

WP1

1.1. State of the Art Report on Work-based learning



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Definitions

The definitions presented here are integrally quoted from the publication of Cedefop (2008) “Terminology of European education and training policy”.

Access to education and training: Conditions, circumstances or requirements (e.g. qualification, education level, skills or work experience, etc.) governing admittance to and participation in education and training institutions or programmes

Accreditation of an education or training programme: A process of quality assurance through which accredited status is granted to a programme of education or training, showing it has been approved by the relevant legislative or professional authorities by having met predetermined standards

Accreditation of an education or training provider: A process of quality assurance through which accredited status is granted to an education or training provider, showing it has been approved by the relevant legislative or professional authorities by having met predetermined standards.

Adult education: General or vocational education provided for adults after initial education and training for professional and/or personal purposes, and which aims to:

- provide general education for adults in topics of particular interest to them (e. g. in open universities);
- provide compensatory learning in basic skills which individuals may not have acquired earlier in their initial education or training (such as literacy, numeracy) and thus to;
- give access to qualifications not gained, for various reasons, in the initial education and training system;
- acquire, improve or update knowledge, skills or competences in a specific field: this is continuing education and training.

Comment: adult education is not synonymous with, continuing education and training.

Alternance training: Education or training combining periods in an educational institution or training center and in the workplace. The alternance scheme can take place

on a weekly, monthly or yearly basis. Depending on the country and applicable status, participants may be contractually linked to the employer and/or receive a remuneration.

Apprenticeship: Systematic, long-term training alternating periods at the workplace and in an educational institution or training center. The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation.

Assessment of learning outcomes: The process of appraising knowledge, know-how, skills and/or competences of an individual against predefined criteria (learning expectations, measurement of learning outcomes). Assessment is typically followed by validation and certification.

Competence: The ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development).

Curriculum: The inventory of activities implemented to design, organize and plan an education or training action, including the definition of learning objectives, content, methods (including assessment) and material, as well as arrangements for training teachers and trainers.

Formal learning: Learning that occurs in an organized and structured environment (e.g. in an education or training institution 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 validation and certification.

Informal learning: Learning resulting from daily activities related to work, family or leisure. It is not organized or structured in terms of objectives, time or learning support. Informal learning is in most cases unintentional from the learner's perspective.

Key skills / key competences: The sum of skills (basic and new basic skills) needed to live in contemporary knowledge society.

Learning by doing: Learning acquired by repeated practice of a task, with or without prior instruction.

Learning facilitator: Anyone who promotes the acquisition of knowledge and skills by establishing a favorable learning environment, including anyone exercising a teaching, training, supervision or guidance function. The facilitator helps the learner develop

knowledge and skills by providing guidelines, feedback and advice throughout the learning process.

Learning outcomes: The set of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process, either formal, non-formal or informal.

Mentoring: Guidance and support provided in a variety of ways to a young person or novice (i.e. someone joining a new learning community or organization) by an experienced person who acts as a role model, guide, tutor, coach or confidante.

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).

Skills audit: Analysis of knowledge, skills and competences of an individual, including his or her aptitudes and motivations to define a career project and/or plan professional reorientation or training project.

Teacher: A person whose function is to impart knowledge, know-how or skills to learners in an education or training institution.

Trainer: Anyone who fulfills one or more activities linked to the (theoretical or practical) training function, either in an institution for education or training, or at the workplace.

Training needs analysis: A systematic analysis of present and future skills needs against the skills available to implement an efficient training strategy.

Tutoring: Any activity offering a learner guidance, counselling or supervision by an experienced and competent professional. The tutor supports the learner throughout the learning process (at school, in training centers or on the job).

Validation of learning outcomes: Confirmation by a competent body that learning outcomes (knowledge, skills and/or competences) acquired by an individual in a formal, non-formal or informal setting have been assessed against predefined criteria and are compliant with the requirements of a validation standard. Validation typically leads to certification.

Introduction

A lack of workplace experience and related skills and competences is one of the main factors contributing to the "skills gap" in the EU. While millions of young people in the EU are unemployed, employers report that they struggle to find new recruits with the skills they need. The need to identify, adapt and adopt practices which can tackle this skills gap is urgent.

Part of the solution can be found in the vocational education and training (VET) systems, in which the active participation of employers and a strong element of work-based learning facilitate young people's transition to work by providing the knowledge, skills and competences which they need for a successful first step into the labor market. Schools or training centers have the main responsibility for creating close to real life or real life working environments.

Countries with strong and attractive VET systems, and notably those with well-established apprenticeship systems, tend overall to perform better in terms of youth employment.

"Work-based learning (WBL) is an educational strategy that provides students with real-life work experiences where they can apply academic and technical skills and develop their employability." It is a series of educational courses which integrate the school or university curriculum with the workplace to create a different learning paradigm. WBL merges theory with practice. It encompasses formal, non-formal and informal arrangements including apprenticeships, work placement and/or informal learning on the job. The key driver is an active policy that secures a learning way that meets the need of the workplace.

Besides the countries composing the WOW's consortium that will feed this State-of-the-Art report, such as Romania, Hungary, Italy, Portugal and United Kingdom and other countries were considered of interest to be framed and reported in this document. These countries are Germany and Netherlands. The first, for being considered an example on the provision of apprenticeships on due to its regulated framework; the latter for having quality assurance arrangements to perform accreditation of companies willing to provide work-based learning.



Having as reference a study from the European Commission (2013¹), some features of these approaches are presented below.

Concerning the *apprenticeships or alternance schemes*, the apprenticeships are weekly, monthly or early-based. The student is periodically evaluated for progress as per the skills and knowledge acquired. Apprentices may hold a contract and receive a remuneration, they receive training leading to a specific occupation and social partners take responsibility for the quality of the company-based training of the apprentice.

Regarding the *on-the-job training periods in companies*, usually encompass internships, work placements and traineeships (compulsory or optional), representing around 25% - 30% of the training programme.

On the other hand, a segment of *work-based learning in a school-based programme* aims to introduce students to real life context, by delivering real-life or real-business assignments, using simulations, laboratories or any other equipment/facilities resembling real work environments. The student learns in a realistic environment and gets the opportunity to apply his/her knowledge in real world scenarios.

A good WBL governance means creating a cost-benefit ratio that encourages employers to get involved. The ratio depends on many aspects: the duration of the WBL training and the time actually spent in the workplace, the regulations regarding salaries, benefits and social security contributions, the needs in terms of facilities, equipment, materials and the possibilities for the employer to engage the learner in productive tasks. Work-based learning can only exist in a country if companies buy into this concept and offer apprenticeship places, student placements or cooperate with schools. Stimulating the creation of apprenticeships and placements is a key challenge in many European countries that wish to upscale their WBL practices within initial VET. For work-based learning to be an integrated element of VET and for employers to contribute to cost-sharing, there needs to be a governance structure in place in which employers can make sure that their needs are reflected. VET systems which have strong work-based learning pathways (in countries such as Germany) also have VET governance structures that reflect the division of responsibilities. If in Austria, Denmark and Germany, work-based learning (typically apprenticeships) predominates, reaching more than 30% of students. In countries such as Spain, Portugal, Hungary, Italy or Romania and these programmes are less common.

Efforts are needed to invest in expanding the offer of apprenticeships and traineeships in countries where opportunities for this type of learning remain very limited. This led to the need of a better evaluation of the actual system, aimed by this WP.

State of the Art Report on EQF and Work-based learning

1. Romania

1.1. NQF vs EQF

Romania formally adopted, through Governmental Decision Law 918/2013, published on November the 28th 2013.

Through this document, Romania did approve the NQF with the 8 levels (by implementing the EQF) which can be obtained both through the formal education and professional education system and also through recognizing the learning results / outcomes obtained through learning in non-formal and informal context, having in mind the life-long learning perspective. At the same time, the document approves the correspondence between the various NQF levels, the proving documents that one can get according with the NQF levels and the corresponding EQF.

There is a direct correspondence between the Romanian NQF and the EQF level descriptors. The highest level, i.e. the 8th level is associated with post-doctoral studies – see the table below.

Levels of Qualification	Knowledge	Skills	Competences
Level 1	General basic knowledge	General basic skills for accomplish a simple task	Work/study under direct supervision in a structured context
Level 2	Basic factual knowledge in a working/study area	Basic cognitive and practical skills needed for the application of the adequate information to the accomplishment of tasks and current problem solving through simple rules and instruments	Work/study under direct supervision with some autonomy
Level 3	knowledge of facts, principles, processes and general concepts in a study/work area	Range of cognitive and practical skills necessary for the task accomplishment and problem solving through selection and application of instruments, materials and basic information	Taking responsibility for executing tasks in a study/work area. Adapt the behavior to circumstances in order to solve problems

Levels of Qualification	Knowledge	Skills	Competences
Level 4	Factual and theoretical knowledge in broad contexts within a field of study/work	Range of cognitive and practical skills necessary for the conceiving for specific problem solving in a study/work area	Manage own work within the guidelines established in the context of study/work, usually predictable but liable to change. Supervise the routine work of third parts and taking responsibilities in terms of evaluation and activity improvements in study/work contexts
Level 5	Comprehensive, expertise, factual and theoretical knowledge in a study/work area and awareness of the knowledge limits	Large range of cognitive and practical skills for conceiving creative solutions for abstract problems	Manage and supervise in study/work contexts subject to unpredictable changes. Revise and develop the thirds development
Level 6	Deep knowledges for a specific study/work area which demands an critical comprehension of theories and principles	Advanced skills which show mastery and innovation for complex and unpredictable problem solving in a study/work specialized area	Management complex technical or professional activities or projects, taking the responsibility for decision making in unpredictable study/work contexts. Taking responsibilities in management for individual, professional and collective development
Level 7	Highly specialized knowledge, some of them are in the forefront of some study/work knowledge, that underpin the capacity for original thinking	Specialized skills for problem solving in terms of investigation and innovation, to develop new knowledges and procedures in order to integrate them in different areas	Manage and transform study/work complex and unpredictable contexts which demand new strategies. Taking responsibilities in order to contribute to new knowledges and professional practices and/or review the strategic team performances
Level 8	Cutting-edge knowledge's at the forefront in a study/work area and in the interconnection of areas	The most advanced and specialize techniques, including synthesis and evaluation skills, necessary to solve critical problems in the investigation and innovation areas, for the enlargement and redefinition of the existing professional practices	Demonstrate a considerable level of authority, innovation, autonomy, scientific and professional integrity and assume a sustained commitment regarding the development of new ideas or processes in the forefront of study/work contexts, including the investigation field

Table 1 -The EQF levels descriptors which are formally adopted by the Romanian NQF

The three Romanian NQF level descriptors are the same with the EQF ones and also similar to the European / Portugal ones (see table below).

Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Theoretical - Practical 	<ul style="list-style-type: none"> - Cognitive – implies the use of logical, intuitive and creative thinking or practical (requires manual dexterity and the usage of methods, materials, tools and devices 	<ul style="list-style-type: none"> - Implies responsibility and autonomy

Table 2 - The Romanian NQF level descriptors

A correspondence to the EQF levels including the diplomas / study papers that are to be issued, the education and training program types as well as the pre-requisites to attend to those is also formally adopted in Romania through the same decree law and the development and operationalization of the ECVET system is presented in the 2014-2020 national education and training strategy. The expected time for practical arrangements of the ECVET is 2020.

The above mentioned law was modified through another Governmental Law, i.e. 567/2015 which modified the Annex that presents the correspondence between the RO NWF levels, the various study diplomas / certificates, the types of RO education and professional education / VET programs through which one can obtain the specific NQF level, the corresponding EQF levels, but also the required accessing conditions specific for each NQF, as presented in the table below.

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
1	1	Graduation diploma	Basic education / education unit	Graduates of gymnasium education according to art. 75 par. (1) of the National Education Law no. 1/2011, as amended and supplemented	Is not the case	1
2	1	Certificate of graduation and descriptive supplement of the certificate	Approved Vocational Training Provider ¹ / Vocational Training Program ²	Adults 3 who passed the vocational training exam defined in art. 7 par. (2) of the Government	At least primary education	1

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
				Ordinance no. 129/2000 regarding the vocational training of adults, republished		
3	1	Certificate of professional competence	Approved Occupational Appraisal Center 4	Adults 3 declared competent in the evaluation process according to the procedure for evaluation and certification of vocational competences obtained in ways other than the formal ones provided in art. 45 par. (4) of the Government Ordinance no. 129/2000, republished	At least primary education	1
4	2	Certificate of qualification / graduation and descriptive certificate supplement	Approved Vocational Training Provider1 / Vocational Training Program5	Adults 3 who have passed the examination for graduation of the vocational training courses, according to the Government Ordinance no. 129/2000, republished, for practicing an occupation requiring a level 2 qualification	At least secondary education	2
5	2	Certificate of professional competence	Approved Occupational Appraisal Center 4	Adults 3 who have been declared competent for all occupational skill levels in the occupational standard or vocational training standard following the evaluation process under the procedure for the assessment and certification of vocational competences obtained in ways other than the formal ones referred to in Art. 45 par. (4) of the Government Ordinance no.	At least secondary education	2

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
				129/2000, republished, for practicing an occupation requiring a Level 2 qualification certificate		
6	2	Qualification certificate / Certificate of professional competence and descriptive certificate supplement 6	Accredited assessment center 7	Adults 3 who have been declared competent for all competency units in the Occupational Standard or Vocational Training Standard, following the evaluation process under the procedure for the assessment and certification of professional skills obtained in non-formal learning 6, to practice an occupation requiring a Level 2 qualification certificate	At least secondary education	2
7	2	Certificate of qualification and descriptive supplement of the certificate	Approved Vocational Training Provider1 / Workplace apprenticeship training program	Adults 3 who have concluded an apprenticeship contract8 for a level 2 qualification and who have passed the examination for graduation of the vocational training courses, according to the Government Ordinance no. 129/2000, republished	At least secondary education	2
8	3	Certificate of qualification and descriptive supplement of the certificate	Educational / vocational education unit of at least 3 years	Persons who have completed professional education lasting at least 3 years, completed with an examination of certification of professional qualification, according to art. 33 of Law no. 1/2011, as amended and supplemented	Secondary education	3

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
9	3	Certificate of qualification and descriptive supplement of the certificate	Education / training program organized in a dual system	Graduate graduates of general compulsory education who have not completed or interrupted their studies and who have completed up to 18 years of a dual-year training program of at least 3 years with an examination of professional qualification certification , according to art. 33 of Law no. 1/2011, as amended and supplemented	Compulsory education	3
10	3	Certificate of qualification and descriptive supplement of the certificate	Unit of education / training through technological, vocational highschool	Persons who have completed the first two years of high school, technological or vocational course, who have completed the practical training with a certificate of professional qualification certification, according to art. 32 par. (3) of the Law no. 1/2011, as amended and supplemented	Two years of high school (technological or vocational) or "Second Chance" lower secondary education	3
11	3	Certificate of qualification / graduation and descriptive certificate supplement	Approved Vocational Training Provider1 / Vocational Training Program 5	Adults 3 who passed the examination for graduation of a vocational training course, according to the Government Ordinance no. 129/2000, republished, for practicing an occupation requiring a level 3 qualification	Secondary or general compulsory education	3
12	3	Certificate of professional competence	Approved Occupational Appraisal Center 4	Adults 3 who have been declared competent for all occupational skill levels in the occupational standard	Secondary or general compulsory education	3

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
				or vocational training standard following the evaluation process under the procedure for the assessment and certification of professional skills acquired in non-formal learning ⁹ to practice an occupation requiring a Level 3 qualification certificate		
13	3	Qualification certificate / Certificate of professional competence and descriptive certificate supplement 6	Accredited assessment center 7	Adults 3 who have been declared competent for all competency units in the Occupational Standard or Vocational Training Standard, following the evaluation process under the procedure for the assessment and certification of professional skills obtained in non-formal learning 6, to practice an occupation requiring a Level 3 qualification certificate	Secondary or general compulsory education	3
14	3	Certificate of qualification and descriptive supplement of the certificate	Approved Vocational Training Provider ¹ / Workplace apprenticeship training program	Adults 3 who have completed an apprenticeship contract ⁸ for a level 3 qualification and have passed the examination for graduation of the vocational training courses according to Government Ordinance no. 129/2000, republished	Secondary or general compulsory education	3
15	4	High school diploma	Unit of education / training through theoretical, technological, vocational	Graduates of high school education who have passed the baccalaureate exam 10	High school, theoretical, technological or vocational education	4

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
16	4	Certificate of qualification and descriptive supplement of the certificate	Unit of education / training by technological or vocational high school	Graduates of high school education who passed the professional qualification certification exams ¹⁰	High school or technological or vocational education	4
17	4	Certificate of qualification / graduation and descriptive certificate supplement	Approved Vocational Training Provider ¹ / Vocational Training Program 5	Adults 3 who have passed the examination for graduation of vocational training courses, according to the Government Ordinance no. 129/2000, republished, for practicing an occupation requiring a level 4 qualification	No degree High school	4
18	4	Certificate of qualification and descriptive supplement of the certificate	Approved Vocational Training Provider ¹ / Workplace apprenticeship training program	Adults 3 who conclude a apprenticeship contract ⁸ for a level 4 qualification and who passed the vocational training graduation exam, in accordance with Government Ordinance no. 129/2000, republished	No degree High school	4
19	5	Certificate of qualification and descriptive supplement of the certificate	Unit / Institution of education alone or in partnership with vocational training providers authorized for this purpose / training through post-secondary education	Graduates who passed the Level 5 ¹¹ Professional Qualification Certification Exam	High school education with or without a diploma	5
20	5	Diploma of graduation / qualification and descriptive supplement of the certificate	Higher education institution alone or in partnership with vocational training providers licensed for this purpose who have passed the examination	Graduates of short-term university education who passed the certification exam	High school education with a diploma ⁸	5
21	6	Bachelor's degree, engineer's diploma, urbanist	Higher education institution / bachelor degree programs	Graduates of undergraduate studies with the passing of the Bachelor's degree examination ¹³	High school education, with the passing of the	6

No.	Qualification level NQF	The study document that is issued	Issuer / program graduated formally	Beneficiaries	Conditions for access to the qualification level	EQF
		diploma, diploma supplement 12			baccalaureate exam 14	
22	6	Certificate of professional competence attestation 15	Institution of accredited higher education / postgraduate studies 16	Graduates of postgraduate programs of continuous training and development	Undergraduate studies 17	6
23	6	Graduation certificate 18	Institution of accredited higher education / postgraduate studies 15	Graduates of postgraduate programs of training	Short-term higher education or bachelor's degree or equivalent 19	6
24	7	Master's degree and diploma supplement 20	Institution of accredited higher education / university degree p	Graduates of master university studies supporting the dissertation thesis 21	Bachelor's degree studies with the passing of the Bachelor's Exam 22	7
25	8	Doctor's degree 23	IOSUD / doctoral degree programs	Graduates of doctoral studies with public support of doctoral thesis 24	Master's or equivalent university studies, promoting the dissertation work 25	8
26	8	Certificate of Postdoctoral Studies 26	Accredited doctoral school 27 / Postdoctoral studies programs	Graduates of doctoral studies 18	Doctoral studies 28	8

Table 3 - Romanian NQF in detail and the corresponding EQF levels

- 1 According to art. 21 par. (1) of the Government Ordinance no. 129/2000, republished.
- 2 According to art. 8 par. (3) lit. a) of the Government Ordinance no. 129/2000, republished.
- 3 According to art. 1 of the Government Ordinance no. 129/2000, republished.
- 4 According to art. 45 par. (1) of the Government Ordinance no. 129/2000, republished.
- 5 According to art. 8 par. (3) lit. b) and c) of the Government Ordinance no. 129/2000, republished.
- 6 According to art. 348 par. (2) of the Law no. 1/2011, as amended and supplemented.
- 7 According to art. 348 par. (1) of the Law no. 1/2011, as amended and supplemented.
- 8 According to Law no. 279/2005 on apprenticeship at the workplace, republished.
- 9 Provisions in Art. 45 par. (4) of the Government Ordinance no. 129/2000, republished.
- 10 According to art. 77 of Law no. 1/2011, as amended and supplemented.
- 11 According to art. 23 par. (1) lit. d) of Law no. 1/2011, as amended and supplemented.
- 12 According to art. 152 of the Law no. 1/2011, as amended and supplemented.
- 13 According to art. 143 par. (1) lit. a) of Law no. 1/2011, as amended and supplemented.
- 14 According to art. 151 par. (1) of the Law no. 1/2011, as amended and supplemented.
- 15 According to art. 173 par. (6) of the Law no. 1/2011, as amended and supplemented.
- 16 According to art. 173 par. (1) of the Law no. 1/2011, as amended and supplemented.
- 17 According to art. 173 par. (5) of the Law no. 1/2011, as amended and supplemented.
- 18 According to art. 173 par. (7) of the Law no. 1/2011, as amended and supplemented.
- 19 According to art. 173 par. (51) of Law no. 1/2011, as amended and supplemented.

