# ENETRAP II
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## Methodology and quality assurance protocol for comparison and evaluation of training events

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# NRG

# ENETRAP II WD 5.2
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# Summary

To maintain a high level of competence in Europe regarding radiation protection and to facilitate harmonisation and (mutual) recognition of Radiation Protection Experts (RPEs) and Radiation Protection Officers (RPOs) quality assurance and quality control procedures might play an important role. The ENETRAPII project (FP7-EURATOM) aims at developing European high-quality 'reference standards' and good practices for education and training in radiation protection. In Work Package 5 (WP5) the quality issue is addressed. Therefore, WP5 deals with the development and application of mechanisms for the evaluation of training material, training events and training providers by means of a transparent and objective methodology. The results can be used by regulatory authorities to benchmark their national radiation protection training programme and will be communicated to other networks, e.g. EUTERP. Deliverable WD5.2 addresses the comparison table of training events (courses and on the job training).

The comparison table consists of two parts, one part for the comparison of knowledge based events and the other one for the comparison of skills and competence based events.

The knowledge based events are compared on a grading system from 0 (no awareness) up to 3 (detailed understanding). The skills and competence based events can be compared on a grading system yes/no. With this grading system a course can be compared with the ENETRAP training scheme (standard), developed in WP4, to conclude whether this course meets the standard.

Together they form the comparison table for training events, where competence, knowledge and skills can be compared with the standard (ENETRAP training scheme)

Since the end of the ENETRAP2 project, the table with learning outcomes of the ERTS can be used as a list of knowledge based learning outcomes. The EQF grades can be used to define the level of knowledge that is reached by studying the material.

# 1   Introduction

One of today's challenges in the field of radiation protection includes measures to make the work in radiation protection more attractive for young people and to provide attractive career opportunities. In addition, young students and professionals should be supported in their need to gain and maintain high level knowledge, skills and competence in radiation protection. These objectives can be reached by the development and the implementation of a high-quality European standard for initial education and continuous professional development for Radiation Protection Experts (RPEs) and Radiation Protection Officers (RPOs).

The FP7 European Network for Education and Training in Radiation Protection II (ENETRAPII) project is a specific tool for EURATOM policy for E&T implementation in the radiation protection field. In addition, the project is a tool towards a mutual recognition of professional qualifications.

For the purposes of this project the Radiation Protection Expert can be defined as:

*"An individual having the knowledge, training and experience needed to give radiation protection advice in order to ensure effective protection of individuals, whose capacity to act is recognized by the competent authorities."*

and the Radiation Protection Officer as:

*"An individual technically competent in radiation protection matters relevant for a given type of practice who is designated by the registrant or licensee to oversee the application of the requirement of the Standards".*

These are the definitions as proposed during the second EUTERP workshop in Lithuania in 2008. These definitions became part of the draft EURATOM BSS directive [1].

To reach high-quality European standards for initial education and continuous professional development, there has to be an agreement between the European countries concerning the duties and responsibilities of both RPEs and the RPOs. These standards are developed in Work Packages 3 and 4 (WP3 and WP4) of the ENETRAPII project.

As soon as these standards are set, each country will be able to assess and benchmark their own education and training against the European standards. It will also be possible for a country to benchmark the knowledge, skills and competence of an RPE or RPO, educated and trained in another country, to their national standards. Shortcomings in education and training materials, events and providers, become clear when it is possible to compare national standards of education levels to the European standards. Therefore one of the cornerstone work packages in ENETRAPII is work package 5 (WP5), entitled: Develop and apply mechanisms for the evaluation of training material, events and providers.

In the second deliverable of WP5 (WD 5.2) the comparison table of training events is presented. In this document training events are defined to be both courses and on the job training (OJT).

## 1.1 Boundary conditions for the comparison of training events

To build a comparison system for training events, a few boundary conditions were set. These boundary conditions are given and explained below.

- Nowadays learning outcomes are not only knowledge based, but also skills and sometimes competence based. The comparison model for courses has to deal with all three types of learning outcomes.

- Training events can be followed by students that have different backgrounds. Due to this difference no entrance level can be specified. The comparison model for courses has to be used, without a prescribed entrance level.

