

Keeping you informed about European Credit system for Vocational Education & Training

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Editorial

**Christian
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Cedefop and ECVET: a long and close association

Cedefop has long been active in preparing and coordinating work on ECVET.

We have been a member of the European technical working group since 2005, and later also joined the ECVET European Steering Committee and Users Group.

The recent Bruges Communiqué (2010) has made our involvement even stronger by endorsing our monitoring work and giving us a mandate to continue our periodic review of how ECVET is being implemented. In 2010 we published **the first edition of our annual ECVET monitoring report**.

European common instruments and principles have encouraged reforms in education and training, which in turn has led to wider cooperation between stakeholders. This is what guides us in contributing to ECVET.

Our role is to listen to the concerns and issues raised by education and training stakeholders; collect facts and figures on how ECVET works; and formulate proposals for both policy-makers and practitioners.

Pursuing its mission of helping to shape European VET policies, Cedefop interprets training trends, forecasts developments in skills, identifies the challenges for learning,

assesses the benefits to the economy and to individuals of vocational education and training, and raises the profile of vocational education and training across Europe.

The development of ECVET is one of the successes of policy cooperation among Member States, the European Commission and the social partners known as the Copenhagen process. Its success is due to the involvement and commitment of European stakeholders. ECVET promotes the importance of VET within education and training and for national and regional qualification policies. The system also helps to build transparency and mutual trust within the European education area (see [Cedefop policy report](#) detailing the progress achieved in the period 2002-2010).

One of the ways in which Cedefop supports the development of ECVET is by reflecting the factors which can ensure its implementation. In particular, Cedefop focuses on the place of ECVET in the context of European common instruments (EQF, Europass, Validation principles, EQAVET). This is part of a wider analysis on the [role of qualifications in education and work life](#), and on the [learning outcomes approach](#).

But Cedefop's work does not only comprise the continuous monitoring and reporting on progress achieved in ECVET. We believe that the best way to gather and produce evidence for policy-makers includes carefully listening to stakeholders on the ground. To reach these stakeholders we use a variety of channels ranging from ECVET-linked events, contributions to the Users' Group, [social media](#), our [virtual community](#), and special publications.

Presently, we are organising two events in cooperation with the European Parliament in November 2011 on the full spectrum of European instruments for mobility, learning and working; and a specific [ECVET expert workshop](#) in May 2011.

There is a lot of work ahead of us. By 2012 the necessary conditions should be in place for a gradual implementation of ECVET. The entire ECVET development will be evaluated in 2014. Both deadlines are part of Cedefop's ECVET agenda, and we look forward to contributing to the success of ECVET through all our related activities.



The contributions in ECVET magazine are examples of the diversity of issues that the system touches upon: qualifications, validation, recognition, learning outcomes, occupations and tasks, mutual trust and roles of stakeholders.

We invite you to follow our activities and give us your feedback through these channels:

- subscribe to our [newsletter](#)
- follow us on [social media](#)
- consult our website '[Understanding qualifications](#)' for all relevant information on ECVET and the European tools.



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An article written by Cécile Mathou (GHK Consulting), based on the OPIR Final Conference on 18 February 2011 in Brussels

OPIR-Project: Two years of testing ECVET mobility and concepts on the ground - a structured framework and an opportunity to create international networks

After two years of work on testing ECVET for geographical mobility between seven regions in Europe, the OPIR project came to an end in February 2011. Coordinated by the French Community of Belgium and developed in partnership with the FREREF-consortium, which involved partners from France (Rhône-Alpes), Spain (Catalunya and Andalusia), Italy (Lombardia), Romania and Switzerland, the project aimed at creating a common language and tools and to implement ECVET within the consortium.

The OPIR project held its final conference on 18 February 2011 in Brussels, gathering more than 150 participants including political actors at European, national and regional levels, vocational education and training (VET) competent authorities as well as actors on the ground involved in the implementation of the project (e.g. vocational schools). They were invited to exchange ideas on how they would take on board OPIR's outcomes, taking into account the political and social issues at stake in ECVET implementation.

The conference was seen as an opportunity to reflect upon some of the key questions related to ECVET implementation, in light of the results achieved by OPIR. Have the hypotheses on which OPIR was based been validated? Have the technical specifications of ECVET been questioned and challenged? How relevant are the different models for the implementation of ECVET developed by the pilot projects? How can ECVET implementation be combined with objectives such as social inclusion, employability and mobility guaranteeing the recognition of competences?

As illustrated in this article, OPIR's results bring new perspectives on the future implementation of ECVET in Europe as well as the ECVET recommendation and its upcoming revision.



When intentions and ideas are tested on the ground

The main objective of OPIR was not to create common qualifications, nor to harmonise VET systems. It aimed at increasing the transparency of qualifications delivered by the project partners in the field of hairdressing and automation with a view to highlight common elements. These common elements were grouped into units (the 'OPIR unit') on which the mobility of learners was based.

The projects concretely tested the tools developed during the preparation phase (see ECVET Magazine June 2010); in November 2009, 62 young people studying hairdressing or automation undertook a learning mobility period of three weeks in one of the partner countries. At the end of the mobility period they were assessed on the basis of the learning outcomes acquired during mobility and received a personal transcript documenting the ECVET Unit they acquired.

Presentations by the different project partners provided the audience with interesting insights into the specific logic behind the involvement of each partner: behind common methodologies and approaches for how the rationale for implementing OPIR could differ.

For the Rhône-Alpes region for instance, the objective was to enhance the image of VET among young people by increasing mobility opportunity for learners. Mobility is viewed as an asset for the attractiveness of VET, and ECVET as a tool that can make this mobility accessible to learners. Enhancing the quality and attractiveness of VET qualifications was generally a key concern for OPIR, which selected the occupations of hairdressers and automation (qualifications at EQF level 3 and 4); two sectors where VET providers are confronted with early school leaving.

For the Romanian partner the main motivation was the modernisation of VET through international exchanges and the modularisation of the curriculum. Finally, in Italy, Belgium, Spain and Switzerland, one of the starting points was the need to increase mobility at national level, and address differences at regional level (or the 'cantons' in the Swiss system).

Did the results live up to expectations?

After two years of testing mobility and ECVET concepts on the ground, what are exactly the added value and the concrete benefits from the partners' point of view?

By creating tools for implementing ECVET for geographical mobility between seven European regions, the project was first expected to yield benefits in terms of enhanced mobility. As highlighted by the Rhône-Alpes region, evidence from the project shows that facilitating international mobility for VET pupils through the use of ECVET, is concretely achievable, and that ECVET can help increase the number of mobile learners, but also the quality of mobility. ECVET provides a structured framework for mobility – and opens opportunities to create international networks for the mobility in VET in the future.

International mobility in VET is a great tool to enhance the attractiveness of VET among pupils. In Romania implementing ECVET also increased teachers' motivation, through their involvement in the preparation phase before mobility (e.g. definition of key activities to build the OPIR Unit) as well as during mobility.

A second type of benefit generated by OPIR is related to the impact on the partners' own national/ regional VET systems. According to project partners these 'systemic' impacts have had positive effects beyond what had been anticipated. The project has had an impact not only on teachers and pupils, but also on institutions, showing that the implementation of ECVET can be a vector of change.

In Spain for instance, the two regions involved agreed that opening their regional systems to other systems in a context of cooperation and mutual trust, provided an opportunity to look back at their own system. Making the effort to understand qualification systems in other countries or regions, and the reasons behind the differences observed, eventually led to questioning and reflecting upon the characteristics of VET provision in Catalunya and Andalusia.

This was also the case in France. Taking part in OPIR resulted in the improvement of teaching practices and pedagogy of VET institutions. Some trainers for instance, reassessed and reviewed their working habits in light of the practices of their peers abroad. During the preparatory phase prior to mobility, reviewing national qualifications revealed that content may differ while the objectives and expected learning outcomes are broadly the same. These differences were questioned, with a view to improving the quality of national education systems.

If the experimentation could be successful between partners in five countries with different systems, it can be reasonably expected that the tools can be effectively used in the same country between different regions. All the tools developed are available on the OPIR website¹ and include:

- An instruction manual to present qualifications in units of learning outcomes.
- An instruction manual to build units of learning outcomes.
- A template of a Memorandum of Understanding.
- A template of a Learning Agreement.

For some of the partners, for instance Switzerland, the next step will be to transfer this experimentation internally between cantons.

Taking stock of OPIR's achievement: successes, pitfalls and weaknesses

An important objective of the final conference was to take stock of the strengths and weaknesses of the project so that lessons could be learned for the future implementation of initiatives. The transparency and objectivity with which partners looked back on their achievements and commented upon their work, did justice to this ambition.

Overall the average level of satisfaction with the mobility experience was good: when all the organisations involved were asked to rate their experiences, the average result was 7.6 out of 10. The strong points highlighted included the high level of cooperation between trainers and the high level of motivation of trainees, trainers, and companies.

1 <http://www.freref.eu/opir/documents.php>

On the other hand, the duration of the mobility was considered to be too short, and the simultaneous mobility periods for all learners, too constraining. The integration of incoming trainees, was for instance made difficult by the fact that they visited the host institution only to validate one module and remained mostly separated from the regular students. Linguistic preparation was of course necessary, however language in the end was not as big of an obstacle as was thought at the beginning of the project².

Interestingly, one point emerging from the consultation is that mutual trust could not be fully established regarding assessment methods³. The evaluation methods used by the partner institution received a significantly lower assessment (5.6) than the ones used at the home institution (7.5).

5.6

La méthodologie d'évaluation des acquis d'apprentissage qui a été mise en place dans l'organisme partenaire d'accueil?

