Description of units of learning outcomes

Examples from the 2nd generation of ECVET pilot projects

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## Contents

1. **Introduction** ........................................................................................................................................ 2  
   1.1 **Context** ........................................................................................................................................... 2  
   1.2 **Development of this note** ........................................................................................................... 2  
   1.3 **Purpose of this note** .................................................................................................................... 3  

2. **Identifying units of learning outcomes to be used in the context of lifelong learning** ................................................................................................................................. 4  

3. **Design/composition of units** ........................................................................................................... 6  

4. **Formulation of learning outcomes** .................................................................................................. 8  

5. **Structure of learning outcomes** ....................................................................................................... 10  

6. **Descriptors of units of learning outcomes** .................................................................................... 11  

7. **ANNEX 1: Definition of ‘qualification standard’** ......................................................................... 12  

8. **ANNEX 2: Units of learning outcomes – example: EASYMetal project (Germany)** ....................... 13  

9. **Annex 3: Examples of principles for formulating learning outcomes** ........................................ 14
Introduction

1.1 Context

The European Credit system for Vocational Education and Training (ECVET) is a European instrument to promote mutual trust and mobility in vocational education and training. Developed by Member States in cooperation with the European Commission, ECVET was adopted by the European Parliament and the Council in 2009. The adoption and implementation of ECVET in the participating countries is voluntary. Currently, the participating countries and the Commission support a Europe-wide testing of this instrument to which all stakeholders have been invited to participate.

The Council and the European Parliament have placed a strong emphasis on the necessity to experiment and test ECVET, through, among others initiatives, the establishment of pilot projects:

- In 2008, the European Commission issued a call for proposals to finance international partnerships under the lifelong learning action programme whose aim was to test the implementation of the ECVET process in the context of learners’ mobility. As a result, eleven pilot projects were selected. They are now called the ‘1st generation of ECVET projects’.
- In 2010, the European Commission issued a new call for proposals to finance a new generation of pilot projects under the Lifelong Learning Programme. This time, the aim was to support national projects to test and develop the credit system for vocational education and training. As a result, eight projects were selected, the ‘2nd generation of ECVET projects’: C.O.L.O.R. (Italy), CPU-Europe (Belgium-fr), EASYMetal (Germany), ESyCQ (Germany), I CARE (Italy), 2get1care (Germany), MNE (France), and VET-C (Malta).

1.2 Development of this note

In order to stimulate exchange and to identify transferable practices and methods, technical seminars on ECVET implementation are being organised for the pilot projects two or three times a year. After each seminar, a report is produced. It summarises the key issues discussed during the seminar, the approaches described by the projects and other participants and the lessons learnt for the implementation of ECVET.

The joint work of the eleven 1st generation projects during the seminars resulted in specific notes summarising key issues and recommendations (illustrated with examples and experiences from ECVET pilot projects) that can be used as guidelines for ECVET implementation. One of these notes is related to the ‘Units of learning outcomes for ECVET in the context of geographical mobility’ and was developed in 2009.

At the Ljubljana seminar (29-30 September 2011), the representatives of the 2nd generation of ECVET pilot projects discussed these guidelines and it was stated that to a certain extent the transferability of guidelines from the 1st generation of projects to the 2nd generation is possible. However, since the focus of the projects is different, the specific note representing the work of the 2nd generation projects should refer to:

- the conditions of national implementation;
- the lifelong learning context; and
- the focus on non-formal and informal learning.

The projects’ representatives agreed to develop a note on their first results on the units of learning outcomes. A draft note was prepared for the Rome seminar (26-27 April 2012) based on the following sources:

- Guidelines developed by the 1st generation of ECVET pilot projects: ‘Useful Guidelines on Units of Learning Outcomes for ECVET in the context of mobility’.
Examples of the 2nd generation ECVET pilot projects, collected by GHK during monitoring visits and in the ECVET pilot project seminars, or submitted by the projects themselves.

The draft note was discussed with projects’ representatives at the Rome seminar and revised based on their feedback. Further feedback was received in autumn 2012, which was reflected in this final document.

