with ECVET and provides an impetus for follow-up.

1 Why the interest in ECVET?

Learning outcomes are at the core of ECVET as well as of the other European transparency tools for lifelong learning such as the EQF. It is all about the shift from input to output oriented education and training by focusing on learning outcomes.

When aiming for employability of people, titles of formal qualifications often do not explain clearly what an individual is able to do. The ECVET principles could help to describe the necessary learning outcomes needed for certain professions, which will be understood on the (European) labour market. Then it is up to the training providers to translate this into the training programmes and to check to what extent the (national) formal qualification is covered. When assessments focus on learning outcomes, the outcomes of non-formal and informal learning can also be taken into account. In this way, the learning outcomes approach might contribute to a higher quality of our training programmes and our assessment system in order better to serve the labour market needs. On the other hand, the expectation is that ECVET and EQF will make it easier to work across borders and understand the qualifications from other countries and will mean that our qualifications will be better understood elsewhere.

2 How are we involved with ECVET?

ECVET and EQF are regularly subjects of discussion in the search for the added value. The following actions are part of this quest.

- (1) **Internal discussions** – The question of the added value of ECVET is raised in connection with to several issues and at various levels, for example the attempt to incorporate learning and/or working experience from abroad into the training programmes and the development of qualitative assessment methods for the validation of non-formal and informal learning.
- (2) **Discussions at national level and with other stakeholders** – ECVET have been widely discussed amongst coordinators of international projects in VET. Most of the pilot projects in

which Dutch organisations participate are focussed on the use of ECVET for the recognition and validation of learning experience from abroad. Recently, a more structured dialogue has been organised by the NCP ECVET and the national ECVET experts. In these meetings, questions are being raised regarding the added value of ECVET for student mobility, labour market mobility and lifelong learning. Most useful expertise has been gained by bilateral discussions with other stakeholders that participate in ECVET pilot projects.

- (3) **European pilot projects** – At the moment, a large part of the international activities is linked to ECVET, international study visits of teachers and other professionals, student mobility projects and innovation projects. The majority of the European innovation projects is focussed on the learning outcomes approach. ROC West-Brabant is participating in three projects that aim to test the ECVET principles in practice: EURIAC, PRO CARING and Pile Up.

3 What are we doing with ECVET?

(1) **ECVET for student mobility: EURIAC, PRO CARING**

ROC West-Brabant is participating in two projects in which ECVET has been tested for transnational student mobility: European Industrial Automation Class (EURIAC)⁴² and PRO CARING – Individual learning pathways for care workers.⁴³ In both projects, the partners developed a number of units of learning outcomes that were tested for transnational student mobility. In the case of EURIAC, students were sent to training institutions in the participating countries for a learning period at the school. PRO CARING also involved work placements abroad. The learning outcomes gained during the mobility period were assessed by the hosting institution abroad. By using a Memorandum of Understanding and individual learning agreements, the learning outcomes could be recognised, validated and accumulated back home as part of the formal training.

(2) **ECVET for labour mobility and lifelong learning: Pile Up**

In the Process Industry Learning Unit Project (Pile Up), ROC West-Brabant is working together with training institutes, representatives of industry and governmental bodies from six European countries. The rationale for the project lies in the shortage of well qualified workers for the process industry, which underlines the need to train and qualify people efficiently. Furthermore, it is important to be able to validate training and experience already acquired across borders in order to make workers employable in other countries in a flexible way.⁴⁴

In Pile Up, the project partners described the learning outcomes required by the chemical industry for a process operator and a starting maintenance technician with the following objectives:

- greater transparency/comparability of the national qualifications concerned;
- the possibility for European workers to obtain validation of experience in other countries and to pile up learning outcomes towards a (higher) qualification;
- the possibility efficiently to (re)train workers via tailored training courses and qualify them at EQF levels 3 and 4.

In order to achieve these objectives the project partners:

- worked towards a common understanding of job and competence profiles;

⁴² www.euriac.eu, 13-05-2013. For an analyses of the experience of this project, see paper “ECVET in Sweden – In search of the Holy Grail” by Pernilla Öhberg / Andreas Mårtensson.