7.5

La méthodologie d'évaluation des acquis d'apprentissage qui a été mise en place dans votre organisme?

Despite the fact that assessment was discussed at length between partners in the preparation phase and the same assessment grid was used by all institutions, respondents indicated that 'deeper discussion about assessment procedures is required before mobility'. Sending teachers from the home institution to observe and ensure that the assessment was carried out according to OPIR criteria, was not enough to alleviate teachers' concerns.

Finally, an important pitfall identified by the project was that the approach taken was somehow 'top down' and did not involve practitioners on the ground early enough. Initiated by the French Community of Belgium, the project started at the institutional level, before moving to the operational level (e.g. to organise training pathways in the school). Training centres felt that they were not kept informed throughout the project, in particular about documentation procedure, while OPIR calendar requirements seemed sometimes imposed on them. Training providers, such as apprenticeship training centres in France or Switzerland, did not have enough time to develop ownership of the tools designed by the project, leading to a lack of understanding. Documents, such as the learning agreement, were judged long and burdensome while the rationale behind the structure of the document was not clear.

Lessons for the future round of pilot projects and food for thought for policy makers

As the conference was drawing to an end, the project coordinator Alain Bultot summarised the lessons that could be learned from this experimentation. He highlighted some of the fundamental elements in light of which future testing initiatives should be designed and the ECVET recommendation could be revised.

The presence of the Minister of Compulsory Education and Social Promotion of the French Community of Belgium and other key stakeholders in the audience made the discussion particularly relevant as the project partners could directly address the decision-makers who will ultimately implement ECVET on a wider scale.

- The most obvious lesson from OPIR is that the optimum starting point of any joint work on ECVET for geographical mobility is the key activities of the chosen occupation. Qualification standards and learning pathways are not the best entry point as they are strongly embedded in national culture and cannot be easily compared – starting from activities allows cooperation without 'comparing' and judging systems. Occupation profiles structured in key activities are more 'ECVET friendly'. This is a good illustration of the fact that ECVET can be implemented without constructing common European qualifications and harmonising qualifications.
- The definition of common units might be easier with the collaboration of the training centres; training centres and competent institutions need to work together from the start.
- The training centres should also be kept informed during all phases of the project and involved from an early stage in order for them to gradually develop ownership of the project's outputs.
- It is important to find the right balance between top-down and bottom-up approaches, for instance making sure that the tools developed are suitable for mobility on the ground, as well as making sure that the activities on the ground make sense for competent authorities.
- Agreeing on assessment criteria is relatively easy; this is less true for assessment methods - mutual trust must be reinforced for the success of cooperation, in particular with regard to assessment methods. Thorough discussions about the methods used should take place before mobility.

2 The project had chosen the language of the host country as the study language for incoming trainees.

3 In OPIR the learning outcomes corresponding to the 'mobility unit' were assessed by the host institution.

- Joint work fosters insights not only on other systems but on the partners' own education system. It can lead to openness to other systems as well as to the improvement of national/regional practices.

With projects such as OPIR, the ECVET community has gained important insights into some of the pitfalls and success factors for ECVET implementation. However, as the project partners highlighted, it is far from having said the last word on a number of important issues that remain unsolved and need to be further explored.

The model developed by OPIR regarding the signature of Memoranda of Understanding (MoU) for instance, is not sustainable in the context of a broader implementation of ECVET. Asking each competent authority at the highest level to sign every MoU would represent an unacceptable burden. One option suggested by OPIR for future cooperation on a larger scale is to set up of a network to manage MoU and ensure the sharing of information.

Regarding the use of units for mobility, OPIR has successfully tested mobility for one 'micro' unit, specifically designed for mobility. However, one essential question remains: how can this approach be extended to more units, to a whole qualification or even to a whole system? The project also limited exchanges to bilateral mobility, but what would happen if mobility was to be organised on a multi-lateral basis?

Further work on the legibility of units will also be necessary: ECVET pilot projects have all developed a different approach to describing learning outcomes. The fact that qualifications are described in learning outcomes will not automatically guarantee that qualifications will be transparent for others.

One important difficulty is the fact that in most systems, learning outcomes are acquired following a 'spiral' logic whereby competences are acquired progressively and incrementally, rather than as an accumulation of 'bricks' of units: the same learning outcomes can therefore be found in different units at different stages of the training pathway, with a varying level of complexity and autonomy. This clearly challenges the definition of 'units' provided by the recommendation. One possibility suggested by OPIR partners, would be to define units as a coherent set of knowledge, skills and competences at a 'specific level of command'.



OPIR Final Conference in Brussels, 18 February 2011.

Another area where OPIR's work is questioning the technical specifications of the recommendation, is the question of points. In relation to points, the project concluded that their importance was in practice very limited, besides the fact that they provide a visible representation of the weight of the unit. Their place in the future revised recommendation could be less prominent.

In the short term, the outcomes of OPIR will directly feed into the newly launched ECVET project CPU (Certification par Unités), which will inspire the future implementation in ECVET in Belgium. From September 2011, secondary VET schools in the French Community will launch a large scale experimentation of ECVET in three sectors: automobile (mechanics and maintenance); hospitality and catering; and beauty therapy. The units of the overhauled qualifications will be related to the key activities of the occupation. The primary objective in implementing ECVET in the Belgian context is to fight against early school leaving and increase internal mobility within Belgium and within education sub-systems. The mission of the CPU project will be to ensure that the system overhaul addresses the needs of the French Community while being in line with international developments.

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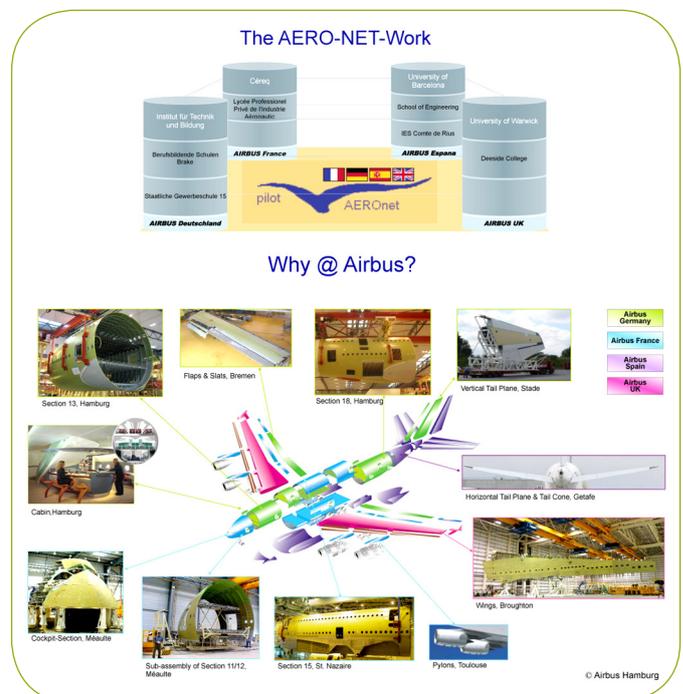
An article written by Daniela Ulicna (GHK Consulting), based on the project partnership meeting on 21 to 22 June 2010 in Tarragona.

Aerovet Project: Designing and testing mobility units based on typical professional tasks for aircraft maintenance

Context

The project Aerovet is testing ECVET on qualifications related to the profession of aircraft maintenance and production in four countries: Germany, France, Spain and the United Kingdom. These qualifications have a number of characteristics which make their analysis in view of credit transfer and accumulation at European level a challenge. These are:

- Not all the partner countries have a qualification in the national system that corresponds to this profile, while the profession clearly exists in all the countries. In Spain, for example, the professionals in the aircraft production sector, who are qualified in another area (e.g. electrical fitter or car mechanics) and quite often with a higher education qualification, only receive in-company training (within Airbus which has plants in Spain). There is no national qualification for these professionals but there are related qualifications at a higher education level (higher technician for avionic maintenance)¹.
- The qualifications concerned are not at the same EQF level. In the UK they are on level 3; in France and Germany they most likely correspond to EQF level 4. In Spain, the qualifications that exist are at a higher level (EQF level 5). Also, the pathways of learners who enrol in programmes preparing for these qualifications/professions are very different. In France they typically enrol directly from lower-secondary general education, in Germany some of the learners are from lower-secondary, but others come from upper-secondary education and so do most of the learners in the UK. In Spain some of the students come from higher vocational training (post-secondary education). This means that the learning outcomes of the learners who enter the programmes will most likely differ from one system to another.



- In addition to the national qualifications (or company-specific qualifications as in the case of Airbus in Spain), the professionals in civil commercial maintenance have to undergo a European-level certification designed by EASA². This certification is strongly geared towards testing learners' mastering of theoretical knowledge in the related subjects (in addition a proof of practical experience of a given duration is also required). The European legal framework for this certification foresees the possibility to recognise credit for theoretical knowledge from national qualifications³ and this is in practice done, for

¹ For more information about the differences in qualifications among the four systems please refer to the document *Training in aviation professions @ Airbus* prepared under a project that led to Aerovet: <http://www.pilot-aero.net/documents/apps/Appshp/attach/LEDL%20-%20Apprenticeship%20@%20Airbus-empirics.pdf>

² This is regulated by the European Aviation Safety Agency: http://easa.europa.eu/ws_prod/s/doc/Syllabus_Part66_General_081028.pdf

³ See the above legal framework point 66.A.25

example, in France and Germany (see below), however it imposes certain constraints on the curriculum and the testing methods (the EASA certification is neither based on learning outcomes nor on any national curricula). It imperatively requires multiple choice testing.