- 20 According to art. 157 of the Law no. 1/2011, as amended and supplemented.
- 21 According to art. 143 par. (1) lit. b) Law no. 1/2011, as amended and supplemented.
- 22 According to art. 156 of Law no. 1/2011, as amended and supplemented.
- 23 According to art. 169 of Law no. 1/2011, as amended and supplemented.
- 24 According to art. 143 par. (1) lit. c) of Law no. 1/2011, as amended and supplemented.
- 25 According to art. 163 of Law no. 1/2011, as amended and supplemented.
- 26 According to art. 172 par. (5) of the Law no. 1/2011, as amended and supplemented.
- 27 According to art. 172 par. (2) of the Law no. 1/2011, as amended and supplemented.
- 28 According to art. 172 par. (1) lit. a) of Law no. 1/2011, as amended and supplemented.

1.2. Work-based Learning features

In the Romanian national context, apprenticeship is not considered as part of an Initial vocational education and training (IVET). One reason for this at the very beginning was the legal requirements for enterprises deriving from apprenticeship contracts (6) (which have been defined as a special type of labour contracts involving both work as well as vocational training at the workplace). Apprenticeship is organised for persons that want to work and to obtain a qualification (young people that dropped out from school, unemployed, long term unemployed adults). There is no upper age limit for enrolment, but there is a minimum age limit of 16 years old, the legal working age. The apprenticeship program includes theoretical and practical long-term training (one to three years), resulting in qualifications at NQF/EQF levels 2-4. The Romanian WBL is mainly associated starting with the higher secondary level of education (age 15+) and is applied to various education schemes as presented in the figure below.

According to the RO VET Country report 2016, the WBL is mainly applied with:

- *the upper secondary education, which can be:*
 - *I. high school programmes (grades 9-12/13) (see 2.2.1.1.2.a) granting access to higher education:*
 - *1. general programmes (sciences and humanities),*
 - *2. programmes with work-based learning (WBL) component of 10-20% of the total programme (military, theological, sports, artistic, and pedagogic qualifications) – these programmes are referred to as ‘vocational’ in the national context, but are not actually considered to be part of IVET (see 2.2.1.1.2),*

- *Mechanics – Industrial design technician;*
- *Mechatronics and Informatics – Mechatronics technician;*
- *Electronics – Computing technical operator;*
- *Constructions, installation, architecture and systematization – Construction technician, plumbing technician, drawing technician designer;*
- *Wood industry – Furniture designer;*
- *Agricultural and alimentary – Agronomist technician, floriculturist technician;*
- *Environmental protection – Meteorologist technician, environmental protection technician;*
- *Tourism – Banqueting organizer, hotel technician, gastronomy technician;*
- *Textile and skins – Textile technician;*
- *Text and image processing – Polygraphic production technician;*
- *Economics – technician in administration.*

b) upper secondary ‘school- and work-based VET’ programmes (‘professional training’ programmes - învățământ profesional) are available after the completion of the 8th or 9th grade and last two or three years.

Upon successful completion graduates can acquire a qualification certificate at level 3 NQF/EQF (skilled worker). Studies are free of charge if completed until the age of 18 years. ‘School - and work-based programme’ is the pathway providing IVET in close cooperation with companies. To ensure alignment of state-funded VET provision with labour market needs, prior to the approval of the number of students funded by governmental funds, every school is required to submit to the School inspectorates’ framework contracts with companies that will provide workplace to students (based on the Order of the Ministry of Education no. 3539/14.03.2012).

These framework contracts establish clear responsibilities for both school representatives and their partner companies concerning:

- *students’ training during the workplace learning component (practical training);*

- *technical and human resources to be provided by the company, that are necessary for students' training and their certification exams.*

The share of work-based learning (practical training in schools' laboratories or in companies) is significant:

- *for the 2-year 'school- and work-based VET' programme (starting after the 9th grade):*
 - *In the 1st year, WBL represents 60% of the total number of hours, including 6 weeks in the company;*
 - *In the 2nd year, WBL represents 75% of the total number of hours, including 5 weeks in the company;*
- *for the 3-year 'school- and work-based VET' programme (starting after the 8th grade)*
 - *in the 1st year, WBL represents 20% of the total number of hours, including 5 weeks in the company;*
 - *In the 2nd year, WBL represents 60% of the total number of hours, including 9 weeks in the company;*
 - *In the 3d year, WBL represents 72% of the total number of hours, including 10 weeks in the company;*

The data regarding the evolution of WBL implementation framework 2013-2016 is presented in the same report:

- *2013-14, 12 693 places were offered by 481 schools in 74 qualifications based on 1.878 partnerships with employers.*
- *2014-15, 651 school units have offered the programmes and have established partnerships agreements with 2.664 employers for more than 35.740 students for 79 qualifications*
- *2015-16, there were 34.984 young students enrolled in 'school and work-based VET' programmes.*
 - *Examples of qualifications offered include:*
 - *Mechanics – Welder, miller, roller, locksmith, tinman, car mechanic;*
 - *Mechatronics and Informatics – Fine mechanic worker*

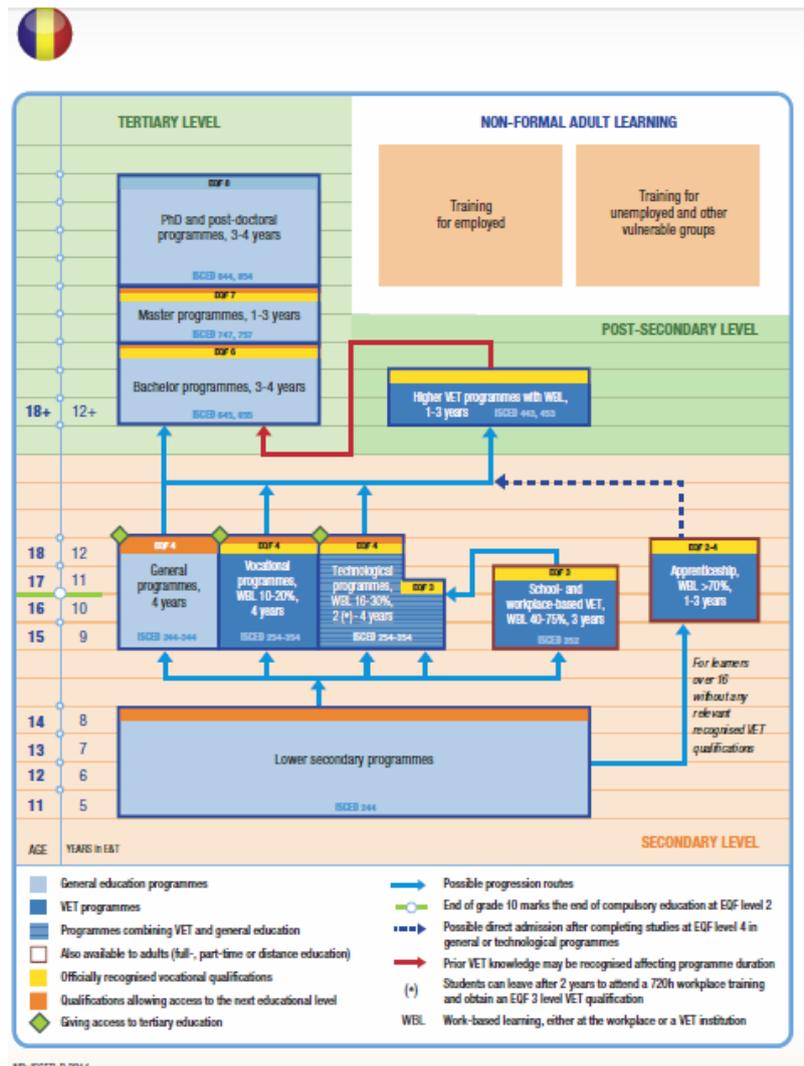


Table 4 - VET in Romania's Education and training system

Source: Spotlight on VET Cedefop - Anniversary Edition, 2015, VET in Romania's education and training system

- *Electronics – Electronics worker;*
- *Constructions, installation, architecture and systematization – Carpenter, plumber;*
- *Agricultural and alimentary – Farmer, pisciculturist, animal husbandry;*
- *Tourism – Baker, pastry maker, hotels worker*
- *Textile and skins – Spinner, weaver;*
- *Text and image processing – Printing worker. (c) post-secondary VET and foremen education through tertiary non-university*

programmes (postliceu). They last for one to three years after completi

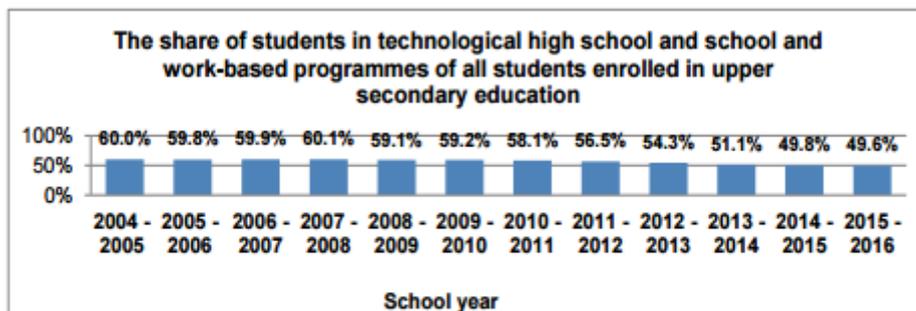
Post-secondary VET programmes provide an opportunity for advanced vocational training for the graduates of upper secondary schools (including those who do not hold the baccalaureate diploma).

Examples of qualifications offered through post- secondary programmes include:

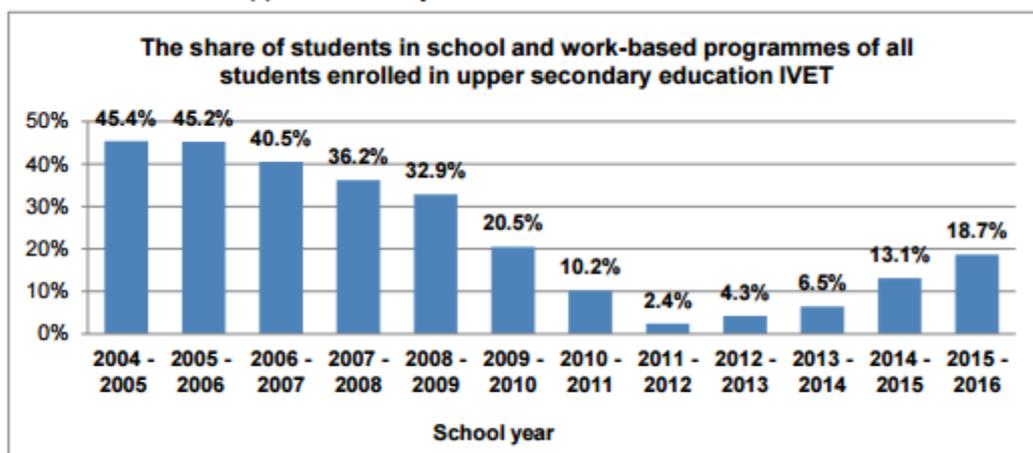
- *Mechanics – Optician;*
- *Mechatronics and Informatics – Local networks and communication administrator, analyst programmer*
- *Electronics – Automation equipment technician, infrastructure of telecommunication networks technician;*
- *Constructions, installation, architecture and systematization – Constructions topographer, constructions and architecture designer, treasurer expert in science of commodities for constructions materials and installations, renovation and building repair designer, constructions entrepreneur;*
- *Transport – Inventory assistant in transport, railroad agent, waterside / harbour operator*
- *Wood industry – Gauger - taskmaster in wood industry, restaurateur of (pipe) organ and handcrafted carpentry;*
- *Agricultural and alimentary – Mountain agritourism technician;*
- *Environmental protection – Meteorologist technician, environmental protection technician;*
- *Services – Interior decoration designer, cosmetician, stylist, librarian, private detective;*
- *Tourism – Tourism agent – guide, inventory assistant in accommodation and alimentation units, events organizer;*
- *Textile and skins – Creator, costume designer;*

- *Text and image processing – Audio-video processing operator, techno editor, cameramen - photo reporter, publicity designer, publicity editor, image and communication expert, image editor;*
- *Economic – Commercial agent, inventory assistant, bank clerk, fiscal agent, broker, customs agent.*

The WBL framework share of the education system in Romania presented a decrease in the last years due to frequent changes in the Education Law. This was changed in 2014-15 after returning to the three-year programmes that admit students after completion of lower secondary education (after 8th grade). The important variations are presented below.



Source: National Institute of Statistics



Source: National Institute of Statistics

Regarding the WBL arrangements for higher education system in Romania one can notice that traineeships for higher education graduates are foreseen by the Labour Code (Law no.52/2003 with subsequent changes) for the first six months after graduation, with the exception of professions for which special legislation provides differently (e.g. doctors

and other medical personnel, lawyers, notaries). Conditions for this form of training are set by Law no.335/2013.

In Romania, IVET qualifications (technological programmes, ‘school- and work based VET programmes and post-secondary VET) are delivered based on the training standards, which are developed in close cooperation with the social partners and are validated by the Sectoral Committees. All IVET qualifications and their duration are registered in the National Qualification Register and are approved by law.

Romania has not yet included reference to the NQF/EQF levels in its qualification documents.

2. Hungary

2.1. NQF vs EQF

Primary education is provided in 8-grade single structure schools comprising primary and lower secondary education. Primary education comprises grades 1 to 4, while lower secondary education comprises grades 5 to 8. However, upper-secondary schools are also allowed to offer secondary programmes comprising lower and upper secondary levels, covering grades 5 to 12 or grades 7 to 12. The successful completion of grade 8 provides primary (educational) qualification. After completing primary school, students may continue their studies in an upper-secondary school: in general secondary schools, vocational secondary schools or vocational schools.

The entrance examinations to upper-secondary schools are centrally organized. Students who were not admitted to any upper-secondary school or who cannot finish grade 8 but are still school-age students may participate in a Bridge Programme which prepares them to continue studies in a vocational school. Bridge Programmes last one year.

General secondary school provides general education in usually 4 years, and prepares for the secondary school leaving examination. Its main goal is to prepare for the continuation of studies in higher education, but students may also continue to study in vocational education programmes requiring secondary school leaving certificate for entry. The secondary school leaving examination is a state examination, which is also part of the entrance examination to higher education institutions.

In Hungary only those qualifications recognized (and regulated) by the State are linked to EQF levels, but the framework is open to linking the learning outcomes achieved in non-formal and informal setting in a later stage of development.

The national register of VET qualifications and the current revision of professional and examination requirements in VET, as well as continuing fine-tuning in the cycle system and the focus of regulation towards outcomes in higher education in the Bologna process, contribute to the establishment of a single comprehensive NQF.

At present, dual vocational training has two pillars: education in schools and practical training, organized by enterprises and other organisations. The construction of the third pillar, a systematic development of a special training centres over firms is a future task. The chamber has a significant role in mediating between the two pillars and promoting the processes.

The base of the Hungarian dual education system is the German system but the main difference between the two systems is that while in Germany training is dominated by the employer, in Hungary the student legal status prevails. By strengthening dual training in Hungary, due to positive legislative changes, including the guarantee provided by the chamber, significant steps were taken to improve the domination of employers.

The student learning the trade first enrolls in a vocational school, and then is placed at a practical training firm outside the school. By organizing practical training via apprenticeships contracts, with its activities related to the guarantee, the chamber has an invaluable role.

Therefore the student can participate in practical training in the following forms:

- based on an apprenticeships contract, or
- based on an agreement for cooperation, or
- in the training workshop of the school

Apprenticeships contract

An apprenticeship contract can be concluded with a student, who:

- participates in school-based vocational education in an institution of general education with a registered seat in Hungary, within the framework of school

education, for the purpose of preparation for a first or second qualification recognised by the state, entitled to state budget subsidization,

- -meets the health care and vocational amplitude requirements set forth for the given qualification in legislation.