- In the future e-learning will become more and more important in the field of radiation protection. This is one of the types of training and education that cannot be defined by the number of hours of a training event. Therefore the comparison model for courses cannot use the numbers of hours as a criterion to compare courses.

# 2 Material

Within Europe there are different systems that encourage the mutual recognition of different professions. The European project about European credits for vocational education and training is developed to allow the recognition by a given employer of the education and training received from an employee.

Examples are ECTS (European Credits and Transfer accumulation system [2]), ECVET (European Credit System for Vocational Education and Training [3],[4]), EQF (European Qualifications Framework for lifelong learning [5], the proposed comparison table for training material [6] and the underlying table with subjects for radiation protection training in the Netherlands [7].

The IAEA syllabus [8] and the European syllabus [9] in the field of radiation protection training are reviewed in WD 5.1 [5], and will not be reviewed in this chapter.

## 2.1 European Credit Transfer and Accumulation System (ECTS)

The European Credit Transfer and Accumulation System (ECTS [2]) is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries. For successfully completed studies, ECTS credits are awarded. One academic year corresponds to 60 ECTS-credits that are equivalent to 1500–1800 hours of study in all countries irrespective of standard or qualification type and is used to facilitate transfer and progression throughout the Union. The entrance level for students in higher education is secondary school.

The ECTS will be complemented by the European Credit transfer system for Vocational Education and Training (ECVET) which the ministers responsible for vocational training in 32 European countries agreed to develop in the Maastricht Communiqué of 14 December 2004.

## 2.2 European credit Transfer system for Vocational E&T (ECVET)

ECVET [3],[4] is a European system of accumulation (capitalisation) and transfer of credits designed for Vocational Education and Training (VET) in Europe. It enables the attesting and recording of the learning achievement/learning outcomes of an individual engaged in a learning pathway leading to a qualification, a vocational diploma or certificate. This approach is broader than ECTS, since not only high level of education, but all vocational education and training is included.

It enables the documentation, validation and recognition of achieved learning outcomes acquired abroad, in both formal VET or in non-formal contexts. It is focused on the individual, based on the validation and the accumulation of his/her learning outcomes, defined in terms of the knowledge, skills and competences necessary for achieving a qualification. ECVET is a system designed to operate at the European level, interfacing with national systems and arrangements for credit accumulation and transfer.

To work within the ECVET framework a Memorandum of Understanding (MoU), must be developed between the employer of the participant and the training provider. The learning outcomes are explicitly stated in this MoU. When the education or training is finished the MoU is evaluated against the learning outcomes achieved. Credits are awarded for each of the learning outcome. Depending on the field of education and training the credits can be summed together or the credits stay apart to form two separate subjects.

The learning outcomes have to be considered not only in the knowledge field, but also in the field of skills and competences (see also glossary in Appendix B). All together learning outcomes are competency based.

## 2.3   European Qualification Framework for lifelong learning

The EQF [5] aims to relate different countries' national qualifications systems to a common European reference framework. Individuals and employers will be able to use the EQF to better understand and compare the qualifications levels of different countries and different education and training systems.

Agreed upon by the European institutions in 2008, the EQF is being put in practice across Europe. It encourages countries to relate their national qualifications systems to the EQF so that all new qualifications issued from 2012 carry a reference to an appropriate EQF level. An EQF national coordination point has been designated for this purpose in each country.

The core of the EQF concerns eight reference levels describing what a learner knows, understands and is able to do – 'learning outcomes'. Levels of national qualifications will be placed at one of the central reference levels, ranging from basic (Level 1) to advanced (Level 8), see Appendix A. This will enable a much easier comparison between national qualifications and should also mean that people do not have to repeat their learning if they move to another country.

The EQF applies to all types of education, training and qualifications, from school education to academic, professional and vocational. This approach shifts the focus from the traditional system which emphasises

'learning inputs', such as the length of a learning experience, or type of institution. It also encourages lifelong learning by promoting the validation of non-formal and informal learning.