1.3 Purpose of this note

This Recommendation therefore contributes to the wider objectives of promoting lifelong learning and increasing the employability, openness to mobility and social inclusion of workers and learners. It particularly facilitates the development of flexible and individualised pathways and also the recognition of those learning outcomes which are acquired through non-formal and informal learning.

ECVET Recommendation

Whereas the first 11 pilot projects tested ECVET in the context of the geographical mobility of learners, a clear focus on national implementation is emphasised for the 2nd generation of ECVET pilot projects. Thus, the latter projects address mobility issues in a much broader sense than the previous pilot projects – ECVET is utilised as a tool for a wide range of aspects of transfer and accumulation of learning outcomes in the lifelong learning context, such as:

- Permeability between different VET sub-systems and learning pathways inside a country;
- Mobility of workers between different regions in a country;
- Mobility of workers across Europe.

In addition to the formal I-VET context, some projects also address other learning contexts: continuing vocational training (C-VET) and a non-formal and/or informal learning context. Some projects also aim at a more general implementation of ECVET at the national level.

With regards to national implementation, it needs to be acknowledged that countries might already have specific regulations for the development of units of learning outcomes or for the description of learning outcomes that have to be taken into account. Furthermore, it is up to the competent authorities at national levels to decide on how they want to use ECVET in the context of lifelong learning.

The purpose of this note is to provide useful hints and ideas – based on the experiences made so far by the 2nd generation of ECVET pilot projects and illustrated with examples from these projects – for those who want to engage in implementing ECVET in the context of lifelong learning.
2 Identifying units of learning outcomes to be used in the context of lifelong learning

**Guideline:**
The strategies used for identifying units of learning outcomes to be used in a lifelong learning perspective depend on the specific aim and purpose of using ECVET in this context. Depending on the needs and ambitions for using ECVET in the context of lifelong learning, credit transfer agreement using ECVET can be put in place regarding one, several or all units in a qualification.

**Explanation:**
Countries and qualification (sub-) systems are at different starting points when it comes to this aspect of the ECVET Recommendation:

- In some countries and systems (for example, in Finland, France or Slovenia), units of learning outcomes are an integral part of VET qualifications;
- In other countries (for example, in the French speaking Community of Belgium or in Luxembourg), VET systems are being reformed to integrate the use of units;
- Other VET systems (such as the dual VET systems in Germany or Austria) do not design qualifications based on units and do not intend to introduce this principle into qualification design.

Depending on this starting point and on the purpose of credit transfer and accumulation, whole qualifications or parts of qualifications are described in terms of units of learning outcomes:

a) **Starting point: the VET system does not yet use units of learning outcomes**

Aim: to reform the system and to provide possibilities for progressively accumulating learning outcomes for achieving a qualification (in formal, non-formal or informal learning contexts). Possible solution: systemic approaches for structuring qualifications in units of learning outcomes (‘top-down scenario’).

*Examples:*
The VET-CCS project (Malta) and the CPU-Europe project (Belgium) are addressing the national implementation of ECVET and developing recommendations or a manual for designing and describing qualifications in units of learning outcomes. Another example is the C.O.I.O.R. project (Italy) which aims to modernise the system by facilitating the adoption of the learning outcomes-oriented approach and the application of the ECVET system in Italy. In all these cases experimentation is done together with VET providers.

b) **Starting point: the VET system does not use units of learning outcomes**

Aim: to use ECVET within the existing system / regulations for providing some possibilities for transferring and accumulating credit without reforming the whole system. Possible solution: describing those parts of qualifications in terms of units of learning outcomes that can actually be used for transfer and accumulation (for example, because they are identified as common parts of different qualifications) (‘bottom-up scenario’).

*Examples:*
The EASYMetal project (Germany) is aiming at permeability in the national system by creating transparency between training schemes and sub-schemes and the recognition of partial qualifications. Therefore, four units have been built, relating to seven qualifications in the metal sector.
### c) Starting point: units of learning outcomes do exist in the system and they can be accumulated, however it is not clear how they can be transferred

**Aim:** some systems already use units of learning outcomes for accumulation, but not necessarily for transfer because the rules of transfer do not exist.