Cooperation agreement

In case of practical training within the framework of a cooperation agreement, the organiser of the practical training is the school, which is responsible for the appropriate preparation of the student. The conclusion of the cooperation agreement, compared to the apprenticeship contract, is less likely. This is mainly due to the fact that the legal status of the apprenticeship is a lot more favourable for the student, the organization and whole economy.

An agreement can be concluded in the following cases:

- in case the duration of the practical training is less than 40 per cent in the vocational and examination requirements,
- in case the practice is supplementary, for maximum 40 per cent of the training duration set forth in the framework curriculum,
- in case the practice is performed at a budgetary organ,
- in case it is concluded for an uninterrupted practical training.
- in case no apprenticeship contract can be concluded.

A cooperation agreement, unlike the apprenticeship contract, can be concluded in grades 9-12 of secondary vocational schools. A significant element of the law amendment in 2015 was that remuneration has to be paid not only for the uninterrupted apprenticeship period of the 13th grade, but for similar periods of the 9-12th grades as well.

The economy and vocational education and training cannot be separated. Dual training can only work through the close cooperation of a productive economy, a regulatory state and the school system. Therefore, it is essential that vocational schools train their students in accordance with labour market needs, and to involve enterprises in vocational education and training even more.

The quality of apprenticeship

In accordance with the relevant legislation, each tradesman pursuing practical training at an external organization has to own a master craftsman certificate from September 1st, 2015.

A waiver of this obligation can be given when the instructor has sector-relevant higher education degree and 2 years of experience, or non-sector relevant higher education degree and 5 years of experience, or is over 60 years of age. For the instructors who have not acquired the master craftsman certificate, the law allows that if they made a declaration until August 31st, 2015 that they start the master craftsman training until the next year, they can still pursue their instructor activities after the deadline September first.

2.2. Work-based Learning features

Overall responsibility for the development and implementation of the NQF is shared between the Ministry of Human Resources and the Ministry of National Economy. The conceptualisation of an NQF started in early 2006 under the Ministry of Education and Culture (now part of the Ministry of Human Resources) and the Ministry of Social Affairs and Labour (whose responsibilities are now transferred to the Ministry of National Economy). In June 2008 the government adopted a decision (No 2069/2008) on the development of an NQF for lifelong learning and on joining the EQF by 2013 (4). During 2008-10 the NQF developments were taken forward as part of the social renewal operational programme of the new Hungary development plan (2007-13), mostly funded by the European Social Fund (ESF) and European Regional Development Fund (ERDF) (5). A new government decision (No 1004/2011) was adopted in January 2011, which further supports the establishment of a Hungarian qualifications framework to be referenced to the EQF. Based on this decision, the relevant ministries worked together to create – in their respective fields of competence – the necessary legal, financial and institutional conditions for implementing the NQF.

Grid of the NQF in Hungary/HuQF/

HuQF is featured as a competence-framework. Competence is generally defined in pedagogy and learning research as consisting of integrated pieces of knowledge, skills

and attitudes. HuQF applies these elements and complements the descriptors with an element that features the situations in which competences are mobilized.

the knowledge descriptor in the HuQF can be described as declarative knowledge. The information and facts stored as declarative knowledge can be accessed consciously and explicitly. In terms of the HuQF, the following aspects may be used as starting points for describing the different levels of knowledge: depth of knowledge (the number of schemata possessed by the person), organisation of knowledge (the relations and the number of connections between the schemata), extension of knowledge (the size of the field of work covered by the schema system), flexibility (how flexibly the knowledge can be applied in different situations), plasticity (to what extent can the knowledge structure accept new information).

In the case of HuQF, the following aspects may be used for describing the levels of skills: motoric skills, domain-general skills, domain-specific skills.