⁴³ www.procaring.fi, 13-05-2013.

⁴⁴ Pile Up is supported by the European Chemical Employers Group, www.pile-up.eu, 13-05-2013.

further developed the ECVET method from the project CREDCHEM⁴⁵ for the description of the units of learning outcomes (ULO's); will test the ULOs and the assessment tools developed in chemical companies in various participating countries.

Example of a unit of learning outcomes (ULO) for process operator in the chemical industry



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Lifelong Learning Programme

Generic title: Conducting processes

ULO 1	Title of the unit: Performing operational logistics	Date:22/11/2012 Version: x
Work tasks:	Prepare, execute and monitor a logistic plan	
Technological context		
Learning Outcomes:		
Knowledge (theoretical + factual) Scientific Context Theoretical context	Skills (practical + cognitive (= use of knowledge)	Competence (Role and level of responsibility and autonomy)
Prepare, execute and monitor a logistic plan		
<ul style="list-style-type: none"> • knowledge of 2nd language, English/German • knowledge of used software systems (windows office) • explain about different logistic systems (Just in time, Make to order, make to stock, push and pull, fifo, lifo) • understand the planning of introduction of new products • describe the function of Material Safety Data Sheets • recognise different kind of quality systems (ISO) 	<ul style="list-style-type: none"> • understand/compare the required specification for supplies and products • consults others where necessary (colleagues, supervisor) • maintain accurate records and documentation • report deviations correctly and inform the involved departments/colleagues/customers • liaise with suppliers to ensure supplier has adequate back up stock levels • manage hazards including handling and safe disposal according to environmental rules and procedures • carry out/ensure quality checks prior to 	<ul style="list-style-type: none"> • instruct a team on all necessary work steps needed to provide raw material of the right quality autonomously • monitor that the (safety) instructions concerning the transportation and preparation of raw material are followed by all members of a team • assume responsibility of his/her own safety and of a team • coordinate his/her own work schedule and of a schedule of a team • assume responsibility of the cost efficiency of the works executed by a team and

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⁴⁵ <http://www.ecvet-projects.eu/Projects/ProjectDetail.aspx?id=15>, 13-05-2013.

Example of the practical assessment tool for the unit of learning outcomes



Work assignment / Plan of examination / Score Sheet Assessment chemical operator (level 3, 4)

Work assignment (company related)		Evaluated criteria			judgement			examination	
Assessment ULO 1 Work task ... Time available : minutes		Performing operational logistics			caesura	EQF level 3	EQF level 4	failed	Test method*
Competences	Work steps (to be filled in by the company)	Nr.	Comp.	(process)					
Instruct a team on all necessary work steps needed to provide raw material of the right quality autonomously		1.		Understand/compare the required specification for supplies and products	10 of the 13 must be sufficient to Assessment No. 6 and 8 must be sufficient				
Optimise work processes through open communication with operators, maintenance team members, contractor team members, management, suppliers and (internal) customers		2.		Consults others where necessary (colleagues, supervisor)					
Report on team work progress		3.		Maintain accurate records and documentation					
Report on team work progress		4.		Report deviations correctly and inform the involved departments/colleagues/customers					
Instruct a team on all necessary work steps needed to provide raw material of the right quality autonomously		5.		Liaise with suppliers to ensure supplier has adequate back up stock levels					

Denissen, Rosendaal, 12.12.2012

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*testmethod: simulation, execution in the workplace or interview.

4 Analysis of ECVET in the Dutch context

During discussions with Dutch stakeholders taking the Dutch VET system into account, the following observations have been made.

(1) Learning outcomes versus competence oriented qualifications

Dutch vocational qualifications are based on national qualification files, consisting of so called core tasks and work processes described in competences. A competence is regarded as a coherent set skills, knowledge and attitude/motivation, that is only meaningful in a certain context.⁴⁶ The competences are elucidated by performance indicators that describe the desired performance in order to carry out the task concerned successfully. The performance indicators are used in the assessments.