**Possible solution:** identify under what conditions and how units of learning outcomes can be transferred and develop guidelines. These guidelines also refer to the description of units of learning outcomes.

**Example:**

The **MENECVET** project in France is an example of this situation. The project analyses the national system and regulations to identify how units of learning outcomes that already exist in the system could be used for transfer. The main difficulty is the need to ensure that the transfer of units of learning outcomes does not undermine the existing quality assurance procedures which guarantee the validity and reliability of the qualifications of the Ministry of Education.

The project also identified that in order for units to be transferable and used as a translation tool between different systems, the way in which they are described should be further clarified and improved. This is expected to bring in better understanding of the descriptions which will in turn support the quality of transfer.

It is also possible to identify a mix of the scenarios described above. One example is the **ESyCQ project** (Germany). The aim of the project is to develop a complete ECVET system for a selected area of vocational training and all forms of learning (formal, non-formal, informal). Six professions/qualifications were selected so that the overlaps in training content will enable credit transfer procedures.
3 Design/composition of units

**Guideline:**
The use of occupational activities or work processes/tasks as the basis for the design/composition of units has a number of advantages and makes reaching an agreement among partners on credit transfer easier.

If full qualifications are described, it should be ensured that together all of the units cover the entire qualification.

**Explanation:**
From the experience of the 1st generation ECVET pilot projects it is clear that discussing the occupational activities, work processes/tasks for which the qualification prepares, rather than the qualification standard or the curriculum, makes it easier to identify commonalities among qualification systems from different countries.

But even within one national context, different sub-systems might use different vocabulary and approaches to designing and describing their qualifications. Therefore, some of the 2nd generation ECVET pilot projects also use this approach and determine units of learning outcomes on the basis of complete work assignments, work processes/tasks, areas of work, fields of action or fields of competence, which are typical of the particular profession.

When a unit is linked to an activity/set of tasks, its content is transparent and easily understood by a variety of stakeholders – such as employers, but also learners.

The use of occupational activities, work processes/tasks as a basis for units also makes it easier to agree/define the assessment criteria.

A variety of methods and sources are used for identifying occupational activities/work processes or tasks; this information can be extracted from the qualification standard (if it is already in place) or empirical methods can be used, such as analysis of work processes or expert workshop/interviews. In many cases consulting experts from the relevant fields are considered to be very important.

**Examples:**
Empirically derived work tasks were the basis for the development of a Competence Matrix in the I-CARE project (Italy). Work tasks were developed by consulting experts from the professional fields and they were then translated into competence areas that can be used as units of learning outcomes. ‘Global competences’ (such as personal or social competences or dispositions – e.g. ‘showing passion’, ‘being creative’) are included in the learning outcomes descriptions but not uncoupled from the work tasks.

The EASYMetal project (Germany) designed units that were structured around complete work tasks; each unit describes complete work tasks, representing a working process beginning with the subtask of ‘Information and Planning’ to ‘Execution of Work’, and ending with ‘Control and Evaluation’. Concrete learning outcomes were allocated to all of these sub-tasks in the working process, e.g. ‘Information and Planning’: which involves gathering work sequences from technical drawings and putting them in a reasonable order for later completion.

The CPU Europe project (French speaking community of Belgium) is part of a larger national reform, which among other things requires qualifications to be defined in terms of units of learning outcomes. As part of the reform, the social partners for each sector define the qualification profile in terms of key professional activities. They are used as the basis to define the units of learning outcomes. This approach is welcomed both by the representatives of social partners as well as those from the education sector.

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1 For a definition of qualification standards see Annex 1.
Guideline:
The size and content of a unit needs to be reflected in the defined purpose of the envisaged credit transfer; however some general principles need to be observed.

Explanation:
Units of learning outcomes should be designed in such a way that they can be completed (assessed) as independently as possible from other units of learning outcomes.