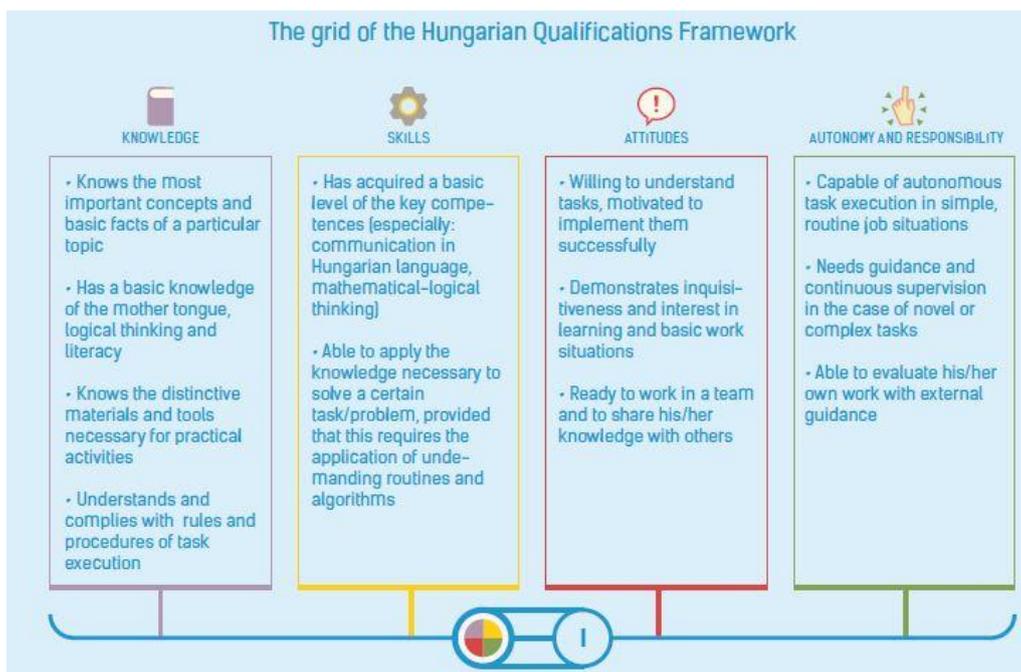


Figure 1 - Hungarian qualifications framework - 1

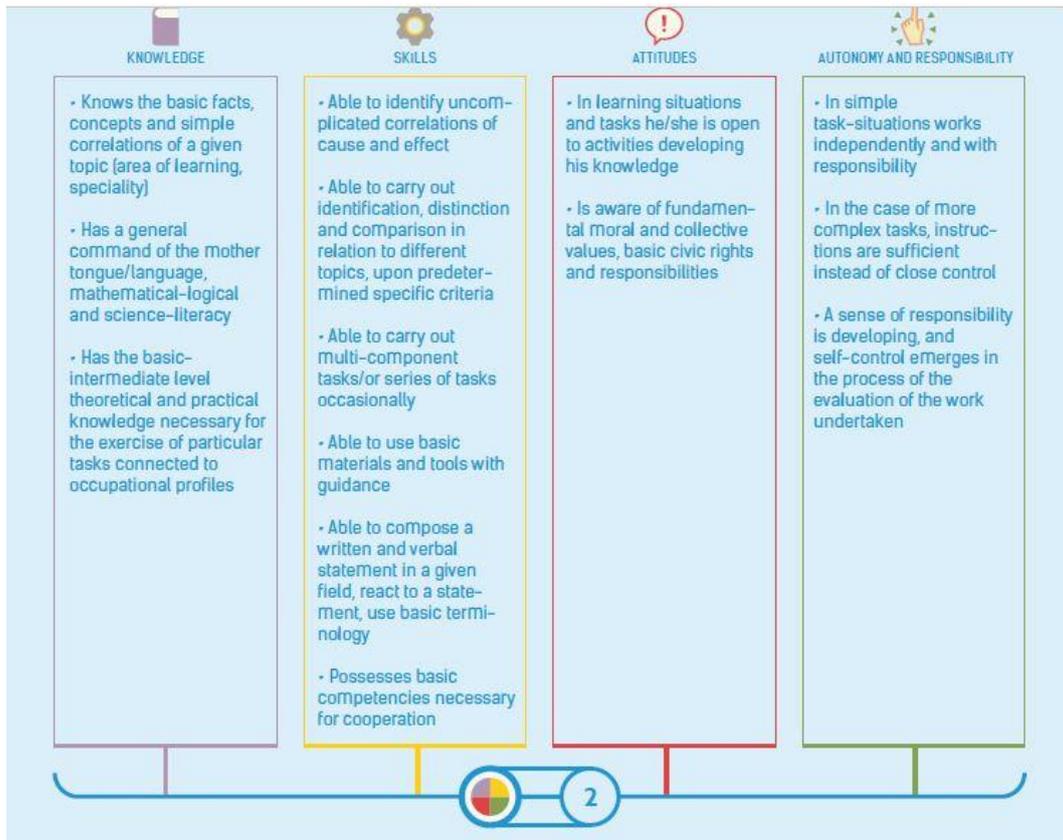


Figure 2 - Hungarian qualifications framework - 2

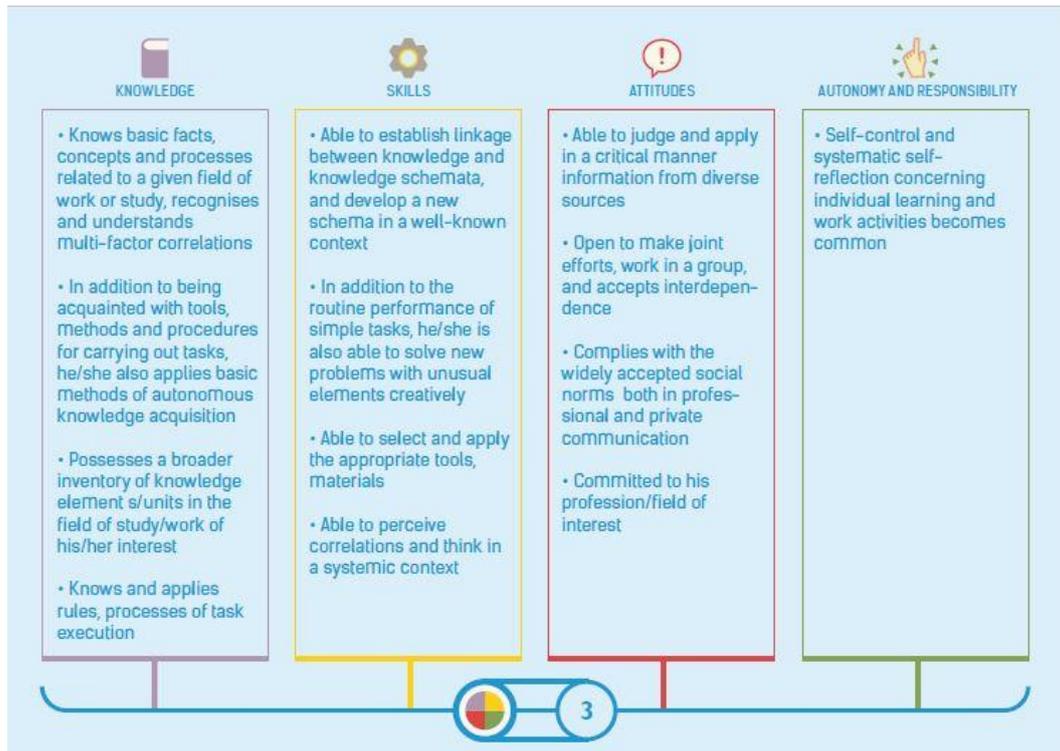


Figure 3 - Hungarian qualifications framework - 3

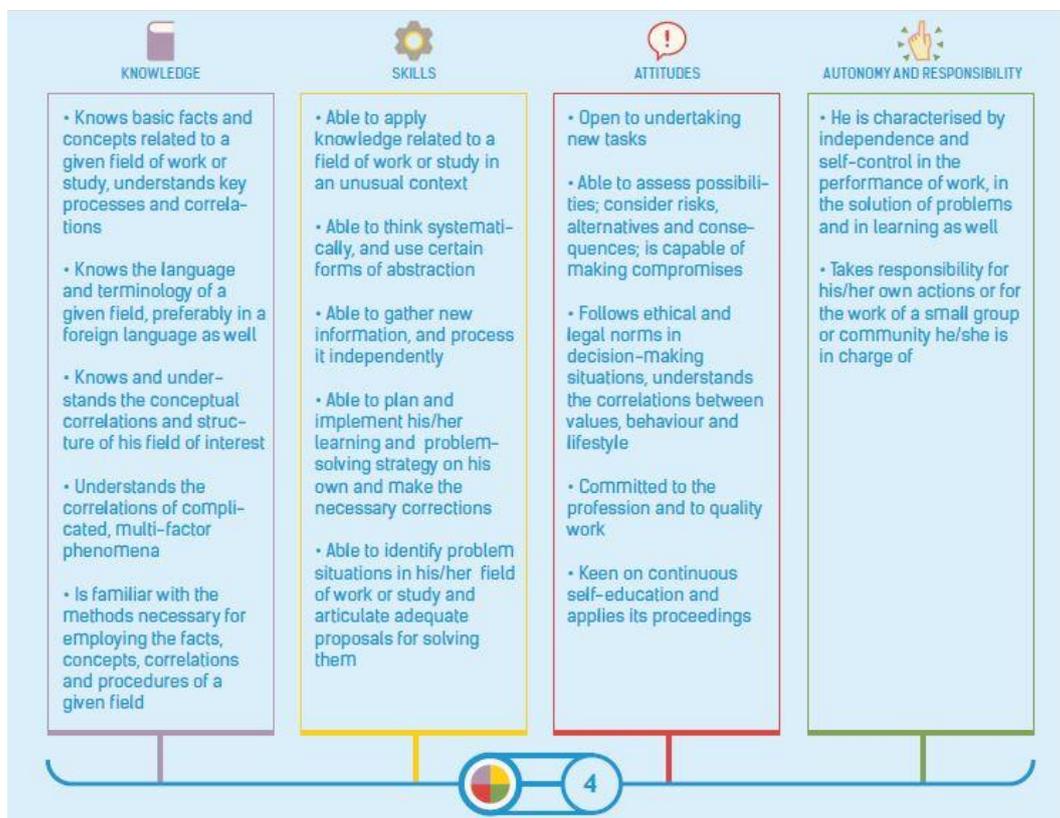


Figure 4 - Hungarian qualifications framework - 4

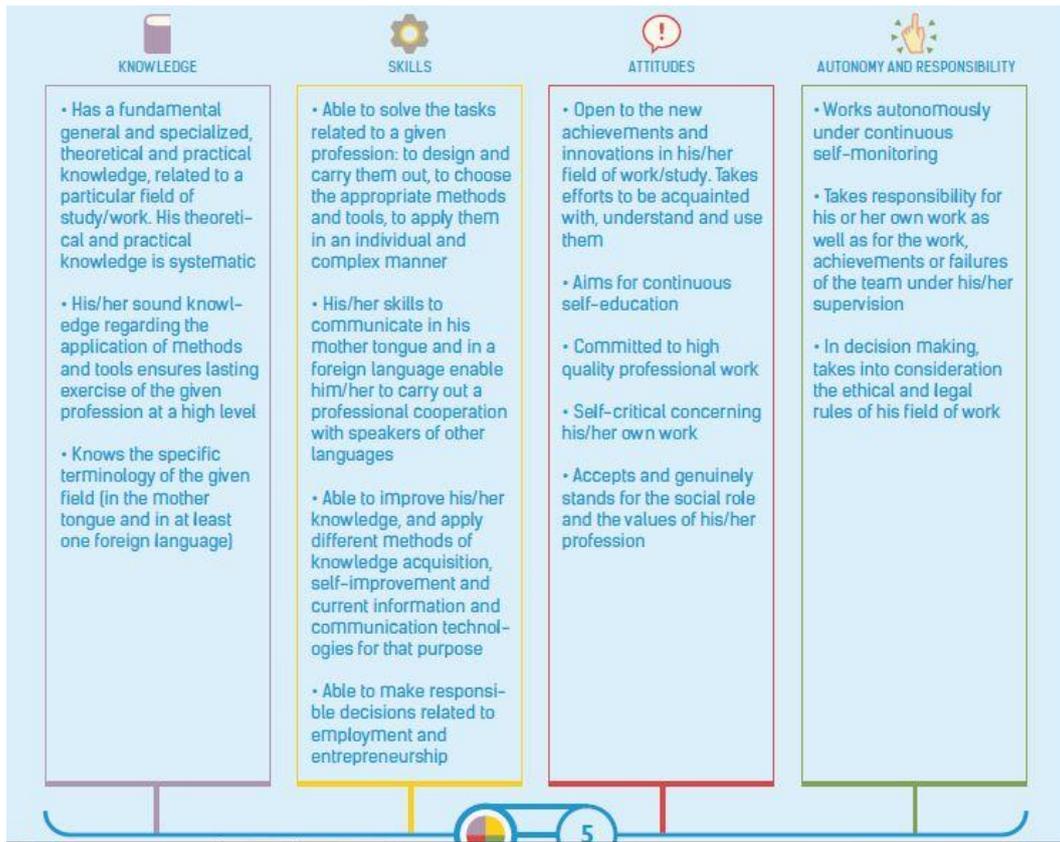


Figure 5 - Hungarian qualifications framework - 5

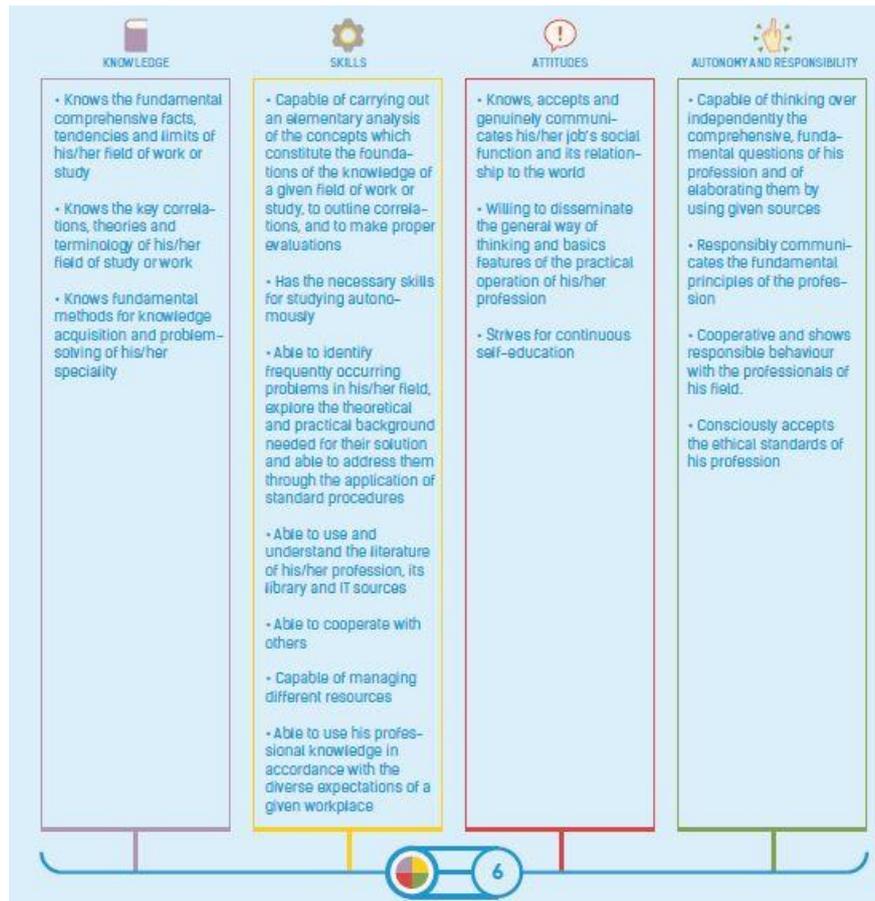


Figure 6 - Hungarian qualifications framework - 6

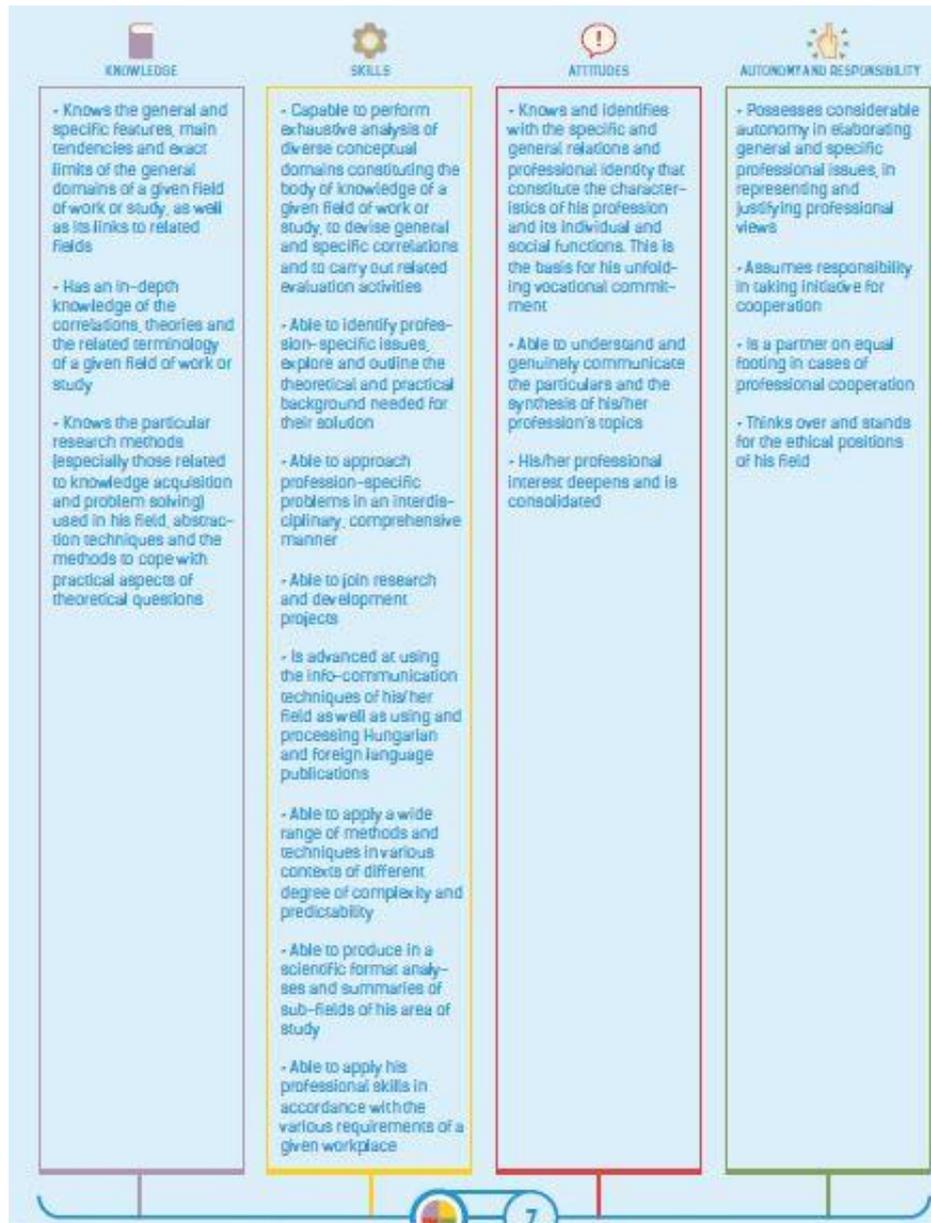


Figure 7 - Hungarian qualifications framework - 7

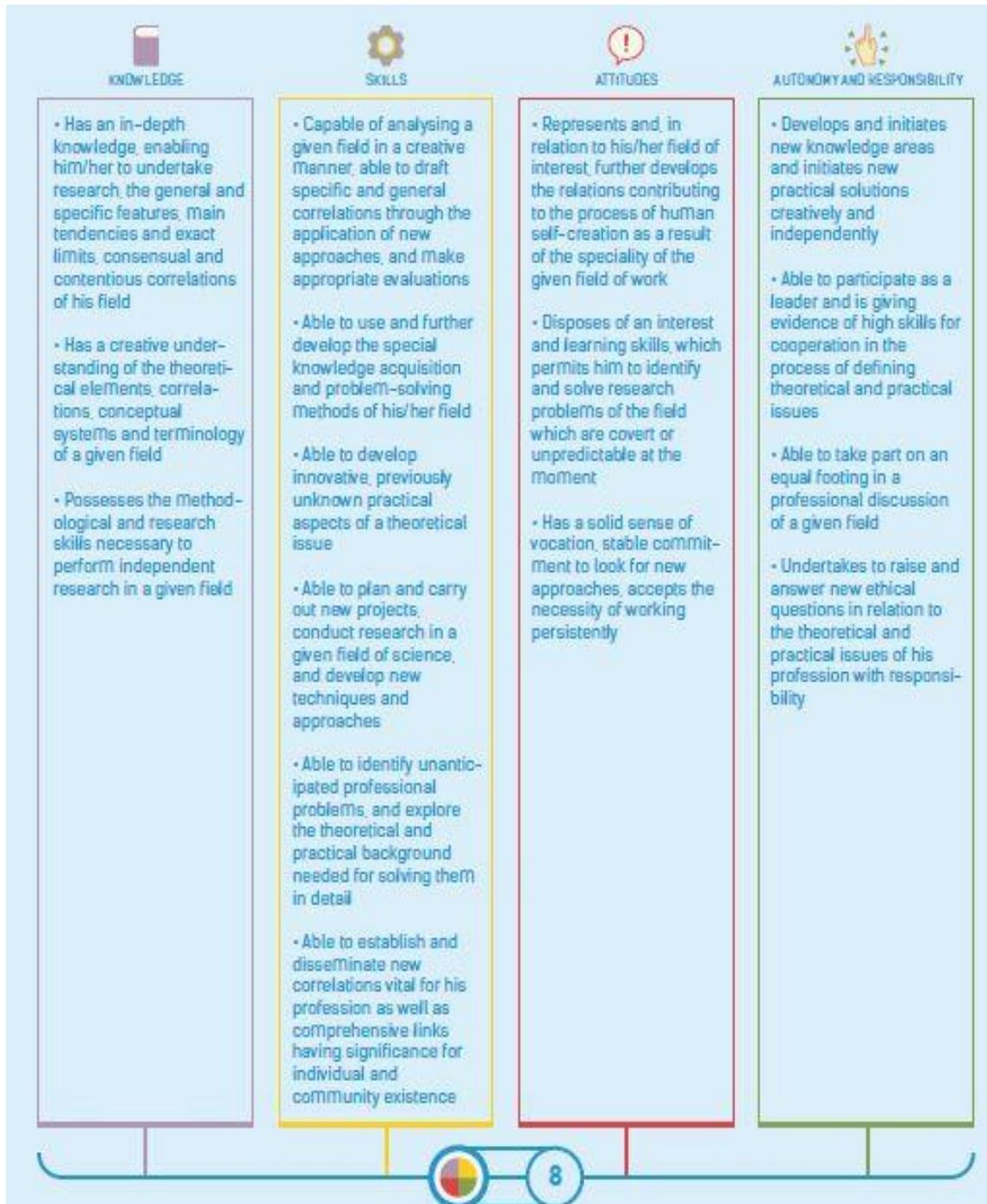


Figure 8 - Hungarian qualifications framework – 8

3. Italy

3.1. NQF vs EQF

In 2005 the Italian Ministry of Higher Education started working on the Italian Qualifications Framework, in compliance with the procedures established at European level.

At first, CIMEA, the Italian NARIC centre, was asked to develop the first prototype of the National Framework, which was aimed at portraying the reform process which the Italian Higher Education system has undergone since 1999.

Subsequently a team formed by technical consultants of the Ministry and the Italian Bologna Experts was set up and started working on the first draft of the Italian Qualifications Framework.

The final outcome of their work was carefully scrutinised by numerous parties, including the competent internal department and the Directorates General of the Ministry, the National University Council (Consiglio Universitario Nazionale), the National Council of University Students (Consiglio Nazionale degli Studenti Universitari) and many more..

In 2005, the Italian Qualifications Framework (Quadro dei Titoli Italiani) was published; it refers to Higher Education only as it describes the Italian system with reference to Qualifications Framework for the European Higher Education Area. The document provides:

- Descriptions of the three Bologna cycles including the Dublin descriptors
- The comprehensive list of the qualifications awarded in the three cycles by Italian Higher Education Institutions under the Ministry of Education, University and Research (MIUR)
- The descriptive profile of each qualification
- The list of the qualifications awarded under the previous system (pre-Bologna)
- The list of the regulated professions in Italy, with links to the corresponding descriptive profiles
- The description of the learning outcomes for the degree classes of university degrees at all levels and of the academic diplomas awarded in Higher Schools for Art, Music and Dance

- Links to the databases of the officially recognised Universities and Higher Schools for Art, Music and Dance in Italy and to the database of the academic programmes offered in Italy.

The document is supported by the following legislative framework in the country:

- **Law n. 341, 19 November 1990:** Reform of the university system. (Published on the Official Gazette n. 274 of 23 November, 1990)
- **Law n. 508, 21 December 1999:** Reform of the Academies of Fine Arts, of the National Dance Academies, of the National Academy of Drama, of the Higher Schools for the Art industry, of Music Conservatories and of Recognised Music Institutes (Published on the Official Gazette n. 2 of 4 January, 2000)
- **Decree n. 509, 3 November 1999:** Regulation regarding the teaching autonomy of Universities (Published on the Official Gazette n. 2 of 4 January, 2000)
- **Decree n. 38, 10 January 2002:** Regulation regarding the reform of the Higher Schools for Language Mediators, in accordance with Law n. 697 of 11 October 1986, adopted to implement art. 17, par. 96, comma a) of Law n. 127 of 15 May 1997 (Published on the Official Gazette n. 69 of 22 March, 2002);
- **Decree n. 270, 22 October 2004** Amendments to the regulation regarding the teaching autonomy of Universities, passed by Decree of the Ministry of University and of Scientific and Technological Research n. 509 of 3 November 1999 (Published on the Official Gazette n. 266 of 12 November, 2004)
- **Presidential Decree n. 212, 8 July 2005:** Regulation regarding the definition of didactic structures of Higher Schools for Arts, Music and Dance, in compliance with art. 2 of Law n. 508, 21 December 1999. (Published on the Official Gazette n. 243 of 18 October, 2005)
- **Law n. 240, 30 December 2010** Regulations regarding the organisation of Universities, of management and recruitment of academic staff, as well as the act of delegation to the Government to the purpose of improving quality and efficiency in the University System (Published on the Official Gazette n. 10 of 14 January, 2011).

The first (and only) report of the relationships amongst the national qualification framework and the European qualification framework was published in 2004. The report refers only to qualifications issued by public authorities, having national validity, i.e.

issued by national authorities (Ministry of Education and University) or as released on the basis of State-Regions agreements. A summary is reported in the next table.

EFW qualifications are not included as issued by a private organisation in the country (IIS CERT srl). Contact are currently undergoing with ANPAL, the national Agency in Italy.

EQF level	Qualification	Training Route	Translation
1	Diploma di licenza conclusiva del I ciclo di istruzione	Scuola secondaria di I grado	Secondary education
2	Certificato delle competenze di base acquisite in esito all'assolvimento dell'obbligo di istruzione	Fine del primo biennio di licei, istituti tecnici, istituti professionali, percorsi di IeFP triennali e quadriennali	Secondary education
3	Attestato di qualifica di operatore professionale	Percorsi triennali di IeFP*	Qualification to professional operator
4	Diploma professionale di tecnico	Percorsi quadriennali di IeFP**	Tertiary education
	Diploma liceale	Percorsi quinquennali dei licei (Percorsi formativi in apprendistato di alta formazione e ricerca)	Tertiary education (
	Diploma di istruzione tecnica	Percorsi quinquennali degli istituti tecnici (Percorsi formativi in apprendistato di alta formazione e ricerca)	Tertiary education (technical)
	Diploma di istruzione professionale	Percorsi quinquennali degli istituti professionali (Percorsi formativi in apprendistato di alta formazione e ricerca)	Tertiary education (professional)
	Certificato di specializzazione tecnica superiore	Percorsi IFTS (Percorsi formativi in apprendistato di alta formazione e ricerca)	Technical school
5	Diploma di tecnico superiore	Corsi ITS (Percorsi formativi in apprendistato di alta formazione e ricerca)	Technical school
6	Laurea	Percorso triennale (180 crediti - CFU) (Percorsi formativi in apprendistato di alta formazione e ricerca)	Bachelor degree – first degree
	Diploma accademico di primo livello	Percorso triennale (180 crediti - CFA)	Bachelor degree – first degree

EQF level	Qualification	Training Route	Translation
7	Laurea Magistrale	Percorso biennale (120 crediti - CFU) (Percorsi formativi in apprendistato di alta formazione e ricerca)	Master degree (italian master level degree) – second degree
	Diploma accademico di secondo livello	Percorso biennale (120 crediti - CFA)	Master degree (italian master level degree) – second degree
	Master universitario di primo livello	Percorso minimo annuale (min. 60 crediti - CFU) (Percorsi formativi in apprendistato di alta formazione e ricerca)	1st level master degree
	Diploma accademico di specializzazione (I)	Percorso minimo biennale (120 crediti - CFA)	Specialisation degree
	Diploma di perfezionamento o master (I)	Percorso minimo annuale (min. 60 crediti - CFA)	Completion degree
8	Dottorato di ricerca	Percorso triennale (Percorsi formativi in apprendistato di alta formazione e ricerca)	Doctor of Philosophy (Ph.D)
	Diploma accademico di formazione alla ricerca	Percorso triennale	Research Training diploma
	Diploma di specializzazione	Percorso minimo biennale (120 crediti - CFU) (Percorsi formativi in apprendistato di alta formazione e ricerca)	Specialisation degree
	Master universitario di secondo livello	Percorso minimo annuale (min. 60 crediti - CFU) (Percorsi formativi in apprendistato di alta formazione e ricerca)	2nd Level Master
	Diploma accademico di specializzazione (II)	Percorso minimo biennale (120 crediti - CFA)	Specialisation degree
	Diploma di perfezionamento o master (II)	Percorso minimo annuale (min. 60 crediti - CFA)	Completion degree 2nd level

Table 5 - Italian NQF

3.2. Work-based Learning features

The Italian system was last reformed in 2015; it consists of three main types of apprenticeship. The first and the third lead to an education qualification, at upper secondary, post-secondary and tertiary levels. In this connection, ‘they integrate, in a dual system, training and work’ (Article 41, paragraph 3, legislative Decree No 81/2015). The

second type of apprenticeship is a vocationally oriented scheme for young adults aged 18 to 29, with a marginal component of formal training paid with public resources: a maximum 120 hours in three years, to be carried out inside or outside the company. Upon completion, apprentices can become skilled workers by acquiring contractual qualifications, as defined and recognised by collective labour agreements. In any case, no education qualification is awarded.

Despite the efforts at normative level, there is an increasing distance between laws, policies and practice, mainly in terms of legal provision enactment. Apprenticeships stocks have been recording a constant declining trend in recent years.

Apprenticeships linked to school and university curricula are still an exception, while type 2 apprenticeship covers 91% of all contracts. As a consequence, apprenticeships are mainly used to hire young adults rather than youth, especially in recent years: between 2009 and 2014, 15 to 19 year-old apprentices have decreased compared to 25 to 29 year-olds, which traditionally represent the largest component of the apprentice population, together with those 20 to 24 years old.

The main challenge for apprenticeships in Italy remains the education and training function and its quality. In 2013, only one third of all type 2 apprentices were enrolled in formal training activities provided by the regions.

The latest reform tries to expand and strengthen apprenticeship integration within the school system, so mainly concerns types 1 and 3. The reform broadens the spectrum of education qualifications, makes curricula more flexible in terms of duration, and tries to balance salaries with education duties.

4. Spain

4.1. NQF vs EQF

In Spain there are 2 different National Qualification Frameworks: MECU and MECES.

MECU

MECU (*Marco Español de Cualificaciones*) is a national framework of qualifications (degrees, diplomas, certificates) that encompasses lifelong learning.

It is a structure of organization of qualifications by levels that ranges from the most basic learning to the most complex. It is based on learning outcomes and aims to link and coordinate different education and training subsystems. It has eight levels defined in terms of knowledge, skills and competence. The framework will include qualifications obtained in compulsory education, in post-secondary and in higher education, including non-formal and informal learning. One of the main objectives of the Spanish qualifications framework for lifelong learning is to make Spanish qualifications easier to understand by describing them in terms of learning outcomes; it also clarifies relations between them. MECU aims to support lifelong learning, and improve access and participation for everyone, including the disadvantaged.

It is important to understand that in Spain, formal vocational qualifications are regulated by the Ministry of Education and professional qualifications/certificates are regulated by Ministry of Labour. They are different in scope of learning they require, but can be linked to the same level of the catalogue.