The difference between the European and Dutch definition of the word competence has been an object of debate amongst European partners. Not only in the Netherlands, but also in countries like Germany and Denmark, the word competence entails the knowledge, skills and the fact that an individual is able to apply his knowledge and skills in a way required by the professional context (attitude). The European definitions explain learning outcomes as knowledge, skills and competence (extent of responsibility/autonomy).

Based on this description, competences in the Dutch context seem similar to learning outcomes and therefore, the VET system appears ECVET friendly. However, project experiences have shown some discrepancy between the European ECVET definitions and the Dutch qualification files. The Dutch qualifications do not always explicitly mention the required knowledge, nor the degree of autonomy and responsibility. At the moment, the qualification files are being revised. Within the scope of this

⁴⁶ <http://www.s-bb.nl/qualifications-and-examinations.html>, 13-05-2013.

revision, the definitions of learning outcomes as applied in the NLQF are being taken into account in order to make the VET qualifications more outcome based.⁴⁷

(2) **Learning outcomes versus quality assurance**

Dutch VET is already competence oriented and developing towards a learning outcome based system. However, the time spend on formal learning is still an important part of the quality assurance procedures. VET institutions are independent and responsible for their own curricula, training programmes, assessment procedures and overall management. The so called ‘Education Inspectorate’ is the national authority that evaluates and judges the quality of the training providers. One of the regulations VET institutions have to comply with concerns the obligatory amount of formal learning hours. Formal learning in this context means education provided by qualified teachers, not the hours spent in work placements. To be officially accredited and therefore be allowed to train, assess and qualify people, the VET institutions need to guarantee a certain number of hours of formal learning. In the upcoming revision of this regulation, even more formal learning hours will be required. This part of the quality assurance does not correspond to the learning outcomes approach, where the outcomes of all kinds of learning are assessed and taken into account in the validation process.

(3) **Learning outcomes versus VET professionals**

In the competence based training system, VET professionals are working towards output oriented VET. Nevertheless, we are encountering some challenges in actually using the learning outcomes approach. On the one hand, challenges occur due to the way in which education is organised and the practical difficulties regarding greater flexibility in the organisation of training. Education is organised in time schedules, working hours, assignments, etc. On the other hand, in the culture of education the process towards a formal qualification is still taking place based on the assumption that the learning outcomes depend on the learning input from the VET programme. Especially projects that focus on student mobility between training providers show that it remains difficult to let go of the teacher-led approach. Units of learning outcomes are being confused with training modules or parts of curricula. In the assessments, teachers tend to check only if the student has picked up the learning content offered rather than look at the learning outcomes achieved.

(4) **Learning outcomes versus validation and recognition**

ECVET has proven to be very useful with regard to the establishment of mutual understanding of the different qualifications and training systems between countries. The ECVET principles also provide definitions to work with European partners towards common competence profiles and learning outcomes. This contributes to the mapping of the needs of the labour market and to the building of bridges between the world of work and education.

Nonetheless, really understanding each other remains difficult, even at the end of a two year project. Although the partners in the various projects have taken important steps, the mutual trust needed to validate and recognise learning outcomes gained outside our own formal training system remains a challenge.

(5) **ECVET for student mobility or lifelong learning?**

Other observations have been made based on the ECVET projects:

- ✓ The process of describing a qualification in units of learning outcomes either for student or worker mobility and lifelong learning appears to be the same exercise as long as the starting point is the needs of the labour market.

⁴⁷ For example progress is made in the agricultural sector by the Centre of Expertise Aequor, see “*Kwalificatiedossier: Groene ruimte*”, valid as from 1 August 2013. More information on www.kwalificatiesmbo.nl.