In general, all learning outcomes to be assessed need to be described. In order to avoid an overload of information (i.e. very long lists of learning outcomes), the focus of the learning outcomes description should be on ‘essential’ aspects instead of on ‘trivial’ ones. For example, it is not necessary to present all learning outcomes related to remembering certain facts because they are usually the basis for more complex learning outcomes (such as analysing certain facts), which will also be assessed.

However, it is not possible to provide a general definition of the appropriate level of complexity. The respective decision always needs to be made with the consideration of the specific qualification and the credit transfer envisaged. Therefore, differences can be observed, for instance, regarding the size of units or the level of details provided in the descriptions.

Examples:
The EASYMetal project (Germany) for example, focuses on the interface between pre-vocational training and the dual training system and develops and suggests procedures facilitating the compilation, assessment, transfer and recognition of pre-vocational training learning outcomes for the dual system. The project partnership has developed units of learning outcomes for a basic qualification in metal industry. Each unit presents the sequences of a complete work task including information and planning, execution of the task, control and evaluation as well as cleaning up the workplace and waste disposal. Two additional elements concern all work sequences: the observation of safety instructions and health protection regulations and work attitude as a prerequisite for the successful execution of a work assignment. Learning outcomes are allocated to each of the six working sequences. Each learning outcomes statement describes the knowledge, skills and competences and also includes information on the test criteria. Each unit description is comprised of approximately 10 pages. An excerpt from a unit is available in Annex 2.

Guideline:
The units of learning outcomes should express learning outcomes related to the specific profession/vocation as well as transversal or key competences.

Explanation:
Units of learning outcomes should include all necessary learning outcomes, i.e. they should describe the intended professional competences as well as the key competences and necessary social and personal competences in this context. However, it is up to the partners to decide on whether transversal or key competences should be grouped into separate units or integrated into the descriptions of learning outcomes related to the specific profession/vocation.

Examples:
In the I-CARE project (Italy), ‘global competences’ (such as personal or social competences or dispositions – e.g. ‘showing passion’, ‘being creative’) are included in the learning outcomes descriptions, but not uncoupled from the work tasks.
4 Formulation of learning outcomes

**Guideline:**
In order to develop transparent descriptions, certain principles for formulating learning outcomes need to be observed.

**Explanation:**
Different approaches are used when writing learning outcomes because there is not just one right way for formulating them. However, certain principles for formulating learning outcomes have been identified in different contexts and seem to be useful in order to reach an understanding between partners.²

**Examples:**
In the I-CARE project (Italy), the following principles were used when formulating learning outcomes (competences) for the I-CARE matrix:
- Use accurate descriptions and complete sentences which are enriched by examples;
- Elaborate on the different levels of learning outcomes whenever they help to describe a professional profile.

The EASYMetal project (Germany) used the following principles when formulating learning outcomes:
- Use active verbs to describe each learning outcome;
- Allocate test criteria for each learning outcome to (a), support the learning venues to organise the learning process, and (b), to make the results of the learning process more comprehensible and transparent for companies.

In the CO.L.O.R. project, (Italy) learning outcomes are described in a way that is highly consistent with EQF-ECVET and the provisions of the ‘27.07.2011 State-Regions Agreement (Annex A)’ namely:
- Competence: Described in terms of responsibility and autonomy. It is expressed by its constituent elements (such as type of background, resources used in showing the competence, attitudes, etc.); it is described by using verbs in the infinitive form that clearly identify: the taxonomy of levels of responsibility/autonomy; reference to the resources used; and an indication of the performance depending on the complexity of competence. The description of the competence is based on a single verb.
- Skills: Skills refer to applying knowledge to complete tasks and solving problems. They are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual abilities and the use of methods, materials, and tools). It includes the use of verbs and syntax highlighting the application and / or use of technologies / procedures / methods. Skills cannot be broader than the competence; they are expressed with verbs in the infinitive form.
- Knowledge: Knowledge is a collection of facts, principles, theories and practices related to a field of work. It is described as theoretical and / or operational and may occur in different skills. Knowledge is predominantly expressed with nouns indicating types and / or objects of knowledge (e.g. ‘elements of ...’, ‘principles of ...’, ‘... techniques’).