The different level in which MECU is composed are corresponded with European Qualification Framework (EQF) as follows:

MECU	Type of Qualification	EQF
8	Doctor (PhD)	8
7	University Master's Degree (60-120 ECTS) Master's Degree in Higher Arts Education Bachelor's Degree consisting of 300 ECTS minimum such Medicine, Veterinary science, Odontology, Pharmacy or Architecture Pre-Bologna Degrees	7
6	Bachelor's Degree (180-240ECTS) Degree in Higher Arts Education	6

MECU	Type of Qualification	EQF
	Pre-Bologna Degrees	
5	Higher VET (2 years - 120 ECTS) Higher Technician in Plastics Arts & Design Higher Technician in Spots Education	5
4	Upper secondary school-leaving certificate (Baccalaureate) Intermediate VET (2 years – 120 ECTS) Technician in Plastics Arts & Design Technician in Spots Education	4
3	Secondary Compulsory Education (4 years) Basic VET (2 years)	3
2	Secondary Compulsory Education (3 years)	2
1	Elementary School	1

Table 6 - MECU

MECES.

MECES (Marco Español de Cualificación para la Educación Superior) is the Spanish Qualifications Framework for Higher Education. This Spanish framework aims promoting the mobility of higher education in Europe.

The scope of application of MECES is made up of official qualifications from university education, higher artistic education, advanced vocational training, professional teaching of plastic arts and higher-level design and higher-level sports education, as well as those other titles that have been declared equivalent.

MECES is structured in four levels with the following denomination for each of them:

1. Level 1: Higher VET.
2. Level 2: Degree.
3. Level 3: Master.
4. Level 4: Doctor.

The four levels of the Spanish Qualifications Framework for Higher Education correspond to the following levels of the European Qualifications Framework:

- Level 1 (Higher VET) of the Spanish Qualifications Framework for Higher Education corresponds to level 5 of the European Qualifications Framework.
- Level 2 (Grade) of the Spanish Qualifications Framework for Higher Education corresponds to level 6 of the European Qualifications Framework.
- Level 3 (Master) of the Spanish Qualifications Framework for Higher Education corresponds to level 7 of the European Qualifications Framework.
- Level 4 (Doctor) of the Spanish Qualifications Framework for Higher Education corresponds to level 8 of the European Qualifications Framework

SPANISH QUALIFICATION FRAMEWORKS AND EUROPEAN QUALIFICATION FRAMEWORK.

In following table, it is summarized the correspondence between Spanish Qualification Frameworks and the European Qualification Framework.

EQF	MECU	MECES
8	8	4
7	7	3
6	6	2
5	5	1
4	4	
3	3	
2	2	
1	1	

Figure 9 - Comparison of the frameworks

RPL PROCESSES IN SPAIN

The procedure in which is based the RPL processes in Spain is describe in the Royal Decree 1224/2009. This document describes, among other matters, the requirements that have to be fulfilled by the candidates and the different stages of the RPL process.

REQUIREMENTS.

Candidates must meet the following requirements:

- Possess the Spanish nationality, have obtained the certificate of registration of community citizenship or the family card of citizen of the Union, or be a holder of a residence and work authorization in Spain in force, in the established terms in the Spanish immigration and immigration regulations.
- To be 18 for the Competence Units Level 1 and 20 for the Competence Units Level 2 and 3.
- To have work experience and/or training related to the professional skills to accredit:
 - Work experience:
 - Level 2 and 3: to justify, at least 3 years, with a minimum of 2,000 hours worked in total, in the last 10 years.
 - Level 1: to justify, at least 3 years, with a minimum of 1,200 hours worked in total.

- Training:
 - Level 2 and 3: to justify, at least 300 hours, in the last 10 years.
 - Level 1: to justify, at least 200 hours.

In the Royal Decree 1224/2009, also it is indicated all the information related how to justify the work experience and training.

RPL PROCCES.

The procedure instruction will consist of the following phases:

1. Advice.
2. Evaluation of professional competence.
3. Accreditation and registration of professional competence.

ADVICE.

In this step of the process, which is mandatory, the adviser or consultant will help to the candidate in the self-assessment of his/her competence, completing his/her personal and/or training history or to present evidences to justify it. As a result of this advice process, the consultant will develop an advisory report on the suitability of the candidate to access the evaluation phase and on the professional competences that he considers sufficiently justified.

If the mentioned report is positive, all the documentation provided, as well as the report drawn up duly signed, will be transferred to the corresponding evaluation committee.

If the report is negative, it will be indicated, to the candidate, the complementary training that should be done and the centers where he could receive it. However, due to that the content of the adviser's report is not binding, the candidate may decide to move on to the evaluation phase. In this case, the report and all the documentation provided will also be transferred to the evaluation committee.

EVALUATION OF PROFESSIONAL COMPETENCE

The aim of the evaluation is to verify if the candidate demonstrates the professional competence required in the professional achievements, in the levels established in the criteria of realization and in a situation of work, actual or simulated, fixed from the professional context.

The evaluation is carried out analyzing the report of the assessor and all the documentation provided by the candidate and, where appropriate, gathering new evidence necessary to assess the professional competence required in the units of competence in which he has registered.

Different methods can be used to verify what was stated by the candidate submitting their application in the documentation provided. These methods are, among others, the observation of the candidate in the workplace, simulations, standardized tests of professional competence or professional interview. For each activity there will be a record signed by the applicant and the evaluator. For each activity a record signed by the applicant and the evaluator is performed.

The result of the evaluation is expressed in terms of demonstrated or not demonstrated. The candidate evaluated is reported of the results of the evaluation and he is entitled to claim to the Evaluation Commission.

ACCREDITATION AND REGISTRATION OF PROFESSIONAL COMPETENCE.

Candidates who pass the evaluation process are issued an accreditation of each of the units of competence in which they have demonstrated their professional competence.

4.2. Work-based Learning features

In **Spain**, the vocational education system aims to train students to work contributing to the economic development of the country. Other secondary but important objectives are civic education to integrate these people into society, promotion of social inclusion, and learning throughout life. In order to achieve these objectives, the curricula of every VET

diploma programme provide professional, personal and social skills, as well as the theoretical and practical knowledge. There are two VET options:

- VET diploma developed and implemented by the MECD (Ministry of Education, Culture and Sport).
- Professional certificates (RNCP) provided by the MEYSS (Ministry of Employment and Social Security), as part of the National Employment System and continuous vocational education and training (CVET).

According to the LOMCE (Spanish acronym for Organic Law on Education Quality Improvement) approved in December 2013, a new Basic VET programme replaces the Initial Vocational Training Programmes (PCPIs). Basic VET includes 21 different diplomas (official qualifications) at the moment this report is being prepared. The target group for this training level is that of students aged among 15 and 17 years, having completed their third year of Compulsory Secondary Education (exceptionally the second one) and without option to complete secondary compulsory education. Basic VET is an alternative to continue studying since it gives access to VET intermediate level. For adults who lack the basic secondary education qualification, there are specifically designed ‘Adult Education’ programmes that lead to lower and upper secondary education certification.

VET usually begins after the end of compulsory education, at age 16. Learners opting for school-based VET attend a two-year programme which leads to an intermediate-level VET diploma. This diploma gives access to higher level VET via an admission procedure. There are also VET options for those who have not completed compulsory education that award professional certificates at level 1 of the national register.

Those older than 16 can also attend programmes (250-1150 hours) awarding professional certificates. Access requirements and duration vary according to the level of learning outcomes to be achieved. These programmes can be considered initial or continuing VET, depending on the learners’ background and professional experience. There are also intermediate and higher-level VET programmes in arts and design and sports.

The dual principle was introduced in 2012 to increase access to VET and support young people in transition to the labour market. Some autonomous communities have already put it in place in specific occupation areas. Participants (16-25 year-old) are considered employees covered by labour contracts (usually one to three years) and get at least a minimum wage: this is not necessarily the case in dual training schemes under the remit of the education authorities. People up to the age of 30 may also benefit until youth unemployment decreases. At least 25% (first year) or 15% (subsequent years) of the time specified in the contract should be devoted to acquiring complementary skills in a specialised or duly authorised training centre or in the company.

Tertiary or higher education comprises university studies and higher-level VET. Since 2011, higherlevel VET diplomas have been assigned to the first of the four levels of the Spanish higher education qualifications framework (MECES). Recognition of certain European credit transfer and accumulation systems allows progression for higher VET graduates and complementary studies for those from university.

CVET for workers, employed or unemployed, can be demand-led either as in-company training or in the form of individual training permits for formal qualifications financed through a social security bonus. CVET can also be offered as part of active labour market policies, encouraging people to upgrade their skills and acquire professional certificates based on the occupational standards of the CNCP issued by the labour authorities. This supply side training is financed through public funds.

Problems: Each autonomous region (19) has, however, freedom in its implementation. The methodology, the evaluation, the regulation of the course and the relationships between VET-company and VET-company-trainee can be different.

Note: The ANB (CESOL) and the ATBs of Spain don't take part of this training's system (VET).

5. Portugal

5.1. NQF vs EQF

The Portuguese NQF was established by Decree Law 396/2007 and the framework was published in July 2009. The latter established that the coordination was made by the members of the government responsible for employment and vocational training, education, and science and higher education. The NQF coordination is ensured by the bodies responsible for the EQF-NCP¹ coordination (e.g. the National Agency for Qualification and Vocational Education and Training and Directorate-General of Higher Education).

The NQF is seen as a tool for reforming Portuguese education and training, aiming to raise the low qualification level of the Portuguese population and to promote a closer contact with the labour market.

First of all, the Portuguese Qualifications Framework was created within the Reform of the Portuguese Education and Training System, which took place in 2007 and was embodied in the setting up of the National System of Qualifications (SNQ) and in the development of a number of instruments, including the National Qualifications Catalogue (CNQ) and the National Qualifications Framework (QNQ). Its main objectives are to improve quality, relevance, transparency and comparability of Portuguese qualifications, along with their understanding abroad, and promote access to lifelong learning and recognition of knowledge and skills.

The NQF is both a central anchoring device and a mechanism that drives forward the process of reform. In this sense, the forward momentum created by the adoption of the European Qualifications Framework was of greater significance in the Portuguese case, as it took a central role in the foundation of the National Qualifications System and the development and improvement of all education and training.

The qualifications design based in learning outcomes (LO) gained momentum with the structuring of the NQF. With the NQF, Portugal expects to fully disseminate and implement the approach on LO in all subsystems and education and training modalities.

¹ European Qualifications Framework - National Coordination Point (EQF-NCP)

The learning outcomes approach is a challenge for the upgrading of the national qualifications catalogue but also for qualifications issued within general education.

The NQF is also a tool for transparency and communication as it includes, in a single framework, all qualifications awarded within the education and training system at all levels, through training paths or recognition of informal and non-formal learning. It is a comprehensive framework comprising all the qualifications awarded by the Portuguese education and training system, regardless the pathways of access (basic, upper secondary and higher education, VET and RPL).

The NQF has 8 levels and is defined in terms of knowledge, skills and attitudes. Concerning non-higher education, levels 1 to 4 from the NQF can be granted also through the validation of non-formal and informal.

Nowadays, the NQF has reached a fully operational stage: the conceptual and technical design and development stage has been concluded; legal adoption has been successfully completed; the framework includes qualifications from different parts of education and training; the framework is visible and accessible to all main stakeholders and to the general public (ex. through qualifications databases and inclusion of levels in qualifications documents).

The NQF was linked to the EQF and self-certified against Qualifications Framework-European Higher Education Area (QF-EHEA), in June 2011.

Correspondence of the NQF standards to EQF standards

The National Qualifications Framework has adopted the same 8 qualification levels and the same descriptors for learning outcomes as the EQF. The NQF was constructed using the domains of knowledge, skills and attitudes for describing the learning outcomes at each qualification level. The concepts employed, as stipulated by Order no. 782/2009, of the 23rd of July, are as follows:

- Knowledge – “the body of facts, principles, theories and practices related to a field of study or professional activity”;
- Skill – “the ability to apply knowledge and use know-how to carry out tasks and solve problems. A skill may be cognitive (involving the use of logical, intuitive

and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);

- Attitude – “the ability to carry out tasks and solve problems of lesser or greater degrees of complexity and involving various levels of autonomy and responsibility”.

When comparing these fields with those in the EQF, it can be seen that there is only one difference: the concept of “attitude” was used as a descriptor in the NQF in the place of the “competence” descriptor used by the EQF.

The following table details the different routes by which a given qualification level in the National Qualifications Framework may be obtained. It also explains the certification associated with each of the levels.

Table 1 - Portuguese NQF

NQF Levels	Qualifications	EQF Levels
1	2 nd cycle of basic education	1
2	3 rd cycle of basic education (lower secondary education) obtained in basic education or via double certification paths	2
3	Secondary education with a view to pursuing higher level studies	3
4	Secondary education obtained via double certification paths or secondary education with a view to pursuing higher level studies plus on-the-job training - minimum six months	4
5	Post-secondary non-higher level qualification with credits to pursue higher level studies Short-cycle	5
6	Bachelor degree	6
7	Master degree	7
8	Doctoral degree	8

Source: Ordinance no. 782/2009, de 23 de Julho; Cedefop, 2015; ANQEP, 2016

5.2. Work-based Learning features

Portuguese Education and Training Provision - General Features

The Portuguese Education and Training system is under the overall responsibility of the central government. The main entities involved in the VET system in Portugal are described above:

- The Ministry of Education and Science (MEC) - is traditionally responsible for the educational sector (pre-primary education, basic education, secondary education, school based training and higher education).
- Ministry of Solidarity, Employment and Social Security (MSESS) - particularly through the Public Institute for Employment and Vocational Education (IEFP) which is traditionally responsible for vocational education and training programmes – (VET)
- National Agency for Qualifications and Vocational Education (ANQEP) – for which the two Ministries share responsibilities.
- Institute for Employment and Vocational Training (IEFP) – is traditionally responsible for training – CVET, apprenticeship and Active Labour Market Policies (ALMPs).

Source: Report on the Referencing of the National Qualifications Framework to the European Qualifications Framework, June 2011, ANQEP

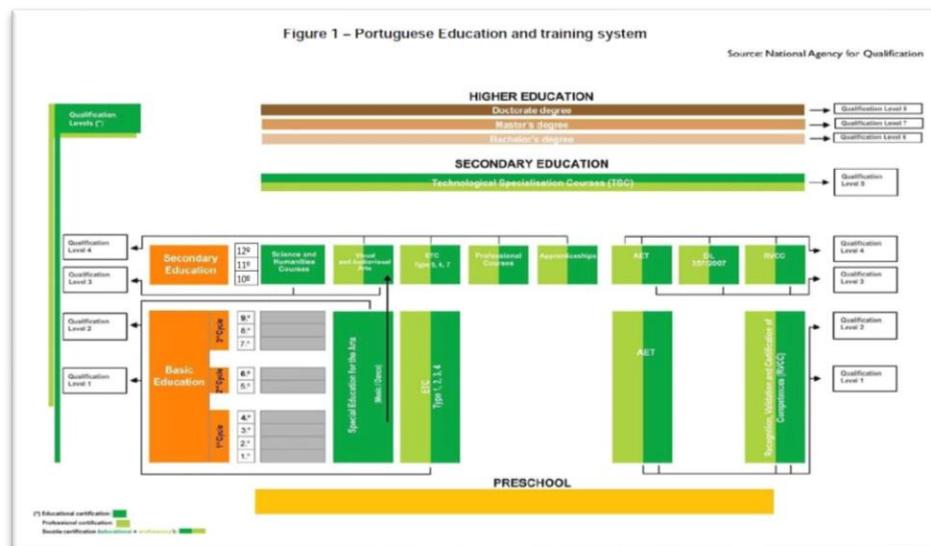


Figure 10 - Structure of the Portuguese E&T system, the current organisation for the provision of E&T from pre-school to higher education.

As illustrate in the figure above, the Portuguese E&T system is composed by the following levels:

- Pre-primary education
- Compulsory education: basic and secondary levels (EQF level 1 to level 3)
- VET programmes of upper secondary and post-secondary education (EQF level 4 and 5)
- Higher education: universities and polytechnics (EQF level 6 to 8)

Work-based learning (WBL) schemes in Portugal

In Portugal, vocational education and training (VET) programmes that comprise work-based learning schemes, are at the levels of upper secondary and post-secondary education.

At the level of upper secondary education (ISCED 3) three types of VET programmes can be distinguished:

- 1) Vocational courses/professional courses (*cursos profissionais*) - main objective is to provide access to the labour market. These programmes lead not only to a vocational qualification but also to a diploma of upper secondary education (double certification)², which enables students to enter higher education. Are organised by public schools from the Ministry of Education network. Courses last three academic years and consist of modules covering three components, namely ‘social and cultural’, ‘scientific’ and ‘technical training’. The technical component aims to develop practical competences and may involve practical exercises and simulations in a training workshop, or work-based learning in a real workplace. Although the technical component as a whole account for about 52% of total training time, the proportion of time spent in a real work environment is only about 13%.

² The concept of dual vocational education and training (dual VET), in the sense of the alternation between a workplace and an educational or training institution, is **not common in Portugal**. In Portugal, the term is understood in a different way, namely as an alternative term for “double certification”, which is a mechanism that allows learners to acquire both an educational and an occupational qualification in the same programme.

2) Apprenticeship courses³ (*cursos de aprendizagem*) – target young people, aged 15 to 25. These apprenticeship courses lead to a qualification for the labour market as well as to a completion certificate of upper secondary education. The courses also provide access to tertiary education. The programmes are organised by training centres of the IEFP, under the Ministry of Labour and Social Solidarity, i.e. by public education providers rather than by enterprises. The curriculum, which includes sociocultural, scientific, technological and practical training and comprises between 2 800 and 3 700 hours, is organised as an alternating learning process of classroom teaching and work placements. The latter account for at least 40% of the course duration. Given the relatively large amount of work-based learning and the emphasis on alternation, this type of training programme can be regarded as particularly representative of the dual VET model.

3) Education and training courses (*cursos de educação e formação, CEF*) – targeted at young people who have abandoned or are at risk of dropping out of education. There are courses lasting for one or two years. The courses are intended to provide flexible training pathways in which learners may take successive courses to attain higher qualification levels in several steps. They are comprised in social and cultural, scientific, technological and practical components. The practical component is organised on the basis of an individual training plan and takes place as an internship. The duration of the courses varies between 1 020 and 2 276 hours. The duration of the practical component varies depending on the course.