In this context, the partners of the Aerovet project are reflecting on the possibilities of credit transfer, based on units of learning outcomes, among systems which on one hand, prepare for the same profession, but on the other hand, represent a great variety when it comes to the level and scope of qualifications.

ECVET Technical specifications

In a previous project (Aeronet), the project partners have undertaken research through which they analysed the profession of aircraft maintenance and production in terms of typical professional tasks (TPT). Through workshops with professionals in all the partner countries they have identified a list of 22 tasks of which 13 were common to all the plants that were subject to the research (see Table 1).

Table 1: Typical professional tasks for aircraft maintenance and production

Core typical professional tasks	Optional typical professional tasks
Joining and dissolving of structural components and aircraft airframes	Production of metallic components for aircraft or ground support equipment
Assembly and disassembly of equipment and systems in/at the aircraft airframe	Production of components of plastics or composite materials for aircraft or ground support equipment
Functional checks and tuning at the aircraft	Operating and monitoring of automated systems in the aircraft production
Analysis and recondition of malfunctions at system components	Maintenance and inspection of the aircraft
Analysis and reconditioning of damage on structure components	Reconditioning of accessory equipment
Independent quality inspections	Production of bunched circuits for aircraft systems
Passing bunched circuits in aircraft systems	Production or modification of electric devices
Assembly and disassembly of sub-systems and devices at aircraft systems	Modification of aircraft systems
Functional checks and system audit of supply units and control systems	Maintenance and inspection of aircraft systems
Functional checks and system audit of information and communication systems	
Analysis and repair of malfunctions at bunched circuits in aircraft systems	
Analysis and repair of malfunctions at supply units and control systems	
Analysis and repair of malfunctions at information and communication systems	

Source: Aerovet project

Theoretically, the professional tasks can be considered as the basis for units of learning outcomes. However, the TPTs represent the profession of a skilled worker who has already certain experience in carrying out the tasks. It is unlikely that a person who has just received a qualification would be fully prepared for all the tasks. In order to identify the match between the TPTs and the formal qualifications, the project partners have compared the typical professional tasks with the qualification requirements (which are sometimes expressed in learning outcomes but

not always). In some cases they have analysed the qualification standard (not the teaching standard), which is the basis for certification (for example France). In others (e.g. Germany), they have analysed the curricula together with teachers and trainers in a workshop. As presented in Table 2 below, the analysis shows that the overlap between the qualification (or curriculum) and the profession and its tasks varies greatly. In some qualifications learners are prepared for only 30% of the tasks whilst in others the match with the TPTs is much bigger (e.g. 80% in Germany).

Table 2: Analysis of national qualifications/requirements and of TPTs

Qualification	NQF/EQF Level	The proportion of the qualification covered by TPT	Apprenticeship (or school programme) duration
Germany			
Aircraft mechanic branches production and maintenance (Fluggerätmechaniker FR Fertigung & Instandhaltung)	No NQF: possible Level 4 EQF: possible Level 4	80 %	Regular: 42, Possible: 36
Electronics technician for aeronautical engineering (Elektroniker für luftfahrttechnische Systeme)	No NQF: possible Level 4 EQF: possible Level 4	80 %	Regular: 42, Possible: 36
France			
Mechanics cell systems (Bac pro) (<i>Bac Pro Mécanicien Système Structure</i>)	NQF: 4 No equivalence to EQF (possible: 4)	40%	Three years of which 22 on the work place
Technician in aerostructure (Bac pro) (<i>Bac Pro Technicien Aérostructure</i>)	NQF: 4 No equivalence to EQF (possible: 4)	60%	Three years of which 22 on the work place
Mechanics avionic system (<i>Bac Pro Mécanicien Système Avionique</i>)	NQF: 4 No equivalence to EQF (possible: 4)	70%	Three years of which 22 on the work place
Electrician aeronautic system (<i>CAP Electricien Système Aéronautique</i>)	NQF: 5 No equivalence to EQF (possible: 3)	30%	When prepared through an apprenticeship it depends on the learning contract
Mechanics cell systems (<i>CAP mécanicien cellules d'aéronefs</i>)	NQF: 5 No equivalence to EQF (possible: 3)	30%	When prepared through an apprenticeship it depends on the learning contract
UK			
Aeronautical engineering level 3; aircraft manufacture mechanical pathway	NQF 3 EQF 3	30%	24 – 36 months Programme: 48 months
Aeronautical engineering level 3; aircraft manufacture electrical pathway	NQF 3 EQF 3	30%	24 – 36 months Programme: 48 months
Aeronautical engineering level 3; on aircraft maintenance pathway	NQF 3 EQF 3	75%	24 – 36 months Programme: 48 months
Spain			
Higher technician for aeromechanic maintenance	NQF 3 EQF 5	30%	Minimum: 2000 h
Higher technician for avionic maintenance	NQF 3 EQF 5	30%	Minimum: 2000 h

Source: Aerovet interim report

This analysis also led to the understanding that the concept of units will vary from system to system, but also according to the use that is to be made of them. In UK (at least for this given profession), the existing units are rather closely related to the curriculum. They are linked to the learning

activities and some are product oriented. Also, some of the UK units are focused on knowledge, while in the TPTs the knowledge is related to the tasks and competences. In France the existing units are related to the certification process: each unit is certified and corresponds to one or a set

of summative assessments during which a rather complex group of knowledge, skills and competence is evaluated. The French partner noted that when the French certification profile (the qualification standard) is analysed, it is easy to make the link with the TPTs as this standard is based on occupational activities. On the other hand, when the curriculum is analysed (the teaching standard), the links to the TPTs are not immediately recognisable since the curriculum is organised around the necessary knowledge.

Finally, the project also looked at the relationship between the learning outcomes based on the TPTs and the learning pathway of learners preparing for the qualification of aircraft maintenance and production staff. It appeared clearly that it was impossible to identify an element of the learning pathway that would correspond to preparing for a single set of competences (linked to the professional tasks). The competences needed to carry out these tasks, are developed progressively over the whole learning pathway, not 'en bloc'. The learning activities that concern the competences corresponding to one TPT are placed at different points in time in the learning pathway (they are not taught just once). Therefore the TPTs could be considered as a basis of units if the units of learning outcomes are conceived as an 'end point'. As noted by Annie Boudier (Cereq), one of the project partners:

There is a difference in whether units are conceived for direct access to (part) certification (and assessment) or whether they are conceived for structuring the learning pathway (teaching).

If units are conceived for mobility exchanges, they need to satisfy both conditions:

- They should represent a meaningful set of learning outcomes that can be assessed.
- They should correspond to a part of the learning pathway that the learner will undergo abroad.

Most of the TPTs that the Aerovet project started to work with were too large to be achievable during a mobility period.

Table 3 summarises the relationship between typical professional tasks and units as resulting from the work of the project Aerovet.

Table 3: Typical professional tasks and units of learning outcomes

Summary

- Overall, TPTs can constitute the basis for units:
- They are a good starting point for defining learning outcomes.
 - They can be assessed.
 - Depending on the structure of the national qualification they could also be validated and recognised.

However:

- The TPTs are likely to be too large to be achieved during a mobility period.
- The knowledge, skills and competences corresponding to these TPTs is rarely taught 'en bloc'. They are acquired progressively and often during several different learning activities over the whole duration of the learning pathway (apprenticeship or a training programme).
- Some of the competences require workplace experience: they cannot be achieved at school.

Mobility units

As a result of the above analysis the Aerovet project partners decided to design mobility units that would be smaller than the TPTs. First, they have focused on two, which were considered by the teachers as suitable for mobility. These were:

- Production of bunched circuits.
- Passing bunched circuits in aircraft systems.

By carrying out a learning station analysis, the project partners were able to break the TPTs into smaller parts, which remain coherent and meaningful from the point of view of the workplace process. Learning station analysis⁴ is a tool through which workplaces are analysed from the point of view of their (vocational) learning potential. This is particularly relevant for the Aerovet project as many of the learners preparing for the qualifications concerned are enrolled in an apprenticeship programme rather than school-based learning, and because the mobility periods are easier to organise for in-company training than for the school-based part of the learning pathway. The result of this analysis is presented in Table 4. The mobility periods could concern one or more of the mobility units.

⁴ For more information please refer to previous work of the Aeronet project: <http://www.pilot-aero.net/documents/ECER2006/LSA/attach/SANITER-LSA-eads.pdf>

Table 4: TPTs and possible mobility units

TPT: Production of bunched circuits			
Possible mobility units:	Production of copper bunched circuits	Production of fibre glass bunched circuits	Production of aluminium bunched circuits
	Each includes the following skills and competences and the associated knowledge: reading and understanding work order, providing and preparing the material, cutting cables, crimping, testing and approving order.		
TPT: Passing bunched circuits in aircraft systems			
Possible mobility units:	Mounting brackets and splitters	Setting ground points	Mounting raceways
	Passing bunched circuits	Setting of connections	Applying test equipment and voltage
	Testing of connectivity and grounding		
	Each includes the following skills and competences and the associated knowledge: reading and understanding work order, work resource saving, knowledge of different characteristics of the connectors, providing and preparing the material, crimping, connecting cooperating with colleagues and asking for advice when needed and approving work order.		

Source: Aerovet presentation during the 3rd partnership meeting

Assessment

Assessment of learning outcomes is a key element of ECVET as it is the basis for validation and recognition. To produce a simple assessment tool for mobile learners, the Aerovet project has devised a scale according to which the trainers/assessors are expected to assess each mobility unit. This scale is based on different levels of mastering the knowledge, skills and competence related to the unit. For each of the mobility units (see Table 4), the assessors will note in the learning agreement whether the learner has:

- **supported** a skilled worker in performing the task (lowest level);
- performed the task underpinning the unit **under instruction**;
- performed the task underpinning the unit **under surveillance**; or
- performed the task underpinning the unit independently (highest level).