## 2.4    Dutch table with subjects for training in radiation protection

As already mentioned in deliverable 5.1 [6] in the Netherlands a reference table [7] is used since 1984 for different levels of training in radiation protection. This table is divided in main subjects and subdivided in more detail. There are no numbers of spent hours in this table, but only a characterisation of the level of detail at which the detailed subjects are covered during the training, together with its training goal (Table 1). The advantage of using grades above hours spent on the different subjects is that the entrance level of students doesn't have to be set. Theoretical people with different levels can enter all courses.

Table 1    Grades at which subjects are covered in training events (knowledge part)

| Grade | Covered | Goal |
|-------|---------|------|
| 0 | not covered | - |
| 1 | global, qualitative | awareness of the subject |
| 2 | important subjects covered, quantitative | understanding of the subject |
| 3 | Detailed, quantitative | detailed understanding of the subject |

The second part of the Dutch reference table [7] is about practical exercises that are part of the Dutch training in radiation protection. Since these are not knowledge based, the grades as mentioned in Table 1 cannot be used. The objectives of this part of the table are to learn skills and competences to the trainees. The grades used can be seen below in Table 2Table 2    Grades at which subjects are covered in training events (competence and skills part).

Table 2    Grades at which subjects are covered in training events (competence and skills part)

| Grade | Description |
|-------|-------------|
| + | Nescessary |
| +/- | Optional |
| - | Not nescessary |

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# 3 Results and discussion

The ECTS is meant for higher education, so there is a prescribed level of entrance in the competencies of the trainees. The comparison table that will be proposed aims at being independent of the entrance level. For the same reason the IAEA syllabus [8] and the EC syllabus [9] about training in the field of radiation protection cannot be used, because they use class hours, which are dependent on the entrance level of the trainee.

ECVET is a system which can be used for all vocational education and training. Therefore ECVET is used in our approach to come to a comparison table. The comparison table has to be filled with learning outcomes in the three fields of competences needed to address in radiation protection training: knowledge, skills and competence.
ECVET is used for functions within Europe with an EQF of 1 up to 6 at the moment. Since the RPE is a EQF function category 6 or 7, it can be difficult to use the exact approach of ECVET. For the RPO there should be no difficulty, but this is outside the scope of this work package.

In the ENETRAP-II project learning outcomes for the RPE are delivered by work package 4 (WP4). In the final report of WP 4 [10] learning outcomes of different modules can be found. The learning outcomes are developed according to Blooms taxonomy, adapted for radiation protection training.
At the end of the ENETRAP2 project, the learning outcomes of the European reference training scheme are developed in ECVET style, with grading in EQF numbering (Appendix A). Each learning outcomes in WP4 is assigned to a certain field: knowledge, skills or competences (attitude). Therefore it makes more sense to use the EQF numbering instead of the grades of Table 1, but at the time of research the EQF levels were not known by the consortium.

At the moment, ECVET is in a developing stage. The real number of credits for one year of training is not yet defined. In future ECVET credit points can be used to compare different events in the field of radiation protection. The principle of ECVET that learning outcomes can be described in three different fields (knowledge, skills and competences (attitude) is used in the list of learning outcomes.

## 3.1 Knowledge based learning outcomes

For the comparison of the training material, a comparison table is developed [5]. Research is carried out to the usefulness of this table in the same report. The conclusion is that it can be used for the comparison

of training material. With the same grading method (Table 1) this table is proposed to use for the knowledge based learning outcomes. For the comparison table the description of the grades in the right column will be used (Table 3), since the description of both the middle and the right column in Table 1 can lead to confusion as they are not unambiguous.

Table 3    Proposed grades for the comparison of training events (knowledge part)

| Grade | Goal |
|-------|------|
| 0 | - |
| 1 | (basic) awareness of the subject |
| 2 | understanding of the subject |
| 3 | detailed understanding of the subject |

At the time of the research to come to a comparison table for the evaluation of training events, the EQF levels were not known by the ENETRAP2 consortium. Nowadays the EQF grades 1-8 are preferred above the grades 0-3 as mentioned in Table 3.


## 3.2    Skills and competence (Attitude) based learning outcomes

For the skills and competence based learning outcomes, the same grades as for knowledge cannot be used. Therefore, as already mentioned before, other grades are proposed in Table 2**Fout! Verwijzingsbron niet gevonden.**. For the comparison these grades cannot be used. It seems more obvious to use 'fulfilled' instead of 'necessary'. Also the grade optional is left out.