The learning outcomes descriptions in the VET-CCS project (Malta) are based on the guidelines provided by the Malta Qualifications Council (MQC). The MQC suggests that learning outcomes should be based on Bloom’s Taxonomy (Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation) and learning outcomes should be written using:
- Concise statements

² Examples of such principles are presented in the Annex.
- Clear, simple wording
- Unambiguous language
- Future tense
- Action verbs suggesting overt behaviour
- One verb for each outcome
- Appropriate verbs that reflect both the level and the strand.
5 Structure of learning outcomes

Guideline:
The description of learning outcomes should reflect the following elements: knowledge, skills and competence. This does not mean that the format of describing knowledge separately from skills and competence needs to be adopted.

Explanation:
The structure of the learning outcomes descriptions is determined by the partnership; some ECVET projects adopt the approach of differentiating between knowledge, skills and competence (but not necessarily in this sequence) and some use other categories based on national level rules, while others do not make this difference explicit and use ‘holistic’ descriptions.

Those in favour of the first approach highlight that such differentiation creates further clarity and transparency on the content of the unit and enables a better comparison.

Those in favour of the second approach say that describing knowledge, skills and competence separately leads to overlaps and redundancies in the descriptions. They also note that this distinction is somewhat artificial (since competence is the encompassing term) and that what is necessary, from the point of view of assessment, is the combination of all elements.

Furthermore, the categories of knowledge, skills and competence are not the only ones that could be used for structuring learning outcomes descriptions. For example, in some national contexts other or additional categories are used.

Examples:
The projects CO.L.OR (Italy), EASYMetal (Germany), ESyCQ (Germany), I CARE (Italy) and 2get1care (Germany) use the categories of knowledge, skills and competence.

However, the differentiation is not necessarily done in this sequence. For instance, the CO.L.OR project changed the order starting from the descriptor ‘competence’, followed by skills and knowledge (CSK). The project states that this organisation preserves the system used in the national agreements and conforms to the fact that ‘competence’ represents the central descriptive element of the qualification systems in Italy.

The aim of the VET-CCS project (Malta) is to convert all Maltese qualifications into the ECVET system. In Malta’s system, the learning outcomes are based on knowledge, skills and competence which are sub-divided into six elements: Knowledge and Understanding; Applying Knowledge and Understanding; Communication Skills; Judgmental Skills; Learning Skills; Autonomy and Responsibility.

The MENECVET project (France) aims to examine how the VET qualifications of the French Ministry of National Education compare with principles of ECVET. Therefore, the French concepts and terminology need to be taken into account. The French descriptions do not distinguish between the terms knowledge, skills and competence, but instead use the terminology of competences, aptitudes and capacities as well as associated knowledge. However, this is not considered as constituting a major obstacle for the use of ECVET in the French context.

The CPU-Europe project pursues a more holistic approach. Units are designed to embed knowledge, skills and competences in a progressive spiral-like manner. The units to achieve at the beginning of the pathway combine the basic knowledge, skills and competence. When students make progress, more complexity is required and the basic knowledge, skills and competence are further developed.
6 Descriptors of units of learning outcomes

**Guideline:**
The descriptors used for presenting the units of learning outcomes depend on the purpose for which the unit is used.

**Explanation:**
The ECVET Recommendation suggests that the description of a unit should include the following information:
- the title of the unit,
- the title of the qualification to which the unit relates,
- the EQF level of the qualification (and, where appropriate, the NQF level),
- the ECVET points associated with the unit,
- the learning outcomes contained in the unit,
- the procedures and criteria for assessment of these learning outcomes,
- the validity in time of the unit, where relevant.

Units of learning outcomes are in principle related to one or more qualifications (i.e., they are components of qualifications). Some additional information is usually provided in cases where units are to be used at the same time as learning modules (i.e. as components of a training programme/curriculum) or in cases where the recognition of learning outcomes acquired in non-formal or informal learning contexts is addressed.

**Example:**
The 2get1care project (Germany) uses units as components of the training programme and therefore it is considered necessary to include information on the teaching content.