This assessment scale is part of the Learning Agreement⁵.

More information

If you wish to learn more about the work of the Aerovet project (or its predecessor Aeronet) please refer to the project web-site: <http://www.pilot-aero.net/>

You can also find results and documents related to the work of this project on the web-site of the ECVET pilot projects: <http://www.ecvet-projects.eu>

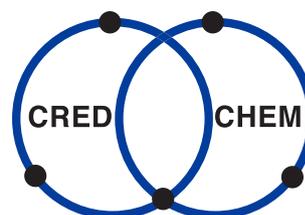
5 You can find the model of a learning agreement of the Aerovet project here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=17&type=1>

CREDCHEM-Project: Developing and testing a credit-system enhancing the mobility in the chemical sector

Establishing a mobility network in the chemical sector

The CREDCHEM project¹ aims to unite the interests of employers in the chemical sector with those of learners (potential employees). While the former are seeking a skilled workforce, the latter are interested in obtaining learning or working experiences abroad. The integration of recognised mobility periods into the formal training programme would benefit both parties. The project assumes that, given the commonalities in work processes and tasks, operators and laboratory professionals in the chemicals sector have comparable knowledge and skills, regardless of the country in which they received their training. Consequently, this profession provides a good opportunity to test the ECVET principles.

In the long term, a mobility network in the chemical sector shall be established. This should ensure that units of learning outcomes that are considered as equal in the partner countries, could be acquired in all countries involved in the network and not just in the home country. To reach this aim, the CREDCHEM partners are planning and carrying out student exchanges. On the one hand, learners can complete training modules abroad, which will then be recognised for their formal training programme at home. On the other hand, partner countries develop specific training modules, which both (or even more) countries will recognise as additional qualifications. These modules need to be integrated into the training programme, without extending it. The objective is to intensify the training programme, not to expand it.



Analysing work tasks for identifying mobility units

The CREDCHEM units of learning outcomes are specially developed for their use abroad (mobility units). They are not developed based on the way qualifications are structured in the partner countries (since they are not unitized), but based on the work process. The units of learning outcomes describe the demands the skilled worker meets in a laboratory. Young persons have to master these demands in whatever system they are trained. For this reason, the professional work tasks are taken as the basis for the designing of units of learning outcomes.

As a first step, all partners collected typical work tasks comprising all parts of the work process (e.g. preparation of instruments or the test item, analyses and syntheses). Based on the assumption that the required competences are revealed through the work task itself, these typical work tasks were analysed in order to make the vocational action competence transparent, which is needed for the mastering of the work tasks.

1 <http://www.credchem.eu>

	action knowledge	2. REFLECTING/CRITICAL ANALYSIS		Factual knowledge
1. DIFFERENTIATING	work steps	3. ASSIGNING TO... skills (routine, not routine)	Natural scientific context	Technological context

Source: Niethammer, 2009

Info box: Characteristics of work tasks

From the perspective of work psychology, each work task is characterised by a multidimensional relation defining:

- the object
- the type of modification to be carried out
- the circumstances (the means)
- the work techniques to be used
- the person to carry out the task.

From these categories, the knowledge, skills and competences, which are relevant for a particular work task, can be derived.

Info box: Steps for analysing work tasks

The analysis of work tasks steps comprises the following steps:

1. Identification of the 'action-knowledge' (knowledge of thinking and handling which is necessary in order to carry out a work task) – which is reflecting knowledge of facts (cf. steps 3 and 4).
2. Identification of skills (routine / non-routine) that are needed to realize 'action-knowledge'.
3. Identification of knowledge of natural science contexts which each work step is based upon.
4. Identification of knowledge of technological contexts (reflecting the work steps concerning the equipment and gadgets).

Source: Niethammer, 2009

Analysing work tasks

Example: Produce the organic substance acetylsalicylic acid (through acetylation)

Action knowledge characterising the work task	2. CRITICAL ANALYSIS	Factual knowledge characterising the work system	
1. ANALYSIS OF WORK TASK	3. ALLOCATION OF...	natural science context	technological contexts
steps	skills/competences		
<ul style="list-style-type: none"> • order acceptance (order: Produce 25g of pure acetylsalicylic acid) • choosing the production method (acetylation of salicylic acid) • planning the synthesis (calculation of the required quantities, taking output into consideration) 	<ul style="list-style-type: none"> • analysis of the task (goal definition, choice of method) • research for criteria (e.g. the most eco-friendly alternative – responsible care) • setting up reaction equations • planning and organisation skills • calculating the required quantities and dealing with adaptations to the synthesis requirements 	salicylic acid (sali.) acetylsalicylic acid (ASA) <ul style="list-style-type: none"> • $mSali. = nsali * MSali * mASA$ • $nASA * MASA$ • output of 60% > starting with 42g of ASA (=100%, 25g=60%) 	
<ul style="list-style-type: none"> • preparatory tasks (e.g. providing required chemicals and technical equipment) 	<ul style="list-style-type: none"> • handling of technical laboratory equipment • handling of chemicals (researching and applying R and S-phrases, follow occupational safety and health procedures as well as environmental protection procedures) 	ASA: solid-state; harmful; R: 22 Sali.: solid-state; harmful; R: 22-41, S: 22-24-26-39	<ul style="list-style-type: none"> • open laboratory apparatus (no gases involved)

Source: Niethammer, 2009

Each unit consists of a bundle of analysed work tasks and describes the learning outcomes in terms of knowledge, skills and competences. The unit is presented in a matrix, which is a template that has been designed to give as much information as necessary for new institutions intending to join the CREDCHEM mobility network as sending or hosting institutions. The template therefore is designed as a platform which is open for new partners from other countries sharing the CREDCHEM approach.

The template includes the following information:

a) The learning outcomes of the unit - described in terms of competence, knowledge and skills.

b) Country-specific information: reference to the national qualifications (pathways of learning, training programs) of the participating countries and the learning venues in which the unit is to be carried out.

c) Information necessary for the operation of mobility: the proposed duration of a mobility measure in order to achieve the learning outcomes of the unit, type of assessment (i.e. the assessment tasks to be carried out), the competence level on which the unit is offered within the network and the provider who is offering the unit in the various countries.

Unit of learning outcomes 2:	Determination of material constants and material properties	
Reference to the national qualifications	DE	Chemical laboratory technician (Chemielaborant/-in) Learning field 3 qualification units 6.2+8.3 Chemical technician (Chemikant/-in) (physics laboratory technician (Physiklaborant/-in)
	BG	
	IT	Biochemical technician (lyzeum)
	SK	Chemical technician Chemical Engineering laboratory technician Chemical engineering modeller Chemical laboratory technician
	CZ	Chemist Chemical technician
Credits:	DE	
	BG	
	IT	
	SK	
	CZ	
Level (EQF):		
Level of Assessment	Type A: carrying out an action according to work instructions Type B: problem-oriented implementation Type C: not foreseen in this unit	
Proposed duration of the mobility measure		
Learning venue (who provides the unit in the country?)	DE	Sächsische Bildungsgesellschaft für Umweltschutz und Chemieberufe Dresden
	BG	Vocational secondary school for chemical and microbiological technologies, Sofia
	IT	ITAS Scalcerle, Padua
	SK	Spojena Skola, Bratislava, SOS Novaky
	CZ	Stredni skola – Centrum odborne pripravy technickohospodarske, Praha Stredni odborná skola a Stredni odborne uciliste, Kralupy n. Vlatavou Stredni prumyslova skola chemicka, Pardubice

Work tasks		Level of Competence	
Quality control of sunflower seeds			
Determination of acid content through potentiometric titration			
Potentiometric titration of vinegar			
Boiling points, melting points, density			
Determination of the melting point			
Determination of the sugar content through density measurement (hydrometer)			
Determination of the dissociation constant			
Competence	Skills	Knowledge	
<p>Competence level 1:</p> <ul style="list-style-type: none"> determines material constants and material properties through common methods and adapts them to the respective conditions (i.e. chooses the right method according to the material property/structure) 	<ul style="list-style-type: none"> acceptance of assignment planning and organisational skills accurate, careful and experienced handling of technical laboratory equipment accurate, careful and experienced handling of chemical substances calculations 	<ul style="list-style-type: none"> knows about the structural characteristics of a chemical substance which define its properties knowledge of materials (properties, structure, R-phrases and S-phrases) knows about the relationship between the measured variable and the parameter as well as the respective methods (knows about the steps involved) knows about the appropriate equipment/devices and their functioning knows how measured variables depend on their environment (temperature, pressure, etc.) knows about the chemical reactions which form the basis of the respective methods 	
<p>Competence level 2:</p> <ul style="list-style-type: none"> knows how to deal with problems which are typically related to the respective method 	<p>+</p> <ul style="list-style-type: none"> problem-solving skills putting knowledge into practice reflective skills 		
Pool of assessment tasks			
Quality control of sunflower seeds			
Determination of acid content through potentiometric titration			
Determination of the melting point			
Determination of the sugar content through density measurement (hydrometer)			
Determination of the dissociation constant			

Most of the units are based on different levels of competence. They have been designed this way to facilitate mobility and to make the mobility phases fit into the national training programs in a way that neither too much nor too little is requested from the learners. At the same time, the differentiation enables a learner to achieve a unit on a higher level as at home and to obtain an 'additional qualification'. This can be a motivation for both learners and enterprises to support mobility within the network.