The ECVET [3],[4] approach asks for learning outcomes which are either knowledge, skills or competence based. Knowledge and skills can be acquired in training or education. Competence on the other hand is a personal profile, attribute or character, of which, if available, the development can be encouraged by on the job training (OJT) and work experience. For instance the ability to give advice or the ability to be responsible can be trained in  other types of training courses or workshops, but cannot reached by education and training alone.

Table 4    Proposed grades for comparison of training events (skills and competence part)

| Grade | Description |
|-------|-------------|
| + | Fulfilled |
| - | Not fulfilled |

At the time of the research to come to a comparison table for the evaluation of training events, the EQF levels were not known by the ENETRAP2 consortium. Nowadays the EQF grades 1-8 are preferred above the grades as mentioned in Table 4 for the skills and competence based learning outcomes.

# 4   Conclusions and further work

The proposed comparison table for learning outcomes consists, for this project, of the learning outcomes of WP4. In future also other existing learning outcomes can be used to fill the table.

For the comparison the training provider has to give each learning outcome a grade. For the knowledge based learning outcomes the grades of Table 3 have to be used, for the skills based learning outcomes the grades of  Table 4 have to be used.

For the competence based learning outcomes there is no comparison model, since these outcomes are personal and cannot be taught by training events alone.

When the ECVET approach will become clearer in the future, the credits based on learning outcomes can be used for the comparison.

The comparison table has to be filled with learning outcomes, where it can be tested for deliverable WD 5.4. For the test each training provider in work package 5 will be asked to fill in the comparison table.

At the end of the ENETRAP2 project, the table with learning outcomes of the ERPTS, developed in WD4.1 can be used as a list of learning outcomes. The EQF grades can be used to define the level of knowledge, skill or competence (attitude) that is reached by event. The mechanism as described above with using the learning outcomes of ERPTS module 1 together with the grades from the Dutch reference can still be used, when applying the other tables and grades.

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# References

[1]     Draft EURATOM Basic safety standards directive, Version 24 February 2010, final.

[2]     ECTS; http://ec.europa.eu/education/lifelong-learning-policy/doc48_en.htm

[3]     ECVET; http://www.ecvet-team.eu/

[4]     ECVET; http://ec.europa.eu/education/lifelong-learning-policy/doc50_en.htm

[5]     EQF; http://ec.europa.eu/education/lifelong-learning-policy/eqf_en.htm

[6]     ENETRAPII, Deliverable N°:5.1, Comparison Table for Training Material; I.H. van Elsäcker-Degenaar, F.S. Draaisma and M. Sutmuller; 107383hve NRG Petten; 2013.

[7]     Richtlijnen erkenning opleidingen deskundigen radioactieve stoffen en toestellen; Staatscourant 227; Den Haag; 20 november 1984 (see also Appendix of WD 4.1).

[8]     International atomic energy agency, IAEA PGEC basic syllabus; Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources, standard syllabus; training course series no 18; IAEA; 2002.

[9]     European Commission, EG Basic syllabus; Communication from the Commission concerting the implementation of Council Directive 96/29/Euratom laying down basic safety standards for the protection of the health of the workers and the general public against the dangers from ionising radiation; EC; 98/C 133/03; 1998.

[10]    WD4.1:, final report 2013, Define requirements and methodology for recognition of RPEs; P. Livolsi; CEA / INSTN France; 2013.