At the level post-secondary education, there are the technological specialisation courses (CET) – EQF level 5. These programmes are intended for learners who have successfully completed upper secondary education or legally equivalent qualification. They aim at a vocational specialisation rather than a broad and comprehensive occupation, and build upon a relatively high entry qualification of the learners. CET courses are shorter, lasting about one year and comprising between 1 200 and 1 560 hours. The workplace training component, typically does not exceed 50% of the entire curriculum, takes a minimum of 360 and a maximum of 720 hours and is developed in partnership between training provider and company. Upon successful completion,

³ In spite of their official denomination – Apprenticeship - these programmes do not fall under the definition of “apprenticeship” in the strict sense, as the **learner does not have the status of an employee** even though there is a contractual relationship with the training provider.

learners are awarded a diploma of technological specialisation and have the opportunity to continue their studies at tertiary level.

An overview of the existing dual VET schemes in Portugal and their position within the typology is given in Table 2.

Table 1 - Classification of dual VET schemes in Portugal

	Apprenticeship (in the strict sense)		Other dual VET schemes	
	Mainly company-based (>50%)	Mainly school-based (>50%)	Mainly company-based (>50%)	Mainly school-based
Upper secondary education (ISCED 3B)				Vocational courses (<i> cursos profissionais</i>) Apprenticeship courses (<i> cursos de aprendizagem</i>) Education and training courses (CEF)
Post-secondary education (ISCED 4)				Technological specialisation courses (CET)
Tertiary education (ISCED 5B)				

Source: Cedefop

Legal Framework and Assessment structures

In Portugal, the legal framework for dual VET is mainly a matter of the welfare and labour market policy, rather than educational policy, since its background is based on the need to increase the youth employment rates, reduce the long-term unemployment levels, improve the levels of qualification and invest in lifelong learning activities.

The establishment of the national system of qualifications (SNQ) and the subsequent tools – the national qualifications framework (QNQ) and the catalogue (CNQ) - has allowed restructuring vocational training, trying to link the education system and the labour market, having as reference the European qualification framework principles.

Despite the existence of the national system of qualifications which may indicate the existence of an integrated structure, the institutional framework for the dual VET is relatively fragmented in Portugal.

The cooperation between educational institutions and enterprises lack of specific legal provisions. The delivery of dual VET (as regards the relationship of learning venues) is predominantly the responsibility of public institutions such as technical and professional schools, training centres, training professional centres, universities and other tertiary institutions providing CETs. Different rules and norms apply to the different types of dual VET, and each institution has different objectives with regard to training. In this matter, the literature research suggests that a legal framework is either lacking, or is not easily identifiable.

The Portuguese VET system is centrally administrated, meaning that is the government defining the policies and curricula, teaching methods and financing. The overall structure of the system combines the centralisation of regulatory functions with an adequate degree of local autonomy in the actual provision of training.

In regard to occupational profiles, curricula and training standards, they are regulated by the national qualifications catalogue (CNQ), adapted in 2008, as a qualification reference framework oriented to dual VET and for the processes of recognition, validation and certification of competences (RVCC). Based on the *National Classification of the Different Education and Training Areas*, the IEFP provides a reference document consisting of a basic training component and a technological training component, organized in short duration training units (UFCDs) that are certifiable in an independent way. However, the local agents such as VET providers have some degree of autonomy concerning the definition of training plans. Despite the existence of a common reference for a given curriculum, the VET schools have some room to make adaptations according to local needs. The roles and responsibilities at local level and the opportunities for making adaptations in the training plans, can be characterised as follows:

- a) The school chooses the company in which work placements may occur; the company can also contact the school and propose itself as a learning venue;
- b) The learning plans are developed by the school and the company may have some participation. These plans describe the tasks to be performed by the learner as well

as the factors to be taken in considerations during the learner evaluation and the training process;

- c) The hours spent in the company vary depending on the type and level of vocational training (as explained above), but schools always have some freedom to adapt this time to local needs.

Concerning the main actors participating in the organisation and delivery of dual VET, they can be classified into two into two different categories: internal and external stakeholders (see figure 2). The internal stakeholders are those organisations part of the education system, the external do not belong to educational system, having an advisory and supportive role. They represent all required types of institutions, with a particularly strong role of the public sector, as indicated above, by the involvement of the two ministries MEC and MSESS and the government agencies – ANQEP and IEFP.

Figure 2 – Stakeholders in the Portuguese dual VET



Source: Based on Cedefop ReferNet Portugal, 2012.

Quality assurance and development strategies exist in the Portuguese dual VET system, they refer to the practices and arrangements that are in place to carry out a continuous monitoring and evaluation of VET programmes.⁴ The actors involved in the quality assurance process are the entities reporting to the two ministries - MEC and MSESS – resulting in a complex process, due to the diversity and number of entities involved in the process.

Since in the present report, we are referring to the dual VET programmes, will be only presented the evaluation and certification structures for the VET courses comprising WBL schemes (those presented above).

⁴ Apart from the candidates, also VET trainers and VET providers need to be certified according to specific requirements and structures defined by the different ministries.

The main criteria for evaluation and examination procedures are based on both a 1) professional profile – which includes specific professional activities as well as the knowledge and skills required to carry out these activities – and 2) the training framework leading to the acquisition of a qualification according to a specific curriculum.

The certification of professional competences, achieved through the SNQ, is demonstrated by the award of a qualification certificate which recognises and certifies the gained adequate knowledge capabilities and competences required to exercise a professional activity. The examinations include the practical demonstration of professional skills and competences.

In the table below, it is possible to see, for each of the different dual VET programmes, the specific evaluation and certification procedures.

Table 2 - Assessment procedures in Portuguese dual VET programmes

Programme type	Practical training in the work environment (FPCT)	Evaluation	Certification
CEF	200h of FPCT	Formative assessment (for each course and component) Summative assessment, including the final evaluation test (PAF), which lasts for a minimum of 12h and where the candidate must demonstrate his or her professional skills in practical assignments. To continue studying towards the secondary by means of or higher studies, the candidate will also have to participate in the national exams of Portuguese and Mathematics/scientific component (if for the secondary by means of).	Award of a dual VET qualification certificate depending on the results attained Award of the learning credits regarding the UFCD successfully completed.
Learning courses	Alternating between hours of training in classroom and hours of training in the work environment	Formative assessment Summative assessment, including the final evaluation test (PAF), which lasts for a minimum of 12h and where the candidate must demonstrate his or her professional skills in practical assignments.	Award of a dual VET qualification certificate depending on the results attained
CET	Alternating between hours of training in classroom and hours of training in the work environment	Formative assessment Summative assessment	Award of a dual VET qualification certificate depending on the results attained

Source: Based on information collected from <http://www.en.anqep.gov.pt/>

Practical inputs of WBL for the Project

After presenting the main features of the existing VET schemes in Portugal, which fall under the definition of work-based learning, it is possible to see that, these programmes differ from the Austrian and Germany “dual system” models. Despite the fact that the terminology “apprenticeship courses” is used in the Portuguese VET programmes, these do not fall under the definition of “apprenticeship” in the strict sense, as their design and implementation is mainly school-based, exhibiting the characteristics of a State-centred skill formation system, rather than a combined one, that is based on strong self-regulation on the part of the business community.

Nevertheless, there are in place and is regulated, the conditions for the acquisition of practical competences through work-based learning in a real workplace, which may vary (in format and length) according to the type of VET programme, as seen before.

Typically, those conditions follow a common reference, and framework for a given curriculum, being the VET provider, the main responsible for the coordination and monitoring of the work-based learning features.

Despite a certain degree of autonomy on the part of VET providers with regard to the definition of training plans, format, conditions, assessment procedures, there are however fixed procedures defined at national level by the IEFP - while the public institution responsible for the monitoring and assessment of the VET provider delivering professional courses - that need to be followed by the main parties involved in the work-based learning:

- A protocol established between the training organisation, the company and the trainee, where the main duties and responsibilities of each of the parties is defined and signed by all (course coordinator, trainee and the company tutor). This protocol does not generate a subordinated working relationship with the company and ends upon the completion of the workplace training for which it was developed.
- A curricular plan established, according to a given training curriculum, and signed by the main three parties involved.
- There is monthly signature sheet to be signed by the learner.

- Assessment form to be fulfilled by the company tutor at the end of the workplace training.
- Evaluation questionnaire to be fulfilled by the learner at the end of the workplace training.

Apart from those, other procedures and rules can apply:

- Usually, the training in the workplace (being in the form of alternation periods in companies, as internship, or other type) is monitored both by a training coordinator from the VET school 'side and a tutor from the company side.
- The assessment procedures and instruments can be also adapted and commonly defined between the VET provider and the company, but as rule, a formative and summative evaluation is conducted (for more details see table 3).
- Usually, the learner is asked to develop a workplace training/internship Report, describing her/his experience and professional tasks and activities performed in the company.
- As main aspects, the learner assessment may include:
 - a) Quality of the written expression and the supportive material complementing the report, having in account of their good intelligibility and creativity;
 - b) Quality of work performed in the company
 - c) Application of health and safety standards at work
 - d) Assiduity and punctuality
 - e) Integration in the company
 - f) Sense of Initiative

In Portugal, there are, as part of the National Catalogue of Qualifications (CNQ), two Training Standards in the Welding Sector, which can be delivered in one of the different types of dual VET programmes (vocational courses, CEF or apprenticeships), they are:

- 1) Training Standard of level 2 EQF/NQF for the European Welder
- 2) Training Standard of level 4 EQF/NQF for the European Welding Practitioner.

Both Training Standards are aligned with IIW/EFW guidelines, meaning that, if the VET provider is an ATB (Authorised Training Body), authorized to deliver training according to EWF rules, it is possible to issue three different diplomas: the National, the European and the International, i.e., if successfully completes the VET course, the learner acquires,

not only the education level and occupation qualification, but also, an EWF recognized diploma at European/International Welder or European/International Welding Practitioner.

6. United Kingdom

6.1. NQF vs EQF

A total of five different qualifications frameworks currently operate in the UK. England and Northern Ireland have the framework for higher education qualifications (FHEQ) established in 2001, the qualifications and credit framework (QCF) established during 2006-08, and the national qualifications framework (NQF) established in 2003. The Scottish qualifications framework (SCQF) has operated since 2001; in Wales, the credit and qualifications framework of Wales (CQFW) has been in place since 2003. This multitude of frameworks is partly explained by the gradual devolution of powers to the UK nations, in particular giving more autonomy to Scotland and Wales. The many frameworks also reflect the needs and interests of subsystems of education and training, explaining the existence of a separate FHEQ in England and Northern Ireland and the continued coexistence of the QCF and NQF. In contrast, Scotland and Wales have chosen to develop comprehensive frameworks covering all levels and types of qualifications. While these developments show that frameworks develop and change continuously, they also show that the visibility and overall impact of frameworks depends on the political context in which they operate. This is particularly visible in England where the original ambitions on behalf of the QCF (as a comprehensive framework) seem to be under pressure. An evaluation of the QCF is expected to be finalised in the last quarter of 2014 and will, it is hoped, help to clarify the future role of this framework. From the perspective of the new and emerging frameworks introduced throughout Europe ‘post-European qualifications framework (EQF)’, the Scottish and Welsh frameworks are important learning cases. Both are comprehensive and have set themselves ambitious targets for lifelong learning. The evaluation of the Welsh framework, published in July 2014, points to the importance of integrating the NQF into mainstream education and training policies. While the CQFW is considered a useful tool, it tends to operate on the margins of the education and training system, not as a central entry and focal point. The Scottish framework, on the other hand, is considered a key tool for all stakeholders and is increasingly emerging as the most visible and consistent of the UK frameworks. The

relative complexity of the UK situation has led to the publishing of a brochure (Quality Assurance Agency for Higher Education et al., 2014) explaining to users how the frameworks interact, as well as how they link to the Irish framework. The National Qualifications Framework (NQF) sets out the levels against which a qualification can be regulated in England, Ireland, Scotland, Wales and Northern Ireland.

The NQF helps learners make informed decisions about the qualifications they need. They can compare the levels of different qualifications and identify clear progression routes for their chosen career.

LEVEL	Scottish Credit and Qualifications Framework www.scfq.org.uk	National Framework of Qualifications for Ireland www.nqf.ie	Credit and Qualifications Framework for Wales www.cqfwf.wales.nps.gov.uk	Regulated Qualifications Framework for England and Northern Ireland www.ofqual.gov.uk www.ccea.org.uk	Framework for higher education qualifications in England, Wales and Northern Ireland www.qaa.ac.uk	Main stages of education/ employment
12	Doctoral Degrees, Professional Apprenticeships, Professional Development Awards (PDA), Award	10	8	8	8	Professional or postgraduate education, research or employment
11	Master's Degrees, Integrated Master's Degrees, Professional Apprenticeships, SVQ, PDA, Postgraduate Diplomas, Postgraduate Certificates, Award	9	7	7	7	Higher education Advanced Skills Training
10	Bachelor's Degrees with Honours, Professional Apprenticeships, SVQ, PDA, Graduate Diplomas, Graduate Certificates, Award	8	6	6	6	Entry to professional graduate employment
9	Bachelor's Ordinary Degrees, Technical Apprenticeships, PDA, SVQ, Graduate Diploma, Graduate Certificates, Award	7	5	5	5	Specialised education and training
8	Higher National Diplomas (HND), Honours or Higher Education (Ogpre), Technical Apprenticeship, PDA, SVQ, Award	6	4	4	4	Qualified/Skilled worker Entry to higher education Completion of secondary education
7	Higher National Certificates (HNC), Modern Apprenticeships, PDA, SVQ, Certificates of Higher Education (CeHfE), Scottish Baccalaureate, Advanced Higher, Award	5	3	3	3	Progression to skilled employment Continuation of secondary education
6	Higher, Modern Apprenticeships, SVQ, PDA, National Progression Award (NPA), National Certificate, Award	4	2	2	2	Secondary education, initial entry into employment or further education
5	National 5, Modern Apprenticeships, SVQ, NPA, National Certificate, Award	3	1	1	1	<p>Qualifications can cross boundaries - a guide to comparing qualifications in the UK and Ireland, March 2017</p>
4	National 4, SVQ, NPA, National Certificate, Award	2	Entry Level	Entry Level	Entry Level	
3	National 3, NPA, National Certificate, Award	1	Entry Level	Entry Level	Entry Level	
2	National 2, NPA, National Certificate, Award					
1	National 1, Award					

Source - a guide to comparing qualifications in the UK and Ireland, March 2017



Co-funded by the Erasmus+ Programme of the European Union

This project has been co-funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

These ‘*Qualifications Can Cross Boundaries*’ document is a rough guide to comparing qualifications in the UK and Ireland, as well as more broadly with the European qualifications frameworks (The European Qualifications Framework and the Framework for Qualifications of the European Higher Education Area) giving an indication of how qualifications compare across existing national and international boundaries.

Correspondences between UK and Irish frameworks with European qualifications frameworks

Within Europe, two overarching qualifications frameworks exist to which the national qualifications frameworks of the UK and Ireland relate: The European Qualifications Framework (EQF) and the Framework for Qualifications of the European Higher Education Area (FQ-EHEA) also known as the Bologna Framework.

Table 1 shows the correspondence of levels established between national qualifications frameworks and the EQF:

European Qualifications Framework (EQF)	Regulated Qualifications Framework England/Northern Ireland (RQF)	Credit and Qualifications Framework for Wales (CQFW)	Scottish Credit and Qualifications Framework (SCQF)	The National Framework of Qualifications for Ireland (NFQ IE)
8	8	8	12	10
7	7	7	11	9
6	6	6	10/9	8/7
5	5/4	5/4	8/7	6
4	3	3	6	5
3	2	2	5	4
2	1	1	4	3
1	E3	E3	3	2/1
	E2	E2	2	
	E1	E1	1	

Table 2 shows the outcome of verifying the compatibility of higher education frameworks for Scotland (FQHEIS/SCQF), for England, Wales and Northern Ireland (FHEQ) and for the NFQ for the Republic of Ireland (NFQ IE) with the FQ-EHEA as follows:

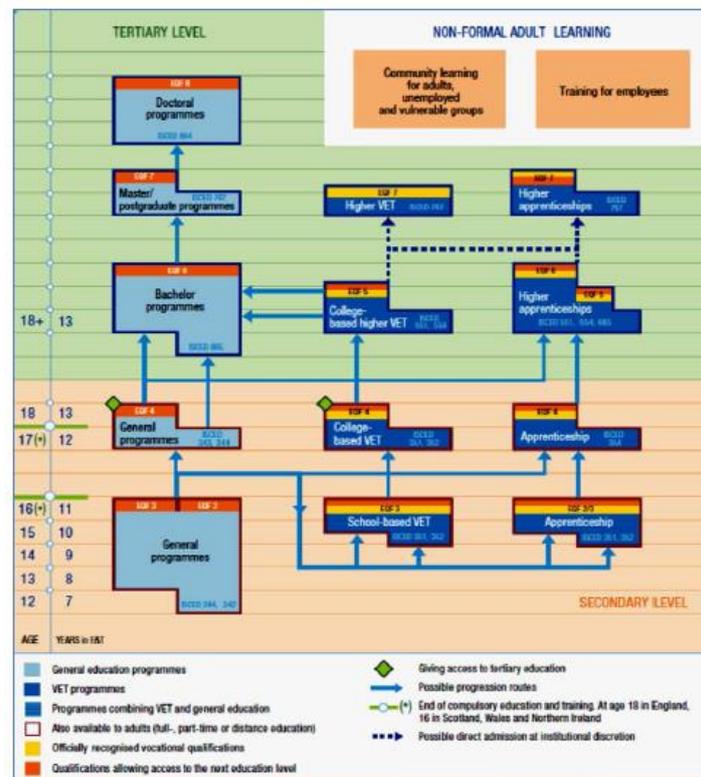
Typical higher education qualifications within each level	FHEQ level	FQHEIS/SCQF level	NFQ IE level	Corresponding FQ-EHEA cycle
Doctoral degrees	8	12	10	Third cycle (end of cycle) qualifications
Master's degrees (including Integrated Master's)	7	11	9	Second cycle (end of cycle) qualifications
Postgraduate diplomas				Intermediate qualifications within the second cycle
Postgraduate certificates				
Bachelor's degrees with honours /Honours Bachelor Degrees	6	10	8	First cycle (end of cycle) qualifications
Irish Higher Diplomas				
Bachelor's degrees/ Ordinary Bachelor Degree		9	7	Intermediate qualifications within the first cycle
Graduate diplomas				
Graduate certificates				
Foundation Degrees (for example FdA, FdSc)	5	8	6	Short cycle (within or linked to the first cycle) qualifications
Diplomas of Higher Education (DipHE)				
Higher National Diplomas (HND)				
Irish Higher Certificates				
Higher National Certificates (HNC)	4	7		Intermediate qualifications within the short cycle
Certificates of Higher Education (CertHE)				

Source - a guide to comparing qualifications in the UK and Ireland, March 2017

6.2. Work-based Learning features

The United Kingdom (UK) is a union of Great Britain (England, Scotland and Wales) and Northern Ireland. The UK Government has devolved decision-making powers in a number of areas of policy responsibility to the Devolved Administrations in Scotland, Wales and Northern Ireland, such as governance for all levels and types of education, including VET. Whilst there are similarities between the systems in England, Wales and Northern Ireland, reforms are creating greater divergence and the Scottish system has always been significantly different in many ways to those of the rest of the UK. At the time of the update to this report, in 2016, the UK electorate as a whole has voted in a national referendum in favour of leaving the European Union; however, the government must now make a number of decisions on how to proceed given this mandate from the people of the UK. Negotiations regarding the terms of exiting, and the UK's future relationship with the EU, as of October 2016, have not yet formally begun. Moreover, the electorates in both Scotland and Northern Ireland voted to remain. The contrary positions of the referendum results for the UK and Scotland, in particular, has provided some additional constitutional complexity to be resolved.