Info box: Competence levels

- Competence level 1: 'Carrying out actions according to work instruction'; it is important to consider that there are routines for typical work tasks. For example: formulation of work assignment (time and expectations, test procedure).
- Competence level 2: 'Problem-oriented implementation of tasks'; the ability to adapt one's actions in case of problems. For example: looking for typical problems.
- Competence level 3: 'Optimising of methods/procedures'. For example: which procedure is useful in which conditions? Teamwork is required.

Quality-driven approach to assessment

In all CREDCHEM partner countries the mobility is seen as an integrated part of the national training program carried out in another country and at another learning venue. Because the units are part of the training (and therefore they are recognized at the very beginning), a certain quality has to be assured beforehand. In order to ensure trust and mutual quality in the assessment process, the CREDCHEM approach to mobile learners' assessment is threefold:

- From each country partner institution representatives (teachers and trainers – 'tandem approach') visited the learning venues in the other countries previous to the learner's mobility to observe and discuss the realization of a unit of learning outcomes with their colleagues. In order to develop common standards, it is seen as crucial that representatives from sending and hosting institutions are visiting each other beforehand.
- The assessment will be carried out by teachers and/or technical staff who are able to understand the technicality of the work tasks covered by the units of learning outcomes.

- During the first cycle of mobility the assessment will be carried out by mixed teams (from the home and host institutions) in order to foster trust among the partners. Based on the work tasks collected, the CREDCHEM partners (teachers/trainers) agree upon a common pool of assessment tasks differentiated for each competence level of the unit. With these assessment tasks the scope of knowledge, skills, and competences as well as the depth of understanding and the availability of knowledge and skills, will be observed from different perspectives. The basic idea of assessment is that competences which represent relevant learning outcomes can only be verified through specific work tasks. Therefore it is necessary to develop or use methods of assessment, which provide a direct link to the actual work task.

The first mobility of learners is scheduled for the summer of 2011. A total of nine schools and training providers applied for mobility measures at their national agencies in order to test at least one unit of learning outcomes.

Creating Mutual Trust By Testing the Tools

Entsendende Organisation/ Land	Bratislava (SK)	Novaky (SK)	Praha (CZ)	Pardubice (CZ)	Kralupy n.Vltavou (CZ)	Valasské Meziricí (CZ)	Padova (IT)	SBG Dresden (DE)
Gast Organisation/ Land								
Bratislava (SK)			X	X	X	X	X	X
Novaky (SK)			X	—	X	X		
Praha (CZ)	X	X					X	
Pardubice (CZ)	X	X					X	X
Kralupy n.Vltavou (CZ)	X	X						X
Valasské Meziricí (CZ)	—	X						
Padova (IT)	X		X	X				X
SBG Dresden (DE)	X			X	X		—	

Source: Bundesinstitut für Berufsbildung (BIBB)

Added value of the CREDCHEM project

At the core of CREDCHEM is the establishment of a sustainable mobility network of training providers, schools and enterprises in the chemical industry. One of the success indicators of the project is the transfer of approaches and principles into a living practice at the learning venues.

The added value can be described as:

1. Improving transparency of learning outcomes in the European chemistry sector. The results of learning processes anchored in the world of work in a laboratory – disregarding in which system they are acquired – become visible and comparable. Learning outcomes and exemplary work tasks are to be published on <http://www.credchem.eu>. Institutions which are not yet partners of CREDCHEM can obtain information in this way and adapt or transfer the approaches into their own practices and contexts.
2. Supporting a sustainable cooperation structure. The cooperation in the CREDCHEM framework leads to mutual trust among the European core partners and the 18 involved pilot schools and providers. Mutual trust, as a result of analyzing work tasks and the definition of learning outcomes, is the basis for the development of common quality standards in order to carry out mobility measures.
3. Offering practical, need-oriented and user-friendly tools and aids. The tools and aids developed within the partnership are to be presented in order to facilitate mobility measures outside the partnership or for new CREDCHEM members.
4. Developing sector specific standards for mobility. CREDCHEM is to become a 'quality label' for the carrying out of mobility measures in the chemical industry. By defining units of learning outcomes and procedures of assessment, a common standard of operation is stated, assuring the comparability of the quality of out-



Source: CREDECHEM-Project

comes. In the Memoranda of Understanding the partners commit themselves on the mutually agreed quality standards for the carrying out of units of learning outcomes. Institutions which are not members of the CREDCHEM partnership can participate in the testing of units of learning outcomes by applying for a mobility measure and by sending the learners to one of the CREDCHEM partners. The institutions are free to adopt units of learning outcomes for their own purposes and /or to make themselves available as hosting institutions for the CREDCHEM partners. This approach seems to be successful because institutions from Poland and Hungary have now become new partners in the network.

M.O.T.O. project: Testing ECVET in practice on mobility in the tourism sector

Following more than one year of preparatory work, the M.O.T.O. project partners have tested the methodological tools and approaches developed during 'mobility of VET students' in summer to autumn 2010. In total 17 students from Austria, Finland, Iceland and Italy went abroad for an in-company placement period. The specificity of these traineeships was that they were organised around clearly identified learning outcomes which were validated and recognised upon the students' return to their VET institutions (home institutions). In other words, each in-company placement was planned and carried out in line with the ECVET principles: organising the mobility around a set of learning outcomes which were assessed, validated and recognised, using Memoranda of Understanding (MoU), Learning Agreements and Transcripts of Record. This article presents how ECVET was used in practice to support these mobility exchanges. It uses examples from the exchanges between Finland and Iceland to illustrate this experience.

ECVET mobility: how was it prepared?

The project partners in the M.O.T.O. project were mainly national competent authorities in charge of designing qualifications and governing the qualifications systems. 3S research laboratory provided methodological support. These national authorities reflected on the conditions for a successful transfer of credit (assessed learning outcomes). They also discussed what was required to ensure the quality of mobility exchanges so as to ensure that learning outcomes achieved and assessed abroad can be validated and recognised. Finally, they considered 'who should do what' to make the use of ECVET for mobility exchanges easy and practically feasible. This year long work led to a definition of a methodological approach that was then tested in cooperation with a small number of training centres in the four partner countries.

Describing learning outcomes and mobility units

The partner institutions leading the project (who were mostly competent authorities in charge of VET qualifications systems as well as responsible for defining qualifications) have identified the qualifications in the partner countries which were preparing for similar professions and which were broadly comparable. Because the learning abroad was to be done in the work place (rather than in the training institution), it was not necessary to carry out a detailed comparison of learning outcomes of these qualifications. The credit transfer in this project did not concern transfer from one foreign qualification towards a home qualification. It was nevertheless, important to work with qualifications that are comparable. The training centres and their teachers in the host country, had a crucial role in making the mobility work. Therefore, these had to be training centres and teachers/trainers who had a good understanding of the profession for which the qualifications prepares and consequently of the competences required.

The leading partners have also developed templates and some guidance that the VET providers were to use in their testing of ECVET.

The training centres were the main actors in testing ECVET in the M.O.T.O. project (supported by the M.O.T.O project partners). Before the mobility took place they have:

- Signed MoU¹ (national or regional authorities with competence in education and training issues were also involved).
- Identified the learning outcomes (based on the national qualification standard) that could be suitable for learning during a mobility period abroad.
- Described these learning outcomes in a way that can be understood by the training centre and the trainer in the workplace and also used as a basis for assessment.
- Taken care of all the practical aspects around mobility.

¹ A completed example of the MoU between a Finnish and an Icelandic school can be found here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=16&type=1>

The (units of) learning outcomes were defined to on one hand, correspond with the national requirements for the given qualification and on the other hand, to fit with the duration of the mobility period. It had to be realistic to achieve the (unit of) learning outcomes abroad during a few weeks. In Finland for example, the mobility units corresponded to a 'sub-unit' of a unit in the national qualification (in other words they covered part of the learning outcomes of the qualification). It would have been possible to achieve the whole unit abroad and to undergo a skills assessment abroad (which certifies the achievement of a unit), but for that the mobility period would have to have lasted longer (a minimum of eight weeks would have been needed).

Using the units of learning outcomes to prepare and implement mobility

The learning outcomes that the learner was expected to achieve, were described in the Learning Agreement². Through this document, the learners were informed about what they should learn abroad. It was also a basis for informing the receiving employer as well as the trainer from the partner institution abroad, who coordinated the work placement with the receiving company.

Like in any work placement, the students abroad were required to take part in the everyday working life of the enterprise which received them. They have hence had the chance to develop and practice a range of learning outcomes which was much broader than the learning outcomes described in the Learning Agreement. This is where the trainers from partner institutions in the host country were to intervene. It was their role to discuss with the company staff member who would be in charge of the foreign trainee, that they need to create opportunities to develop some specific competences by putting them in the relevant working situations. The fact that the students knew what they were supposed to learn was also expected to help them raise their voice and request taking part in some specific working activities, if needed (i.e. they did not have sufficient opportunities to develop some learning outcomes). As one of the teachers put it:

They (the Icelandic students – future chefs) know that they come to Finland to learn, among other things, how to prepare reindeer. If they are not given the opportunity to work with reindeer, which could happen, it is also their role to ask for such opportunity.

While in some cases the role of the Learning Agreement and of learning outcomes descriptions was well communicated to the students and the in-company trainers abroad, in some other situations it worked less well. These cases (of 'not-as-good-as-we-have-hoped' practice) pointed at a crucial aspect of the broader implementation of ECVET: the need to efficiently communicate with the people on the ground (teachers/in-company trainers) for whom ECVET is not part of their 'everyday business'. And even beyond: the need to involve teachers, students and trainers in describing the learning outcomes and to support them with concrete examples of how this should be done in a clear and simple yet unambiguous manner. All things need their time and there is indeed clearly a need for the policy level to prepare the ground for the practitioners, but at the same time, the practitioners will need some time (several years surely), guidance and support to get familiar with ECVET before it becomes a reality for learners.