# Appendix A   The European Qualifications Framework for Lifelong Learning

| | KNOWLEDGE | SKILLS | COMPETENCE |
|---|---|---|---|
| | *In the context of EQF, knowledge is described as theoretical and/or factual.* | *In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).* | *In the context of EQF, competence is described in terms of responsibility and autonomy.* |
| LEVEL 1 | • basic general knowledge | • basic skills required to carry out simple tasks | • work or study under direct supervision in a structured context |
| LEVEL 2 | • basic factual knowledge of a field of work or study | • basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools | • work or study under supervision with some autonomy |
| LEVEL 3 | • knowledge of facts, principles, processes and general concepts, in a field of work or study | • a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information | • take responsibility for completion of tasks in work or study<br>• adapt own behaviour to circumstances in solving problems |
| LEVEL 4 | • factual and theoretical knowledge in broad contexts within a field of work or study | • a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | • exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change<br>• supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities |
| LEVEL 5[1] | • comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge | • a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems | • exercise management and supervision in contexts of work or study activities where there is unpredictable change<br>• review and develop performance of self and others |

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The Framework for Qualifications of the European Higher Education Area provides descriptors for cycles. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle.
[1] The descriptor for the higher education short cycle (within or linked to the first cycle), developed by the Joint Quality Initiative as part of the Bologna process, corresponds to the learning outcomes for EQF level 5.

| | | |
|---|---|---|
| **LEVEL 6**[2] | • advanced knowledge of a field of work or study, involving a critical understanding of theories and principles | • advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study | • manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts<br>• take responsibility for managing professional development of individuals and groups |
| **LEVEL 7**[3] | • highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research<br>• critical awareness of knowledge issues in a field and at the interface between different fields | • specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields | • manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches<br>• take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams |
| **LEVEL 8**[4] | • knowledge at the most advanced frontier of a field of work or study and at the interface between fields | • the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice | • demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research |

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[2] The descriptor for the first cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 6.
[3] The descriptor for the second cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 7.
[4] The descriptor for the third cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 8.

# Appendix B   Glossary[i]

**accreditation** (of programmes, institutions)
Process of accrediting an institution of education or training, a programme of study, or a service, showing it has been approved by the relevant legislative and professional authorities by having met predetermined standards. [EQF]

**assessment**
The sum of methods and processes used to evaluate the attainments (knowledge, know-how, skills and competences) of an individual, and typically leading to certification. [EQF]

**certificate/diploma**
An official document, issued by an awarding body, which records the achievements of an individual following a standard assessment procedure. [EQF]

**certification (of knowledge, skills and competences)**
The process of formally validating knowledge, know-how and/or skills and competences acquired by an individual, following a standard assessment procedure. Certificates or diplomas are issued by accredited awarding bodies. [EQF]

**comparability of qualifications**
The extent to which it is possible to establish equivalence between the level and content of formal qualifications (certificates or diplomas) at sectorial, regional, national or international levels. [EQF]

**competence**
Competence includes: i) cognitive competence involving the use of theory and concepts, as well as informal tacit knowledge gained experientially; ii) functional competence (skills or knowhow), those things that a person should be able to do when they are functioning in a given area of work, learning or social activity; iii) personal competence involving knowing how to conduct oneself in a specific situation; and iv) ethical competence involving the possession of certain personal and professional values. [TWG ECVET]

**credit points (or credits)**
Credit points are allocated to qualifications and to the units that constitute them. By agreement, they represent, in numerical form the volume of learning outcomes, the relative importance of each of the units that make up a qualification, in relation to the expected results, i.e. the knowledge, skills and competences that must be acquired and assessed, regardless of the learning pathway. [TWG ECVET]

**credit system**
A system of credits makes it possible to break down a qualification or the objectives of a programme of vocational education and training into units. Each unit is defined in terms of knowledge, competences and skills. It may be characterised by its size and relative importance, expressed in general by credit points (or credits) or other factors. Each unit can be validated and awarded separately. [TWG ECVET]

**ECTS**
The European Credit Transfer and Accumulation System (ECTS [2]) is a standard for comparing the study attainment and performance of students of  higher education across the European Union and other collaborating European countries. For successfully completed studies, ECTS credits are awarded. One academic year corresponds to 60 ECTS-credits that are equivalent to 1500–1800 hours of study in all countries irrespective of standard or qualification type and is used to facilitate transfer and progression throughout the Union.

**ECVET**
The European credit Transfer system for Vocational Education and training is a European system of accumulation (capitalisation) and transfer of credits designed for Vocational Education and Training (VET) in Europe. It enables the attesting and recording of the learning achievement/learning outcomes of an individual engaged in a learning pathway leading to a qualification, a vocational diploma or certificate.