Figure 4. VET in the UK's education system



NB: ISCED-P 2011

Source: Cedefop and ReferNet UK

The population of the UK is approximately 65.3 million. The UK old age dependency ratio is showing a trend towards an aging population, with more people reaching pension age. The old age dependency ratio for 2015 was 27.4%. The ratio is expected to rise dramatically after 2020. The estimated EU average for 2015 was 28.8%.

The total UK employed workforce (aged between 16 and 64) accounted for 31.7 million people in May 2016, which is an employment rate of 74.4%. There has been a general increase in the employment rate since late 2011/early 2012, and the unemployment rate has fallen to 4.9%, which is the lowest since September 2005. The Office for National Statistics estimates that non-UK nationals made up 3.5% of all people working in the UK in 1997, which has risen to 10.6% in March 2016.

The amount of job roles requiring intermediate and higher skills and education is rising in the UK and it is expected that it will become even more important to possess specialist skills and higher education in the coming years, in order to qualify for a more technologically advanced labour market. Whilst a number of occupations will continue to exist for unskilled and low skilled employees, more and higher paid jobs will increasingly require intermediate (upper secondary/technician) level and higher education qualifications. Employers are generally well aware of sector specific qualifications; however, frequent changes to qualifications can lead to confusion regarding their value and relevance. Providing vocational education and training in a lifelong learning perspective.

Vocational education and training (VET) is available at secondary and higher education levels in the UK; most VET qualifications are taken at secondary level (EQF levels 3 and 4) within the further education sector. Formal VET in the UK is organised within several national qualifications frameworks. A new qualifications framework encompassing academic and vocational qualifications in England and Northern Ireland was introduced in October 2015. The new Regulated Qualifications Framework (RQF) gives awarding organisations increased freedom and flexibility to develop qualifications that meet specific labour market needs. Qualifications are now expected to be validated and supported directly by employers rather than follow prescriptive rules and structures imposed by government agencies. New level descriptors are being developed, but the same eight framework levels (plus entry levels, see Table 1) remain from the previous Qualifications and Credit Framework (QCF), and the existing qualifications continue to be offered until they are withdrawn by the awarding organisation. The Qualifications and

Credit Framework contained mainly vocational qualifications in England and Northern Ireland. The Credit and Qualifications Framework for Wales (CQFW) also has the same levels as the QCF/RQF. The Scottish Credit and Qualifications Framework (SCQF) comprises all formal, and some non-formal, Scottish qualifications credit rated and levelled to 12 levels. The QCF, CQFW and SCQF describe levels, qualifications and units in terms of learning outcomes as well as credits and notional learning hours. RQF qualifications will, from 31 December 2017, be described in terms of total qualification time as credit allocation per unit of learning is not compulsory within the RQF. The UK qualifications frameworks correspond to the European Qualifications Framework (EQF) as described in the table below:

Table 1. National qualifications frameworks in relation to the EQF

EQF	RQF	SCQF	CQFW
8	8	12	8
7	7	11	7
6	6	10/9	6
5	5/4	8/7	5/4
4	3	6	3
3	2	5	2
2	1	4	1
1	Entry 3	3	Entry 3
	Entry 2	2	Entry 2
	Entry 1	1	Entry 1

Source: QAA (2014). Qualifications can cross boundaries – a guide to comparing qualifications in the UK and Ireland [accessed 22.2.2017].

Apprenticeships in the UK are offered from basic training at secondary level to advanced courses at higher education level. The Table below shows which levels training is available at. It should be noted that, apart from the new Apprenticeship Standards in England, it is the qualifications within the Apprenticeship Frameworks that are benchmarked to the NQFs, not the Apprenticeship Frameworks as a whole. Table 2.

Table 2. NQFs and Apprenticeship levels in relation to the EQF

RQF / CQF W	England	Wales	Northern Ireland	EQF	Scotland	SCQF
8				8	Professional Apprenticeships	12
7	Higher Apprenticeships	Higher Apprenticeships		7	Professional Apprenticeships	11
6	Higher Apprenticeships	Higher Apprenticeships	Higher Apprenticeships	6	Professional Apprenticeships	10
					Technical Apprenticeships	9
5	Higher Apprenticeships	Higher Apprenticeships	Higher Apprenticeships	5	Technical Apprenticeships	8
4	Higher Apprenticeships	Higher Apprenticeships	Higher Apprenticeships		Modern Apprenticeships	7
3	Advanced Apprenticeships	Apprenticeships	Level 3 Apprenticeships	4	Modern Apprenticeships	6
2	Intermediate Apprenticeships	Foundation Apprenticeships	Level 2 Apprenticeships	3	Modern Apprenticeships	5
	Traineeships	Traineeships				

Source: ReferNet UK.

Apprenticeships in England, Wales and Northern Ireland are offered in the shape of Apprenticeship Frameworks which include a work contract, a technical and occupational qualification within the RQF/CQFW and Functional Skills/Essential Skills/Key Skills/GCSEs. In England most Apprenticeship Frameworks will be replaced by new Apprenticeship Standards developed by groups of employers by 2017/18. The new Standards are currently run in parallel with the Frameworks and comprise on-the-job and off-the-job training and learning, linked to specific occupations and apprentices are assessed by an independent assessor at the end of the training. Scottish Modern Apprenticeships include a work contract and are required to include as mandatory components Scottish Vocational Qualifications (SVQs) or alternative competence based qualifications and Work Place Core Skills. The Work Place Core Skills comprise ICT, Problem Solving, Numeracy, Communication and Working with Others. Sectors may decide to include other qualifications, such as HNCs/HNDs or other vocational qualifications either as a mandatory or optional enhancement. Technical and Professional Apprenticeships do not include Work Place Core Skills; rather they include a range of SVQ units designated as Career Skills. Technical and Professional Apprenticeships may include work-based qualifications other than SVQs (or alternative competence-based qualifications) such as HNDs or professional qualifications as the mandatory qualification. Apprenticeships in Northern Ireland are being reformed. Apprenticeships will be available from level 3 to level 8. New Traineeships will be available from level 2 and will allow progression to level 3 Apprenticeships. New Apprenticeships will last at least two years and training is being increased in terms of occupational range and

introduced at higher education level. In Wales, Welsh Apprenticeship qualifications will continue to be underpinned and supported by employer-led UK-wide national occupational standards. However, a review of Apprenticeships in Wales is considering issues such as design and accreditation of Apprenticeships; to move more apprenticeship training above level 2 (EQF level 3); to make all Apprenticeships occupationally-specific; and how to include key competences and Welsh language in Apprenticeships. In April 2017, the Institute for Apprenticeships became operational within England⁷⁶, one of the four nations in the United Kingdom. It was established in law by the Apprenticeships, Skills and Learning Act 2009 as amended by the Enterprise Act 2016. The Institute is intended to provide a stronger role for employers in the leadership of the apprenticeship system. As a result, membership of the Institute's Board primarily comprises employers, business leaders and their representatives, led by an independent chair supported by a staff of 80 employees.

The Institute's main aim is to support the government to create three million apprenticeships, within England, by 2020. Its role is to develop and maintain apprenticeship standards and assessment plans as well as review and approve them. It will maintain a public database of apprenticeship standards and give advice on government funding as well as having a role in quality assurance.

Governance of VET in the UK rests with the UK Government and Government departments in the Devolved Administrations. Devolved Government legislation does not include detailed regulations, such as lists of approved qualifications, but the law provides for the respective Government Ministers to issue the lists following advice from the relevant advisory body. There is a complex institutional framework in the UK VET sector with the Department for Education (DfE) having policy-making responsibilities in England; the policy-making authorities for VET in Northern Ireland are the Department of Education (DE) and the Department for the Economy, in Wales the body is the Welsh Government's Department for Education and Public Services and Department for Economy, Skills and Infrastructure, and, in Scotland, the Department of Learning and the Department of Lifelong Learning of the Scottish Government are responsible.

Table 4. VET policy makers and inspection agencies

England	Department for Education - school, further education and higher education
	Office for Standards in Education, Children's Services and Skills (Ofsted) – schools and further education colleges
Scotland	Department of Learning and the Department of Lifelong Learning - school, further education and higher education
	Education Scotland - schools and further education colleges
Wales	Department for Education and Public Services – school education and Department for Economy, Skills and Infrastructure - further and higher education
	Her Majesty's Inspectorate for Education and Training in Wales (Estyn) - schools and further education colleges
Northern Ireland	Department of Education – school education and Department for the Economy – further and higher education
	Education and Training Inspectorate (ETI) – schools, further education colleges and other providers delivering publicly-funded training programmes

Source: ReferNet UK.

Figure 10 – Inspection Agencies for WBL

Awarding organisations set question papers or other assessments for their qualifications and examine candidates as well as reviewing examination centres' assessment of candidates and reviewing and verifying the work and standards of the centres. The processes of external review of assessment in examination centres are often referred to as verification. Verification is conducted by qualified individuals with quality assurance of assessment qualifications at level 4 (EQF level 5). The Office of Qualifications and Examinations Regulation (Ofqual) is the regulator of all vocational qualifications within the RQF for England. During the review leading to the withdrawal of the regulatory arrangements for the Qualifications and Credit Framework, Ofqual found that the accreditation process of qualifications was not as effective as desired, and consequently removed the requirement for awarding organisations to submit new vocational qualifications for accreditation before they are registered within the qualifications framework. The responsibility for quality assurance and relevance of qualifications will now rest with the awarding organisations, although periodic Ofqual audits will continue. In 2016 the CCEA took over the regulation responsibility of vocational qualifications, within the RQF, that are exclusively provided in Northern Ireland. The work includes the recognition and monitoring of awarding organisations and evaluating their qualifications against published criteria and conditions.

The UK Government and the Devolved Administrations of Scotland, Wales and Northern Ireland set individual budgets regarding education and skills funding. Across the UK,

however, austerity measures have seen many cuts in state funding in recent years. Whilst the schools budget, including 16-19 learning, has remained largely protected, reductions have occurred in the 19+ further education and skills budgets. Despite this reduction, Apprenticeship funding has been steadily on the rise. Various initiatives to raise numbers and the status of VET are in place in the UK.

7. Germany

7.1. NQF vs EQF

The National Qualifications Framework of Germany, also known for Deutscher Qualifikationsrahmen für lebenslanges Lernen (DQR), was referenced to the EQF in 2012 and officially recognised in 2013. DQR does not encompass all formal qualifications, though it includes most Vocational Education and Training (VET) and Higher Education (HE) qualifications, but has formal arrangements to recognize full or partial of informally or non-formally acquired competences and it's being developed arrangements to recognize non-formal qualifications (sectoral qualifications).

DQR has some well-defined objectives discussed among the stakeholders which are Higher Education institutions, schools, VET providers, social partners, public institutions from education and the labour market, researchers and practitioners, being then implemented by the National Coordination Point.

Thus, the goals assigned to DQR are: increase transparency in German qualifications and aid their recognition elsewhere in Europe; support mobility of learners and employees between Germany and other European countries and within Germany; improve visibility of equivalence and differences between qualifications and promote permeability; promote reliability, transfer opportunities and quality assurance; increase skills orientation of qualifications; reinforce learning outcomes orientation of qualification processes; improve opportunities for validation and recognition of non-formal and informal learning and encourage and improve access to, and participation in, lifelong learning (BMBF and KMK, 2013²).

Similarly to the EQF, DQR also have eight levels of descriptors, as presented in figure 1, lying in two categories of competences: professional and personal.

NQF levels	Qualifications	EQF levels
8	Doctoral studies	8
7	Master, strategic IT professional (certified)* (Strategischer IT Professional (Geprüfter)), other further vocational training qualifications according to Vocational Training Act and Handicraft Code (level 7)	7
6	Bachelor, commercial specialist (certified) (Fachkaufmann (Geprüfter)), business management specialist (certified) (Fachwirt (Geprüfter)), master craftsman (certified), (Meister (Geprüfter)), operative IT professional (certified)* (Operativer IT Professional (Geprüfter)), Fachschule (State-certified...), Fachschule (Staatlich Geprüfter...), other further vocational training qualifications according to Vocational Training Act and Handicraft Code (level 6)	6
5	IT specialist (certified) (IT-Spezialist (Zertifizierter)), service technician (certified)* (Service-techniker (Geprüfter))	5
4	Dual VET (three-year and three-and-a-half-year training courses), full-time vocational school (assistant occupations) (Berufsfachschule), full vocational qualification (full-time vocational school) (Berufsfachschule)	4
3	Dual VET (two-year training courses), full-time vocational school (general education school leaving certificate obtained on completion of grade 10 at Realschule or, under certain circumstances, at other lower secondary school types) (Berufsfachschule) (Mittlerer Schulabschluss)	3
2	Vocational training preparation (Berufsausbildungsvorbereitung), employment agency measures (Maßnahmen der Arbeitsagentur), year of prevocational training (Berufsvorbereitungsjahr), introductory training for young people (Einstiegsqualifizierung), full-time vocational school (Berufsfachschule), basic vocational training, (Berufliche Grundbildung)	2
1	Vocational training preparation (Berufsausbildungsvorbereitung), employment agency measures (vocational preparation schemes) (Maßnahmen der Arbeitsagentur) (Berufsvorbereitende Bildungsmaßnahmen), year of prevocational training (Berufsvorbereitungsjahr)	1

Figure 1 - Germany National Qualifications Framework

Source: Cedefop (2017)³

7.2. Work-based Learning features

The work-based learning arrangements in Germany are well-established and mature, reaching a total of 329 recognised occupations. Usually, the dual-track starts once the compulsory education is finished and takes 3 years to be completed. It is mostly delivered on EQF3 and EQF4. The dual system encompasses two learning settings, in average, the apprentice spends 4 days having in-company training and 1 day mastering theoretical and technical skills in VET school.

Germany holds a well-regulated dual system and formally engages a wide range of stakeholders, as it is showcased in the figure 2.

At policy level, the Federal Ministry of Education (BMBF) is responsible for general policy issues of VET and coordinates and steers VET policy for all training occupations in cooperation with the respective ministries. The Ministry also works closely together with the Federal Institute for Vocational Education and Training (BIBB) who conducts research, advises the Federal Government and vocational training providers. The Länder (federal states) have committees for vocational training with employer and employee representatives and are responsible for school education. These social partners (employers' associations and trade unions) ensure the vocational education and training is up-to-date on the latest technological developments.

The chambers have been assigned public tasks in dual training (competent bodies). These include counselling and monitoring/inspection functions with regards to the individual training contracts.

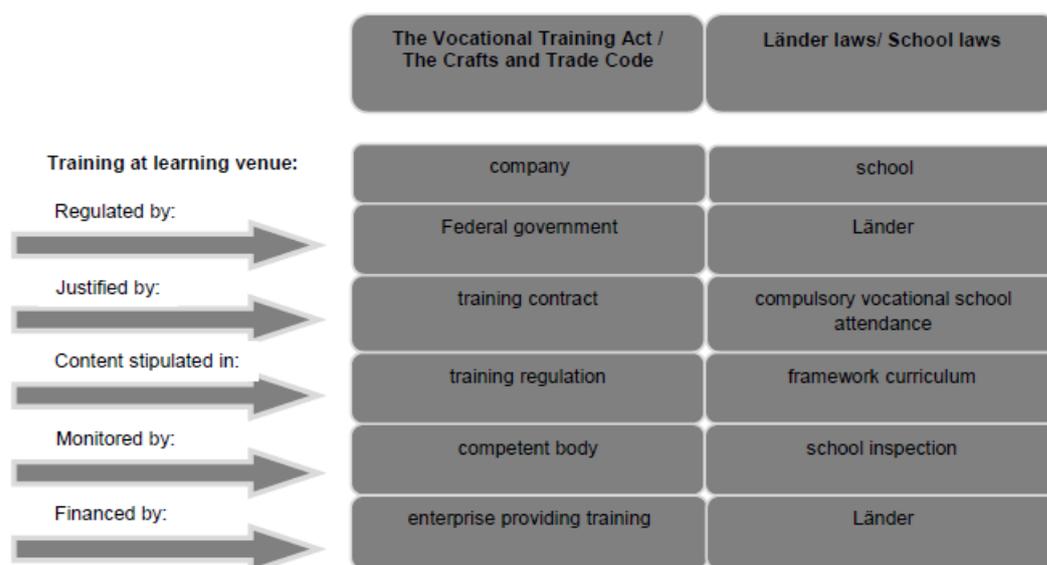


Figure 2 – Legal Basis and Responsibilities in the Dual VET system

Source: ReferNet (2014, p.3)⁴

In quality assurance matters, in a nutshell (see figure 3), the occupations 73 recognized are defined by a set of features: their training standards (context, training specifications and assessment requirements), occupational characteristics and a training plan for three years. Finally, employers' associations and trade unions come in again to set the requirements for the employment' standards.