The role of assessment, validation and recognition

An interesting approach to the assessment of learning outcomes was presented during the final partnership meeting on the case of Finnish students who went to Iceland. In Finland student's self-assessment is part of the regular assessment process. Therefore, even the assessment abroad (in Iceland) had this aspect embedded. Students were also asked to indicate the already acquired learning outcomes in the template prepared for analysing the qualification. This procedure was used to reflect on the stage of learning and on the learning outcomes to be developed abroad.

The Learning Agreement, which presented the expected learning outcomes, also contained three columns (next to the learning outcomes descriptions). In these columns, first, the learner graded herself or himself reflecting on: to what extent have I achieved this knowledge, skills and competence? Then, the in-company trainer made a judgment and the teacher from the host VET training centre had the final word on deciding the result of the assessment. This all happened during a constructive discussion reflecting on the working situations that the student took part in.

In several cases the assessment revealed that in fact, compared to the initial plan, some knowledge, skills or competence were in the end not practiced during the few weeks abroad and on the other hand, some additional knowledge, skills and competence were acquired that were not foreseen. In most examples this was not particularly prob-

² An example of a completed learning agreement including information about the assessment of the learner can be found here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=17&type=1>

lematic (as long as a large share of the learning outcomes was achieved), as the assessment had a formative role. In Finland, where the assessment had also a summative role, this was also not problematic. The mobility concerned a sub-unit of the national unit. Consequently, those learning outcomes that were not achieved were to be further developed in view of achieving the rest of the unit. At the same time, those learning outcomes that were achieved were often very well mastered and students had the chance to enrich their competences in a way they would not have had had they stayed at home. As one of the students put it:

In Iceland, where I was working as a tourist guide with horses I had the chance to learn a lot about the way the Icelandic work with Icelandic horses which is different from what we do in Finland.

What does this notation of sub-unit mean in practice? In the Finnish context, where the training as well as the assessment process are highly personalised, it is possible to break-down a skills demonstration (the form of assessment used) into two parts. Each part covers a different set of learning outcomes. This set can be seen as a sub-unit. Once such sub-unit is assessed it is not reassessed when the rest of the learning outcomes are assessed. In Finland, students have even been awarded the ECVET points corresponding to the sub-unit achieved.

Some concluding remarks of an external observer: What can be learnt from the M.O.T.O. experience?

The experience of the M.O.T.O. project has highlighted several issues that are crucial for the broader implementation of ECVET and which seem to be so far discussed very rarely. Three main points are described below.

Teachers need to understand the logic of using learning outcomes, the way these should be formulated, but also the way these should be used to support the learning process. When using ECVET for mobility, there will be approaches whereby the work of writing the learning outcomes for mobility periods will be the job of the teachers and trainers. Maybe this will be the prevailing method, but possibly not. However achieving this, is not obvious. Often, teachers tend to think about the learning process in terms of inputs and this is normal because that is their everyday work. They will need examples and guidance to complete templates about learning outcomes in a manner that is clear and unambiguous. At the same time, these need to remain simple and sufficiently broad.

ECVET has a lot of added value also for mobility where students go to a workplace abroad. It can support the quality of such a mobility experience. On the other hand, one



Source: M.O.T.O. project

cannot expect that enterprises will adapt their work and the work they give to trainees based on learning agreements, on their own initiative. It is important that someone explains to them the role of these documents and why students should get the chance to practice some particular aspects during their work placement. Hence, **the role of intermediary organisations, such as partner schools in the host country or institutions organising mobility, is crucial.**

There is a need to develop vertical trust between institutions with different roles within the same country (not only across the countries). Validation and recognition often requires the involvement of actors other than the VET provider alone. The VET provider will develop cooperation with another institution, they will have visited them and will have developed trust in the fact that the learner will have the appropriate learning opportunities as well as assessment when abroad. But how does the competent institution in charge of validation and recognition know that the institution abroad is trustworthy? The answer could be: by trusting that the VET providers in their home country are well suited to identify and work with partner institutions so that they ensure the appropriate level and nature of students' learning outcomes

Do you want to learn more about the work of this project?

The M.O.T.O. final product (the M.O.T.O. model) can be downloaded here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=26&type=1>

A concrete example of a mobility experience from the M.O.T.O. project identified as a good practice example can be downloaded here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=22&type=2>

ECVET successfully reaches its next development stage

ECVET is currently in its next phase of development which started with the release of the European Recommendation in July 2009. This phase is intended to last until 2014, when the European Commission will evaluate the progress made and report to the European Parliament and Council. The first monitoring of the European Credit system for Vocational Education and Training (ECVET) developments, elaborated by Cedefop in 2010, confirms that ECVET is gaining momentum in national VET policy contexts. ECVET is taken forward within national and regional education and training systems, within European projects and national or regional initiatives. National initiatives and project activities are equally important for ECVET implementation, although ensuring transfer from experimentation to policy-making in order to innovate education and training, is a complicated matter.

The deployment of ECVET is based on prototypes. The monitoring indicates that there is no best way to do so, however a mix of more or less tightly coordinated strategic lines of actions are being put in place. The drivers for development are mainly the need for permeability and progression routes in education and training, for improved recognition of acquired learning outcomes and Europeanisation of VET profiles and programmes. The latter includes developing European learning mobility and consequently relates ECVET to validation and recognition of mobility experiences for qualification awarding. This implies that involved stakeholders deal in a comparative manner with assessment and evaluation methods, unitisation and modularisation, qualification design and award and learning outcomes. It also requires project partners to develop guidance and mutual trust based upon accepting differences in standards and practices as well as agreeing on equivalences for instance, in assessment procedures and results. Project experiences testify that the tasks are not impossible to achieve, but are paved with some difficulties.



CEDEFOP

European Centre
for the Development
of Vocational Training

The way forward: preparing for introducing ECVET

The **Cedefop monitoring** identifies eight types of strategic action lines in the current progress towards ECVET implementation:

Strategy 1: Setting up broad range testing initiatives.

Testing is carried out within national initiatives such as the FINECVET initiative in Finland or the DECVET initiative in Germany. There are also initiatives focusing on specific qualifications (e.g. in Bulgaria, the Czech Republic and Belgium/Wallonia starting in 2011). In most cases, these initiatives informed the decisions of the main policy-making stakeholders (i.e. ministries or qualifications authorities). The initiatives receive a specific budget line and are co-financed by national and European budgets.

Strategy 2: Measuring impact (theoretical and methodological approaches).

This strategy is common to the Czech Republic, Germany, Finland and Austria for instance. In Austria a feasibility study analysed the legal and organisational status-quo of various Austrian VET options regarding their ECVET readiness; it delivered evidence to underpin the policy decision to start developing ECVET for European mobility.

Strategy 3: Updating VET legislations and regulations. Legislations and regulations are updated, taking on board some (or all) technical features of ECVET. This is the case in Luxembourg, Estonia, Iceland, Latvia, Slovenia, and Italy or at regional level (such as in Catalonia).

Strategy 4: Adapting qualifications systems. ECVET or elements of ECVET are introduced within activities for adapting qualifications systems, such as the renewal of curricula (in Hungary, Estonia, Lithuania or Latvia within the European Social Fund programme ‘Modernising the content of VET’ in 2007-2013), the development of partial qualifications (such as in the Czech Republic, Hungary, Slovakia, Spain), the development of validation mechanisms (in Germany or the Czech Republic for instance) and the renewal of educational standards (such as in Austria).

Strategy 5: A ‘wait and see’ strategy. In Cyprus or Norway, ECVET developments at national and European levels are observed and discussed. For the time being, no concrete action plan has been defined. Both countries are represented in the European ECVET Users Group.

Strategy 6: Combining ECVET with NQF development. In some Member States such as Poland, Greece and the Czech Republic, ECVET is considered as part of the development of the National Qualifications Framework (NQF). In Poland this happens in the framework of the Human Capital Operational Programme (2007-13); in Greece it is linked to the renewal of the education and training institutional set-up. For the two countries already having a qualifications framework (England, Wales and Northern Ireland (EWNI-UK/QCF) and Scottish Credit and Qualifications Framework (SCQF)), the frameworks have been revised to accommodate credit transfer.

Strategy 7: Learning by working in European ECVET projects. This strategy consists of leading or participating in European, national, regional or sector-related ECVET projects and bundling the experiences. The European ADAM database¹ registers 111 projects dealing with ECVET in Europe, the earliest ones dating back to 2003. A large number of countries and sectors are represented in those projects.

Strategy 8: Marketing ECVET to the stakeholders. Different Member States are working on developing information materials. In Austria a working group is writing guidelines for ECVET implementation for the purpose of mobility exchanges. It addresses VET practitioners who are involved in transnational mobility projects (e.g. teachers, people responsible for mobility, project sponsors from VET schools and colleges, part-time vocational schools for apprentices, training enterprises, and sectoral organi-

sations). In Poland stakeholders are preparing guidelines, typical procedures and model documents. The third phase of FINECVET includes the publication of a handbook on the implementation of ECVET at the different stages of mobility (before, during and after). During the ECVET forum (July 2010) the French delegate announced the development of information materials on ECVET.