**EQF**
The European Qualifications Framework is a common European reference framework which links countries' qualifications systems together, acting as a translation device to make qualifications more readable and understandable across different countries and systems in Europe. It has two principal aims: to promote citizens' mobility between countries and to facilitate their lifelong learning. The EQF has eight reference levels

**formal learning**
Learning that occurs in an organised and structured environment (in a school/training centre or on the job) and is explicitly designated as learning (in terms of objectives, time or resources). Formal learning is intentional from the learner's point of view. It typically leads to certification. [EQF]

**informal learning**
Learning resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning is in most cases unintentional from the learner's perspective. It typically does not lead to certification. [EQF]

**knowledge**
The facts, feelings or experiences known by a person or a group of people [EQF]

**learning outcomes**
Learning outcomes are statements of what a learner is expected to know, understand and/or be able to do, or is able to demonstrate, after completion of any learning process or at the end of a period of learning. [TWG ECVET]

**mobility**
The ability of an individual to move and adapt to a new occupational environment. [CEDEFOP]
module
A self-contained, formally structured learning experience. It should have a coherent and explicit set of learning outcomes, expressed in terms of competences to be obtained, and appropriate assessment criteria. [ECTS]

**non formal learning**
Learning which is embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support), but which contain an important learning element. Non-formal learning is intentional from the learner's point of view. It normally does not lead to certification. [EQF]

**qualifications**
Qualifications are a formal expression of knowledge, skills and wider competences of the individuals. They are recognised at local, national or sectorial level and, in certain cases, at international level.
A qualification is achieved when a competent body determines that an individual's learning has reached a specified standard of knowledge, skills and wider competences. The standard of learning outcomes is confirmed by means of an assessment process or the successful completion of a course of study. Learning and assessment for a qualification can take place through a programme of study and/or work place experience and/or any type of formal, non-formal or informal learning pathway. A qualification confers official recognition of value in the labour market and in further education and training. A qualification can be a legal entitlement to practice a trade. [TWG ECVET]

**recognition**
Formal recognition: the process of granting official status to skills and competences either -through the award of certificates or -through the grant of equivalence, credit units, validation of gained skills and/or competences and/or (b) social recognition: the acknowledgement of the value of skills and/or competences by economic and social stakeholders. [EQF]

**skill**
The knowledge and experience needed to perform a specific task or job. [EQF]

**transparency of qualification**
The degree to which the value of qualifications can be identified and compared on the (sectoral, regional, national or international) labour and training markets. [EQF]

**unit**
A unit is part of a qualification. It can be the smallest part of the qualification that can be evaluated, validated or certified. A unit can be specific to one particular qualification or common to several qualifications. The knowledge, skills and competences that make up the credit form the basis for the assessment and validation of people's outcomes. Units are validated at the end of the assessment of outcomes, the results of which must comply with the requirements of the qualification. [TWG ECVET]

**validation (of non-formal and informal learning)**
The process of assessing and recognising a wide range of knowledge, know-how, skills and competences, which people develop throughout their lives within different environments, for example through education, work and leisure activities. [EQF]

**valuing learning**
The process of recognising participation in and outcomes of (formal or non-formal) learning, in order to raise awareness of its intrinsic worth and to reward learning. [EQF]

**vocational education and training**
Education and training which aims to equip people with skills and competences that can be used on the labour market. [CEDEFOP]

**workload**
The workload includes all learning activities required for the achievement of the learning outcomes (i.e., lectures, practical work, information retrieval, private study, etc.). [ECTS]

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[i] (from [10])

[CEDEFOP] CEDEFOP (Philippe Tissot), Terminology of vocational training policy. A multilingual glossary for an enlarged Europe, Luxembourg 2004
[ECTS] Directorate-General for Education and Culture, ECTS users' guide. European Credit Transfer and Accumulation System and the Diploma Supplement, Brussels 2005
[EQF] Commission of the European Communities, Commission Staff Working Document. Towards a European Qualifications Framework for Lifelong Learning, 2005
[TWG ECVET] European Credit System for VET (ECVET). Technical Specifications (Report 2005 of the Credit Transfer Technical Working Group)