- ✓ When describing separate units for student mobility, not a whole qualification (based on the profession), there is a risk for the discussion to go back from learning output to input. This is because the first parameter for the design of the unit for the mobility of students is the time schedule and training programme of the mobility, and not if the unit is a coherent and assessable set of learning outcomes. The same goes for the allocation of credit points. In education, credit points are still associated with workload instead of the relative weighting of the units of learning outcomes in the qualification.
- ✓ The use of ECVET credit points have been the subject of various discussions. In the Netherlands, there is no national credit (study) point system for VET, and this makes it difficult to implement ECVET credit points.
- ✓ In describing learning outcomes, education professionals tend to focus on knowledge and skills, whilst companies are more interested in competences (degree of responsibility of the individual).

5 Conclusions and recommendations regarding ECVET

In cooperation with various kinds of partners from different European countries the following lessons have been learned.

Added value of ECVET

- ECVET and the learning outcomes approach help to establish common definitions and to achieve mutual understanding of job profiles, qualifications and training systems.
- To think and speak in terms of learning outcomes provides a basis (common language) for a renewed relationship and better cooperation between the world of work and education.
- ECVET and EQF are about much more than transnational mobility. If we take full advantage of these tools and really look at learning outcomes, we could make lifelong learning a reality.
- ECVET could be used to improve the quality of our VET system – flexible, learner centred training, quality of assessment and the process of qualifying, and better permeability between different levels and education sectors.

Challenges for the implementation of ECVET

The ECVET projects are part of a process, and the work is only just beginning. The shift in the mind set and culture of VET has still to take place. Today, the assumption remains that learning mostly takes place in a formal context.

Questions remain about requirements for the practical implementation of ECVET in the Dutch system (and ROC West-Brabant). Parts of the VET system are difficult to correspond with ECVET, such as (no) organisational flexibility and quality assurance regulations (accountability of the training providers).

Recommendations for the future

- (1) **Take full advantage of ECVET** – ECVET is not just for student mobility. Use ECVET in cooperation with companies to understand what the necessary learning outcomes should be, instead of looking at the learning outcomes that could be provided by a certain training programme.
- (2) **Integrated approach towards European tools for lifelong learning** – The possible added value of ECVET lies in combination with EQF/NLQF, the validation of non-formal and informal

learning and individual portfolios to register the learning outcomes (e.g. Europass/European Skills Passport). The description of qualifications in units of learning outcomes takes on added value only when linked to an EQF level. The level of responsibility and autonomy referred to by EQF is very important for the employability of the individual.

- (3) Communication** – The learning outcomes approach entails a paradigm shift in education from input towards output of learning processes. Currently, the interest in EQF and ECVET is growing. Use this momentum to address the necessary paradigm shift. Clear communication is needed for this. ECVET is often still addressed as a technical system instead of a way of working/mind set. Base communication of ECVET on the added value.
- (4) Discussion about innovation in education** – Implementation of the learning outcomes approach requires a discussion on the implications for education, e.g. flexibility and learner centred training. This would mean an adjustment of existing learning activities and instruments. Take into account the possibilities and requirements of EQF and ECVET in the upcoming innovations of the education system. For example, the revision of the qualification files entails a simplification of the qualification structure in correspondence with the needs of the labour market. This could make it easier to reach agreement on national level on units of learning outcomes per qualification.

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In 2008 the European Parliament and Council passed the “Recommendation on the establishment of a European Credit System for Vocational Education and Training (ECVET)”. The aim of ECVET is to facilitate the transfer and mutual recognition of learning outcomes attained in different education systems and in a variety of initial and advanced vocational training contexts. In past years a great number of steps have been undertaken at European level and in the Member States to create suitable framework conditions in which ECVET could be applied.

In the present discussion paper, the question is raised as to how far ECVET may generate “added value” even outside of measures to promote geographical mobility. The initial spark for this came from the so-called “second generation” of European projects, in which Member States were funded to test ECVET in their national contexts. The discussion paper also takes up findings, results and approaches from pilot initiatives like DECVET and JOBSTARTER CONNECT, and discusses barriers, options and scope for the use of unit-based concepts at the interfaces within the German (vocational) education system.