Figure 1: Overview of the action lines for ECVET implementation

CEDEFOP	
Occurrences	
Setting up broad range testing initiatives	12/30
Measuring impact (theoretical and methodological approaches)	4/30
Updating VET legislations and regulations	9/30
Adapting qualifications systems	10/30
A ‘wait and see’ strategy	4/30
Combining ECVET with NQF development	8/30
Learning by working in ECVET European projects	27/30
Marketing ECVET to the stakeholders	6/30

30 = Number of VET systems considered in the monitoring

Based on available sources (in mid 2010), Cedefop monitoring reveals that some countries are more strongly engaged in ECVET related activities than others. The intensity of ECVET related activities (measured by occurrences, see Figure 1) are higher in Austria, Czech Republic, Finland, Estonia, Lithuania, Poland and Slovakia. Preparing for introducing ECVET (a development stage which is meant to last until 2012 according to the European Recommendation) translates into experimenting with the ECVET model and features, but also increasingly addressing the outer-circle of ECVET with marketing and information actions for the wider public. ECVET events have been organised in 2010 in Finland, Austria and Germany. The ECVET team has meanwhile developed a portfolio of activities to support Member States in that respect. Communicating on ECVET includes establishing mandates to organisations as national contact points for ECVET. Interestingly those organisations are often the ones already in charge of further European tools (EQF, Europass, validation, NARIC). This suggests the usefulness of a one-stop shop approach to the European tools for end-users and a need for the best use of available resources.

¹ Meanwhile the ADAM database proposes a specific list for ECVET projects: <http://www.adam-europe.eu/adam/thematicgroup/ECVET>

Their strong involvement in European and national projects shows the intake and commitment of education and training stakeholders towards ECVET. ECVET has technical features but also societal, institutional and volitional aspects which make up the need of a specific environment in view of its implementation. ECVET is relevant to all stakeholders from the very beginning of its implementation since it concerns developing qualifications and programmes, writing and assessing learning outcomes, defining units of learning outcomes, validating and recognising learning outcomes, and awarding qualifications (on the basis of transfer and accumulation). These elements combined are building up the ECVET readiness of VET and qualifications systems.

Figure 2: Specificities of ECVET implementation



Implementation objectives

- European learners' mobility
- Lifelong learning (young and adult learners)

Approaching ECVET by a mix of strategies

- Eight strategies reaching from SWOT analysis to experimental practices
- Strong roles assigned to projects, tests and initiatives
- European coordination and peer learning

Balance between policy and practices

- Involvement of stakeholders (competent institutions)
- Solutions to 'technical' questions (units of learning outcomes, credits and credit points)

Strong links to further European tools

- Mirrored at national levels
- Different stages of implementation (e.g. validation, Europass Mobility, and Supplemental Certificates)

Selected insights into initiatives and projects

Two phases appear to be of equal importance for ECVET success: the setting up of partnerships and the agreement on the learning outcomes often expressed in common references or matrixes of learning outcomes. The partnerships involve VET providers (which in 32% of the European projects are project coordinators), as well as the relevant ministries or qualifications authorities, chambers of commerce, industry or craft, trade unions and employers organisations, etc. A challenge identified for ECVET implementation is the balance and coordination of activities located at different levels of qualifications systems: it requires good communication channels and brokers to bring details of ECVET implementation (learning outcomes,

ECVET points, etc.) into policy-making at national, regional and local decision levels.

The work on learning outcomes is largely inspired by the EQF and the on-going development of National Qualifications Frameworks. It nevertheless proves difficult since there is a need to bridge the gap between learning outcomes used as descriptors for qualifications levels and learning outcomes used for mobility agreement, teaching/learning process and credit-awarding (and in some cases as metric measurement for learning). The Cedefop report provides evidence of questionings shared by most projects:

1. Understanding of the occupation. Approaches within projects include the analysis of official documents (curricula, occupational profiles, qualifications profiles, laws and regulations) and the analysis of work situations (core activity areas, core tasks) to reach a common understanding of the occupation and the learning outcomes at stake for a qualification;
2. Understanding of the learning outcomes. Common core tasks are identified and described in terms of categories of learning outcomes and levels of proficiency. Learning outcomes are not always broken down into knowledge, skills and competence since these reflect different regimes of VET systems.
3. Understanding the complexity 'from occupation to training'. The projects develop overviews linking tasks, learning outcomes and/or units of learning outcomes and training units. Those overviews are the basis for identifying the content of the mobility agreement (Memorandum of Understanding, Learning Agreement). They secure transparency and shall be readable by all stakeholders.

Those activities are mostly carried out with practitioners (enterprises, VET schools, etc.) and regulatory bodies used to dealing with specific occupations in a given national context. Working with European shared vocabulary means translating from and into domestic contexts (from mobility agreements to national education and training regulations). Projects use the Europass Certificate Supplement, Cedefop multi-lingual glossary of VET terms and existing taxonomies or classifications; however the development of a common European Skills, Competences and Occupations (ESCO) taxonomy is awaited as a shared language.

A new learning culture implies going further with the development of legibility and transparency of qualifications systems, with supporting lifelong learning by making learning pathways visible, to facilitate access, progression and

participation as well as the recognition of a broader range of learning (including non-formal and informal learning). The aforementioned are all arguments stated by Member States for developing national qualifications frameworks and showing that EQF paves the way to ECVET implementation and strategy-setting.

Credit systems impact on the structure of qualifications (via the design of units and the setting up of credit points) as well as on progression and transition in education and training (by setting up rules for accumulation and transfer). The extent of ECVET impact will depend on the field of implementation (for international mobility or for reforms) and the political/regulatory anchorage and support to credit arrangements in qualifications systems. Discussions are currently being held on the necessary level of formalisation and regulation for the deployment of ECVET. The recognition of learning outcomes after a mobility period requires agreements at different levels (and this links to the European validation principles). Currently some would advocate that this can be done on the basis of existing mutual trust and experiences. Others consider that a higher degree of formalisation is requested since it ECVET relates to changes in VET systems (for instance on modularisation or the development of partial qualifications). The level of formalisation and regulations depends on traditions and regimes of VET and qualifications systems; this will be an issue for further analysis.

ECVET is positioned between education and training provision and policy-making. Experiences, critical issues and innovative solutions need to be heard and sustained into the education and training systems with better iteration between those two poles. Prominent examples of transfer of innovation between project and policy levels have been identified in Belgium-Wallonia within the renewal of VET legislation and in Catalonia in the framework of regional VET policy development. Securing the loop between project, VET practice and policy might be a weak element of ECVET implementation process for the time being. The new centralised ECVET projects (starting 2011) are strongly oriented towards the transfer of project results and intrinsic cooperation with national qualifications authorities and competent bodies. In the meantime, European ECVET coordination is improving and peer-learning activities are securing the transfer of experiences between Member States and interested parties.

Cedefop's regular monitoring and mapping of progress addresses strategies for ECVET implementation within national and regional VET systems; it builds upon projects experiences and initiatives to inform VET stakeholders. It is embedded into Cedefop activities on qualifications and lifelong learning. ECVET 2010 monitoring report is available online at: http://www.cedefop.europa.eu/EN/Files/6110_en.pdf.

FOCUS

An article by the GHK Consulting team and Karin Luomi-Messerer (3s research lab)

A snapshot from the seventh ECVET pilot projects seminar in Vienna

This article briefly presents the outcomes of the seventh seminar of the European Credit System for Vocational Education and Training (ECVET) pilot projects which was held on 24 to 25 February in Vienna. The main theme of the seminar was validation and recognition of learning outcomes, however the seminar started with an overview of recent developments and the planned next steps of projects' work. Some interesting highlights from this first session are presented below.

Highlights from project news

Two pilot projects (OPIR and M.O.T.O.) have now completed their work and the others are entering the final stage of their activities. During this final year of work they will test their tools during mobility, consolidate their results and present their results to the national and regional stakeholders to promote the use and understanding of ECVET.

Table 1 below presents some highlights taken from projects' plans for 2011.

Table 1: Updates from ECVET pilot projects

Name of Project	Update / Events	Date
CAPE SV	The project will hold a meeting with social partners and representatives of French national authorities in charge of qualifications in the performing arts sector. This meeting will illustrate the connection between the national qualifications, the work carried out by CAPE SV and the use of ECVET.	May 2011
Be-TWIN	The project has already developed a methodology to allow permeability between ECTS and ECVET systems ¹ . The methodology is currently being tested between the Italian and the UK partners.	Issued in July 2010 testing in winter to spring 2011
	The next step is the preparation of a toolkit for trainers based on the developed methodology.	To be issued in June 2011
SME Master Plus	Started mobility exchanges: 14 mobility experiences have been organised in total. The results of these mobility experiences will be used to issue recommendations.	Winter 2011
	International workshop to disseminate the results of the SME Master Plus project.	In the course of 2011
	Joint conference organised with the other ECVET pilot projects led by German partners, namely CREDCHEM and AEROVET, to link the results of DECVET and ECVET experimentations.	January 2012
RECOMFOR	More than 100 learners of the network, created as part of the Recomfor project, already took part in mobility experiences. The ECVET tools developed by the project are progressively being introduced into the mobility practices.	October 2010
	A dissemination seminar took place in March 2011 bringing together the network's members (i.e. training centres of different countries). This seminar was also the official launching event of the NETINVET network, that will make the use of Recomfor results sustainable, by facilitating mobility ² .	28 to 29 March 2011
CREDCHEM	Eight different schools will apply ECVET principles and tools during mobility experiences as part of the CREDCHEM project. The trainers of these VET providers have already visited the learning venues to ensure mutual trust and quality assurance.	September 2011

¹ It can be found here: <http://www.ecvet-projects.eu/ToolBox/ToolBoxList.aspx?id=20&type=1> See also the previous issue of the ECVET Magazine

² The outcomes of this event will be presented in the next issue of the ECVET Magazine

Validation and recognition of learning outcomes

These processes, together with assessment which was discussed in Prague in November 2010, are at the heart of ECVET as they enable credit transfer and credit accumulation. But what is actually understood by validation and recognition beyond the definitions provided by the ECVET Recommendation? What does validation and recognition mean in practice?