The EASYMetal project (Germany) aims at fostering mobility between training schemes and sub-schemes at the interface between the preparation for vocational training and dual vocational training in the German vocational training system. Since it involves different learning sites and related regulations, the unit descriptions additionally include information on the specific contents of the training plan (in-company training) and the curriculum (vocational school) assigned to the unit.

The main objective of the CO.L.O.R. project (Italy) is competency valorisation and learning outcomes recognition for migrants. The following additional descriptors are used: information on local qualifications and related units, reference to work process, assessment procedures and tools in the formal context (with reference to a formal pathway selected as a focus) and in the non-formal context.
ANNEX 1: Definition of ‘qualification standard’

According to the definition of the European Commission in the recommendation on a European qualification framework for lifelong learning (European Parliament and Council of the EU, 2008), a qualification is ‘a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to a given standard’.

A qualification as defined above is expressed in a formal document (certificate, degree, diploma or award) and is based on the norms and specifications regulating its award. These norms and specifications constitute the qualification standards.

Qualification standards are considered to be the norms and specifications applying to the following aspects of qualifications:

(a) occupation standards may specify ‘the main jobs that people do’, describing the professional tasks and activities as well as the competences typical of an occupation. Occupational standards answer the question: ‘What does the student need to be able to do in employment?’;

(b) education standards may define the expected outcomes of the learning process, leading to the award of a qualification; the study programme in terms of content, learning objectives and timetable; as well as teaching methods and learning settings, such as in-company or school-based learning. Educational standards answer the question: ‘What does the student need to learn to be effective in employment?’;

(c) assessment standards may specify the object of assessment, performance criteria, assessment methods, and the composition of the jury entitled to award the qualification. Assessment standards answer the question: ‘How will we know what the student has learned and is able to do in employment?’.

Source:

ANNEX 2: Units of learning outcomes – example: EASYMetal project (Germany)

Unit of learning outcomes 3: Production of Simple Assemblies – excerpt:

Learning outcome: Gathers work sequences from technical drawings and information sources; draws sketches; gathers and tests standard and single parts; arranges workplace and prepares tools and devices; puts assembly parts in a systematic order; labels single parts.

Annex 3: Examples of principles for formulating learning outcomes

**Be aware of the difference between learning objectives and learning outcomes**

Learning objectives express the intention of teachers (for example, they are related to the content teachers are planning to present). Learning outcomes are always described from the learners’ viewpoint rather than from the teachers’ viewpoint.

**Use active, clearly understandable verbs**

The use of active verbs is a core principle for formulating learning outcomes. Not all verbs are equally suitable for describing learning outcomes since some are not clear enough or not meaningful enough or they might be related to the learning process rather than to the outcomes of this process (for example, ‘collecting experience’, ‘getting familiar with’).

Verbs should describe measurable or observable actions (for example, ‘explain’, ‘identify’, ‘apply’, ‘analyse’, ‘develop’, ‘demonstrate’). It may prove useful to use or develop a taxonomy table with different categories or classifications of verbs. Such a taxonomy table can support the reflection process for identifying the most suitable verbs for describing specific learning outcomes. The most prominent taxonomy is the one developed by Bloom (and amended by several other authors). Such a table can be supplemented by job-specific verbs depending on the sector and domain.

**Specify and contextualise the active verb**

For specification and contextualisation, information should be provided about what the respective knowledge and ability refer to and what type of activity is involved. In addition to the verb, the learning outcomes formulation should consist of the related object as well as an additional (part of a) sentence describing the context of the activity to be carried out.

**Specify the level of learning outcomes**

Formulations, particularly verbs, adjectives and context descriptions, should reflect the level of the specific learning outcomes. For example, it should be specified whether the observable action takes place in a structured or non-structured context or whether it is carried out under supervision or autonomously.

**Avoid vague, open formulations**

Learning outcomes should be described briefly and precisely, complicated sentences should be avoided. They should not be formulated in overly general or overly concrete terms; clear (simple and unambiguous) terminology should be used as far as possible.

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