The project presentations on this topic showed that there are a variety of ways in which validation and recognition can take place in practice. A summary of the understanding of different aspects of validation is presented in Table 2.

Table 2: Understanding of validation in the pilot projects

What is validation?
Verification of the fact that the assessed learning outcomes correspond to the foreseen learning outcomes.
In practice, it can imply:
<ul style="list-style-type: none">• discussion with the learner about what has been achieved and what remains to be achieved• award of a pass or fail• award of a grade
On what basis is validation carried out?
The following can be used as a basis to support the validation process:
<ul style="list-style-type: none">• assessment grids as completed in the host institution by the assessor(s)• indication of levels of the performance of the learner against given learning outcomes as recorded by the assessor(s)• written description of the results of assessment by the assessor(s)• evidence about the fact that assessment took place in line with the agreed process

With regard to recognition, in reality the practices are strongly shaped by the rules and structures in qualifications systems as they exist. In systems where neither qualifications nor education and training programmes are based on units, the recognition of learning outcomes has a pedagogical meaning. In other words, the learning outcomes are appreciated by the teaching staff or the trainers. The learning outcomes also support the quality of the mobility experience and therefore can help mainstream mobility into the education and training pathways of learners in VET. In countries where units exist, the pedagogical aspect of recognition is also very important and there is also a range of ways in which the learning outcomes can be recognised as part of the qualification (in a summative manner).

The ECVET pilot projects are testing ECVET within the constraints of the existing systems and this is in fact one of their core strengths. They show how validation and recognition is possible in the currently existing variety of national and system level regulations. Many of the pilot projects involve the work of practitioners on the ground. They test how ECVET is possible within structures and rules in which they operate. The experiences show that while the recognition of learning outcomes by the home VET provider (the pedagogical aspect mentioned above) seems to be relatively easy, the recognition at the system level (be it in terms of skills-portfolios – using Europass for example, awarding units, certificates or credit points), though already possible in some systems, will need time and reflection. It will also need feedback from the work at the practitioners' level to see what the real needs are and what benefits the different types of recognition have and for whom.

Observing the ongoing work, a 'ECVET-sceptic' or a 'ECVET-purist' could ask: what is the added value of ECVET compared to mobility (as it is currently ongoing) if the recognition does not result in the achievement of a unit? The practical work of the pilot projects, of which many involve partners who have been carrying out mobility exchanges over several years now, shows that the effect of using units of learning outcomes (or sets of learning outcomes) to support mobility exchanges is very positive. All the work done to identify and agree learning outcomes for mobility, grouping these into units and structuring the learning activities and assessment accordingly, is of great added value even if the units cannot be recognised as part of a qualification (but they are recognised as part of the education and training pathway). The added value is the enhanced quality of mobility. The institutions agree on the focus of mobility through describing learning outcomes. They have the means to ensure that the learning activities are appropriate for the learner (i.e. do they lead to the expected learning outcomes?) and all VET providers across Europe have a common methodology to plan and approach mobility exchanges.

The main approaches to recognition, as applied by the pilot projects, are summarised in Table 3. Some projects of course use more than one of these approaches, because the way units of learning outcomes will be recognised depends on the national system. The table below presents a range of approaches that can be used in a broad variety of situations and could be used as an input to the thinking of future projects and mobility partnerships. Eventually the approach to recognition always has to be adopted to the national system.

The final report containing examples on the use of validation and recognition from project presentations can be downloaded from the ECVET pilot projects web-site³.

Table 3: ECVET pilot projects approaches to recognition of learning outcomes – testing the ECVET principle of recognition within the current constraints of systems

What is the status of the learning outcomes/units?	What is recognition in this approach?	Summative character of recognition	formative character of recognition	Examples of projects / partner countries using this approach
Units of LO only for mobility (no accumulation in the qualification system)	The 'mobility unit' is an integrated part of the education and training pathway. There is no repetition of learning activities. The learner has documented learning outcomes achieved abroad.		X	e.g. the different countries in the CREDCHEM project, none of which uses units and accumulation
The LO concerned are in addition to those in the qualification being prepared.	The learning outcomes are documented in an additional 'certificate' issued by, for example, the competent institution or the training centre. This can be recognised by a future employer (social recognition outside the qualification system).	x	X	e.g. in Germany - mentioned by SME Master +
The LO achieved abroad will be part of the module for practical training (on-the-job)	The duration of the practical training abroad is validated as part of the requirements for practical training (in this case specified in terms of hours). Explanation: in many systems VET learners have to undergo a certain number hours of on-the-job learning. The mobility exchange can be integrated into this number of hours.	x	X	e.g. Italy in M.O.T.O.
The LO achieved abroad correspond to a full training module.	The formative assessment for the module is recognised (recorded in the learner's record). The module is not part of the certification. It is part of the education and training pathway.		X	France in Asset
The LO achieved abroad correspond to a part of the unit in the qualification system.	Assessment abroad can be recognised as one of several continuous assessments (as required by the qualification regulations). Explanation: to achieve a unit several continuous assessments are required. The assessment abroad will be taken as one of these assessments.	x	x	Several projects with French partners, e.g. Be-TWIN
The LO achieved abroad correspond to a full unit in the system/ the learner is assessed abroad for the full unit.	The learner achieves the unit - s/he receives the certificate for the unit or the unit is recorded in the transcript as passed.	X	x	e.g. this is a possible use of the Recomfor project reference units in Romania
The LO achieved abroad are not part of the minimum LO requirement but the system/ programme has the possibility for learners to select options - including free choice.	The learner achieves a unit that is recognised as part of the 'free-choice' units.	X	x	e.g. this is possible in Finland and used in several projects in FINECVET
The home system uses credit points. The unit achieved abroad corresponds to part of or the full unit in the home system.	In addition to documentation of the fact that the full or a part of the unit has been achieved, the learner is awarded the corresponding credit points.	x (X)		e.g. in Finland (M.O.T.O. project)

Legend: LO – Learning Outcomes; capital X: predominant character of recognition, small x; subordinant character of recognition

The 2011 Annual ECVET Forum takes place on June 9 and 10 in Madrid

This year, the ECVET Forum – an annual highlight for all members of ECVET Network - will take place in Madrid on June 9 and 10. The Annual ECVET Forum offers the opportunity to meet with longstanding members of the network as well as with newcomers, to expand networks, find new potential partners for ECVET-mobility and to discuss recent developments.

The ECVET Annual Forum gives participants the opportunity to be updated on the new developments and progress which are going on in Europe for the implementation of the ECVET Recommendation, to meet each other and plan together, to work on partnerships, and to be exposed to the projects and activities currently going on in Europe.

The Annual ECVET Forum is organised by the ECVET Team. Members of the ECVET-network are encouraged to invite colleagues and partners for their first involvement in the ECVET Network. More information can be found on the ECVET-Team's website, <http://www.ecvet-team.eu/en/content/2011-annual-ecvet-forum-9th-10th-june>. The same page also allows for registration to the Forum.

Organisations interested in becoming a member of the ECVET-Network are invited to apply.

EQF Framework Series Note 3: Referencing National Qualifications Levels to the EQF

The third Note in the European Qualification Framework Series has recently been published on the Education & Training website of the European Commission, http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm. The Note addresses the subject of referencing of National Qualification Levels to the EQF and is written for policy makers and experts who are involved at national and European level in the implementation of the EQF.

It points out that the success of the EQF will strongly depend on the transparency of these national referencing processes and their results, and the trust these generate among stakeholders inside and outside the country. Therefore, it is critically important

to share common principles in the referencing processes, and to understand the rationale of various methodologies and possible interpretations of the common criteria.

The Note has been designed to support discussions and decisions on the process of referencing national qualifications levels to the levels of the EQF. It presents ten criteria for the national referencing process and essentials on the referencing methodology. It also discusses potential issues arising in the process and points out to useful resources.

The methods used in referencing reports from Ireland, Malta, Scotland, England and Northern Ireland are presented as examples.

The considerations included in this Note are based on the debates in the EQF Advisory Group and National Coordination Points on the 10 Referencing Criteria, as well as on experiences of countries that have presented their referencing reports until today.

30/31 May 2011 - Cedefop workshop - Mainstreaming ECVET to practitioners

Cedefop **ECVET monitoring** indicates the importance of VET providers and their staff in ECVET implementation; so far however, too little attention has been paid to this issue. This is the main motive for Cedefop to hold an ECVET expert workshop on mainstreaming ECVET to practitioners on 30/31 May 2011 at its premises.

In the context of increased ECVET implementation, the workshop focuses on the role of providers and practitioners in taking ECVET forward. It aims at identifying the factors that encourage or discourage their involvement, and defining the expectations and needs of practitioners for ECVET testing and implementation.

Participation is upon invitation and selection of abstracts for contribution (to be sent by 26 April 2011 to Isabelle Le Mouillour and Maria Todorova).

Information on programme and participation are available at <http://www.cedefop.europa.eu/EN/events/17992.aspx> and by contacting Isabelle Le Mouillour (isabelle.le-mouillour@cedefop.europa.eu) and Maria Todorova (maria.todorova@cedefop.europa.eu)



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