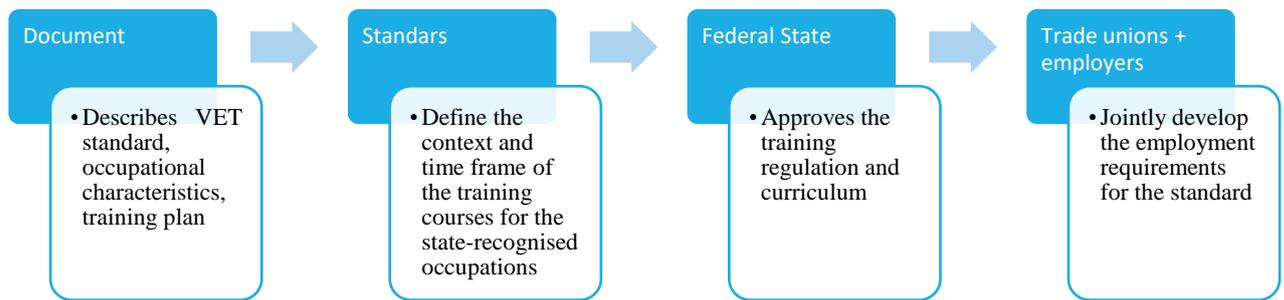


Figure 3 – Quality Assurance mechanism

8. Netherlands

8.1. NQF vs EQF

The National Qualifications of Netherlands (NLQF) has been in place since 2011. In the Netherlands the 17 Ministry-regulated qualifications were related to the eight levels (plus Entry Level) of the NLQF. To check the levels, please see Figure 4 – NLQF.

Entry Level	Basic Education 1 (for adults)
NLQF Level 1	Basic Education 2 (for adults)
	Pre-vocational secondary education - basic vocational pathway (vmbo bb)
	VET level 1 (mbo1)
NLQF Level 2	Basic Education 3 (for adults)
	Pre-vocational secondary education - advanced vocational pathway (vmbo kb)
	Pre-vocational secondary education - combined theoretical pathway (vmbo gl)
	Pre-vocational secondary education - theoretical pathway (vmbo tl)
	VET level 2 (mbo 2)
NLQF Level 3	VET level 3 (mbo 3)
NLQF Level 4	VET level 4 (mbo 4)
	Higher general secondary education (havo)
	Higher general secondary education for adults (vavo-havo)
NLQF Level 4+	Pre-university education (vwo)
	Pre-university education for adults (vavo-vwo)
NLQF Level 5	Associate Degree
NLQF Level 6	Bachelor Degree
NLQF Level 7	Master Degree
NLQF Level 8	Doctorate
	Designer
	Medical specialist

Figure 4 – NLQF

Source: NLQF (2018)⁴

This was attained by working with experts from the different educational sectors and the main stakeholders (including social partners) in education and by consultation with a wider public, including providers of education and training. The qualifications showcased in the figure are the qualifications recognized and regulated by the government. NLQF do also encompasses recognition of non-formal qualifications, having procedures for quality assurance of these qualifications and the reference of all sort of qualifications and levels to the European Qualifications Framework (EQF). So far, over 47 qualifications from private providers have been included in the framework and it's expected a bigger number to be assigned. (NLQF, 2018)

A special feature of the NLQF is that it seeks to strengthen the validation and recognition of partial qualifications, promoting lifelong learning perspective.

8.2. Work-based Learning features

In what refers to the work-based learning provision in Netherlands (ReferNet, 2014⁵), there are some characteristics worth mentioning, such as:

- All VET qualifications at EQF-level 1-4 can be obtained in a school-based or dual track;
- Diplomas for both tracks are identical (with no reference to the track);
- The rights to proceed at higher VET levels or higher education are related to the diploma, not the track;
- In both tracks a substantial part of the time is dedicated to work-based learning: school-based on average 45%, dual track: 76%;
- To enroll in the dual track, a contract with a company is mandatory.
- Students in the dual track stay with one firm for the duration of their course, student in the school- based track might change one or several times during their VET-course.

Criteria for accreditation of work-based learning

1. Accreditation of companies

There are some quality assurance mechanisms in place in Netherlands (ReferNet, 2014) that can be considered and extrapolated to other contexts/countries or sector. In what refers to national law, is mandatory that all companies offering work placements to VET

students are accredited by the specific sector-based Centres of Expertise. Based on this, afterwards, the names of the companies are upload in the website: stagemarkt.nl. These centres do also provide training programmes on instruction, motivation and skills assessment.

Companies apply for each qualification separately and shall renew the approval every 4 years.

Besides that, the companies need to have a trained supervisor or tutor, with at least the same qualification level as the student, be able to share their expertise and hold a pedagogical component. Additionally, the company has to offer sufficient training opportunities for the student to develop the skills prescribed in the curriculum, have a regular contact with schools and ensure a safe work environment (in terms of health and safety).

2. Maintenance of the accreditation

In order to maintain the scope approved and the accreditation, the company shall:

- Train tutors in coaching and supporting VET students;
- Put in place a mechanism to maintain regularly the communication with VET schools;
- Recruit the students on the website referred to;
- Exchange experiences with other local accredited companies.

3. Examination

The VET schools are allowed to issue formal diplomas on VET, as long as the companies are directly involved in the assessment.

Summary per topics on the countries

1. Overview on the recognition of the European Welding Practitioner and the European Welding Specialist in each National Qualifications Framework

This section is intended to provide an overview across the selected countries (RO, HU, IT, ES, PT, UK, DE and NE) on the recognition of the EWF qualifications under study and improvement in WOW project: the European Welding Practitioner (EWP) and the European Welding Specialist (EWS). This mapping strategy will help identify what's is the State-of-the-Art regarding the recognition of EWF qualifications in each country's National Qualifications Framework (NQF) for further in this report disclose if there are any arrangements of WBL implemented.

Table 7 – Recognition of the European Welding Specialist (EWS) and the European Welding Practitioner (EWP) in each country's National Qualifications Framework (NQF).

Countries	European Welding Practitioner (EWP)			European Welding Specialist (EWS)		
	Yes	No	Ongoing	Yes	No	Ongoing
Romania			X			X
Hungary			X		X	
Italy		X				X
Spain	X			X		
Portugal	X			X		
United Kingdom		X		X		
Germany	X			X		
Netherlands	X			X		

2. Overview on WBL arrangements per country

This section is intended to provide an overview across the selected countries (RO, HU, IT, ES, PT, UK, DE and NE) on the typified work-based learning arrangements (alternance schemes or apprenticeships, on-the-job training and WBL informally developed in a school programme). Each country features a classification on the three WBL arrangements, against a three-levels-classification on the maturity level and the extent of implementation in the country, being:

- +++ - Mature and recognised WBL arrangement or the most widespread in the country.
- ++ - WBL arrangement under development in the country.
- + - Weak WBL arrangement and with limitations in the country.

Table 8 - Overview on the type of work-based learning per country

Countries	Alternance schemes or Apprenticeships	On-the-job training	WBL in school programme
Romania	++	+	+
Hungary	++	+	+
Italy	++	+	+
Spain	++	+	+
Portugal	+++	++	++
United Kingdom	+++	+++	+++
Germany	+++	+++	+++
Netherlands	+++	+++	+++

Caption:

- +++ Mature and recognised WBL arrangement or the most widespread in the country.
- ++ WBL arrangement under development in the country.
- + Weak WBL arrangement and with limitations in the country.

To complement the scope of the state-of-the-art report, an overview on the inclusion of WBL provision in EWF qualifications, particularly in the European Welding Practitioner (EWP) and in the European Welding Specialist (EWS). By default, the sort of WBL arrangements embed in each qualification is the same and their strength/maturity is the same, as EWF qualifications define the minimum requirements/standards to deliver the qualifications. Nevertheless, the each ATB is free to increase, for instance, the workload of their qualifications, the amount of training delivered in laboratories and welding shops and the strategies for delivering training.

Table 9 - Overview on the provision of work-based learning in EWF qualifications (non-formal)

Non-formal EWF Qualifications						
	EWP			EWS		
Countries	Alternance schemes or Apprenticeships	On-the-job training	WBL in school programme	Alternance schemes or Apprenticeships	On-the-job training	WBL in school programme
Romania	+	+	+++	+	+	++
Hungary	+	+	+++	+	+	++
Italy	+	+	+++	+	+	++
Spain	+	+	+++	+	+	++
Portugal	+	+	+++	+	+	++
United Kingdom	+	+	+++	+	+	++
Germany	+	+	+++	+	+	++
Netherlands	+	+	+++	+	+	++

Caption:

- +++ Mature and recognised WBL arrangement or the most widespread in the country.
- ++ WBL arrangement under development in the country.
- + Weak WBL arrangement and with limitations in the country.

Simultaneously, the Table 10 - Overview on the provision of work-based learning in EWF qualifications matches the maturity/development of the different models of WBL, when EWF qualifications are recognised at national level. Thus, as explained before, is not applicable to all countries, neither to both qualifications.

Table 10 - Overview on the provision of work-based learning in EWF qualifications

EWF Qualifications in NQFs						
	EWP			EWS		
Countries	Alternance schemes or Apprenticeships	On-the-job training	WBL in school programme	Alternance schemes or Apprenticeships	On-the-job training	WBL in school programme
Romania	-	+	+	-	+	+
Hungary	-	+	+	-	+	+
Italy	-	+	+	-	+	+
Spain	-	+	+	-	+	+
Portugal	++	+	+++	-	-	-
United Kingdom	+++	+++	+++	+++	+++	+++
Germany	+++	+++	+++	+++	+++	+++
Netherlands	+++	+++	+++	+++	+++	+++

Caption:

- +++ Mature and recognised WBL arrangement or the most widespread in the country.
- ++ WBL arrangement under development in the country.
- + Weak WBL arrangement and with limitations in the country.

3. Overview on the tools for assessing trainees/apprentices engaged in WBL

This section is intended to capture the most common tools used to assess the activities in-company, against standards and previously defined learning outcomes - Table 11 – Overview on the tools for assessing the trainees engaged in WBL.

Table 11 – Overview on the tools for assessing the trainees engaged in WBL across Europe

Activity type	Methods and tools used by in-company trainers/tutors	Methods and tools used by trainees/apprentices
Apprenticeships and on-job training	<ul style="list-style-type: none"> - Interviews about expectations, job satisfaction, competency and career development; - Attendance-based monitoring; - Observation grids; - Feedback conversations; - Formative assessment and summative assessment including a final evaluation test (PAF), which lasts minimum 12h – the candidate must demonstrate their professional skills by practical assignment - Learning outcomes achievement assessment. 	<ul style="list-style-type: none"> - Self-assessment grid/questionnaire; - Reports. - Diary/reflective journal; - Examinations

Sources: (WBLQUAL, 2012)

4. Quality criteria for quality recognition of the WBL

The *European Framework for Quality and Effective Apprenticeships* addresses in particular two levels of criteria (see document {COM(2017) 563 final and 2017/0244 (NLE) / 6779/18}):

1. **At the level of apprenticeship schemes:** 7 criteria for quality and effective apprenticeships; and
2. **At system level:** 7 criteria for framework conditions that support the set up and implementation of quality and effective apprenticeships. Criteria for quality and effective apprenticeships

Criteria for learning and working conditions

- Written contract

- Learning outcomes
- Pedagogical support
- Workplace component
- Payment and/or compensation
- Social protection
- Work, health and safety conditions

Criteria for framework conditions

- Regulatory framework
- Involvement of social partners
- Support for companies
- Flexible pathways and mobility
- Career guidance and awareness raising
- Transparency Quality Assurance and graduate tracking

The same documents present a set of criteria for quality and effective apprenticeships with possible indicators. The recommendations were developed on a number of existing studies which lead to the overview table from which and except is presented below (table 13):

Table 12

Criteria for quality and effective apprenticeships	Possible indicators
1. Written contract	<ul style="list-style-type: none"> • Does the contract with the employer cover the following: duration, employer's obligations, apprentices' rights and obligations, learning outcomes, pay, hours, holiday entitlement and termination? • Does the contract with the training institution cover the following: duration, apprentices' rights and obligations, learning outcomes and termination?
2. Learning outcomes	<ul style="list-style-type: none"> • Are the learning outcomes broader than the needs of companies?

Criteria for quality and effective apprenticeships	Possible indicators
	<ul style="list-style-type: none"> • Are curricula regularly updated? Are they developed based on existing qualification standards and/or occupational profiles? • Are apprenticeship schemes developed in the light of future employment needs reflecting national and/or sectoral priorities?
3. Pedagogical support	<ul style="list-style-type: none"> • Does the company assign a qualified staff member (tutor) to accompany apprentices? • Do apprentices have access to guidance and counselling services? • Do apprenticeships schemes ensure that teachers and trainers have access and support to continuing training to carry out their technical and pedagogical obligations both in training institutions and in companies?
4. Workplace component	<ul style="list-style-type: none"> • Does the apprenticeship scheme contain guidelines for the coordination of work-based and school-based training? • Does the apprenticeship scheme indicate the percentage or training time (as part of work based learning) spent in the company? <i>Does it provide for at least half of time to be spent learning in the workplace?</i> • Does the training plan ensure that learning in the company covers the full set of practical skills and competences required for a qualification?
5. Pay and/or compensation	<ul style="list-style-type: none"> • Do apprentices receive pay and/or compensation of indirect costs from the employer, as defined in the written agreement between the company and the apprentice? • Is the pay or compensation compliant with collective bargaining agreements, and/or the national and/or sectoral minimum legal wage? • Do apprentices receive any other financial support? • Are apprentices exempt from paying tuition fees?
6. Social protection	<ul style="list-style-type: none"> • Are apprentices covered by social protection regulations? • Are the apprentices protected in case of company failure (e.g. bankruptcy) to provide the training?
7. Work, health and safety conditions	<ul style="list-style-type: none"> • Are apprentices covered by health and safety regulations in the workplace, and are these regulations implemented? <i>Are apprentices informed and trained in this field?</i> • When appropriate, are apprentices provided with personal protective equipment? • Does the contract set the working hours?
8. Regulatory framework	<ul style="list-style-type: none"> • Is there a clear legal framework enabling apprenticeship partners to act effectively and guaranteeing mutual rights and responsibilities? • In the event that different levels of legislation (e.g. national and regional levels) are involved, are the strategic and operational functions clearly defined and adequately allocated?

Criteria for quality and effective apprenticeships	Possible indicators
9. Involvement of social partners	<ul style="list-style-type: none"> • Is there a structured, continuous dialogue between all apprenticeship partners, including a transparent way of coordination and decision-making? • Do employers' organisations play a key role in engaging and supporting companies? • Are employer and employee representatives actively engaged at all levels?
10. Support for companies (costsharing arrangements)	<ul style="list-style-type: none"> • Are apprenticeship schemes supported financially by public authorities? • Is there a system of non-financial support to companies (especially SMEs)? E.g. support in the accreditation procedures • Is there recognition, or even award, for companies that provide quality apprenticeships?
11. Flexible pathways and mobility	<ul style="list-style-type: none"> • Are there mechanisms for the validation of prior learning – formal, non-formal, and informal? • Do apprenticeship schemes provide qualifications which are formally recognised within National Qualification Frameworks <i>and/or the European Qualification Framework</i>? • Do apprenticeships offer both horizontal and vertical pathways to <i>career development</i>, further specialisation or education at higher levels? • Do apprenticeship schemes provide opportunities for the mobility of apprentices at national and European levels?
12. Career guidance and awareness raising	<ul style="list-style-type: none"> • Does the apprentice have access to career guidance from a qualified professional? • Do employers' organisations and, where appropriate, economic chambers provide information, guidance as well as motivation building actions targeting enterprises? • Are there strategies, initiatives in marketing apprenticeship and informing companies of the benefits of taking apprentices, related possibilities and available incentives?
13. Transparency	<ul style="list-style-type: none"> • Are there minimum requirements for companies willing to provide apprenticeships places and/or an accreditation procedure? • Publication of offers?
14. Quality assurance and graduate tracking	<ul style="list-style-type: none"> • Are training institutions and companies subject to quality assurance inspections carried out by independent bodies? • Does the quality framework ensure a regular monitoring of the apprenticeship market, including anticipation of skills needs, and short-term and medium-term forecasts of supply and demand for apprenticeship places? • Are the responsibilities for quality assurance shared? Is it clear who is in charge of what aspects of quality assurance?

Criteria for quality and effective apprenticeships	Possible indicators
	<ul style="list-style-type: none"> Do the public authorities produce statistics to show the transition rate from apprenticeship to employment, <i>tracking the career progression of the apprentices?</i> Are ex-ante and/or ex-post impact evaluation of apprenticeships in place?

Table 13 - Overview of apprenticeship schemes in the WOW Project studied European countries

Name of the apprenticeship scheme (in the national language and English)		Educational level or type of qualification at which the scheme leads to	Group
ES	Formación profesional dual [Apprenticeships in Dual VET]	Upper-secondary and higher	A
HU	Tanulószerződésen alapuló duális szakképzés [Dual Vocational System Based On The Apprenticeship Training Contract]	Upper-secondary	A
IT	Apprendistato per la qualifica e il diploma professionale [Type 1] [Apprenticeship for a vocational qualification and diploma]	Upper-secondary	A
IT	Apprendistato professionalizzante [Type 2] [Occupation oriented apprenticeship]	Sectoral scheme	E
IT	Apprendistato di alta formazione e ricerca [Type 3] [Higher education and research apprenticeship]	Higher level and sectoral scheme	C
PT	Cursos profissionais [Professional VET programmes]	Upper-secondary	B
PT	Cursos de aprendizagem [Apprenticeship programmes]	Upper-secondary	B
PT	Cursos de educação e formação – CEF [Vocational courses at upper secondary level]	Upper-secondary	B
PT	Educação e formação para adultos – EFA [Adult education and training]	Upper-secondary	B
PT	Cursos de especialização tecnológica – CET [Technological specialisation programmes]	Post-secondary	D
RO	Ucenicia la locul de munca [Apprenticeship at the workplace]	Upper-secondary	A
RO	Invatamant profesional in sistem dual [VET in dual system]	Upper-secondary	B
UK	Apprenticeships (England, Wales, NI)	Upper-secondary and higher	A
UK	Modern Apprenticeships (Scotland)	Upper-secondary and higher	A

Name of the apprenticeship scheme (in the national language and English)		Educational level or type of qualification at which the scheme leads to	Group
DE	Berufsausbildung [Dual VET]	Upper-secondary	A
NL	Beroepsbegeleidende Leerweg [Dual pathway]	Upper-secondary	A

Source: Cedefop

A key purpose to enhance teaching activities, in the context of the government agenda of widening participation and life-long learning has been to address the integration of education with work-based learning (WBL) programs by establishing quality criteria for quality assessment and recognition of the WBL.

Work-based learning is our days an increasingly important part of the education curriculum.

Work-based learning courses can give Training Bodies the opportunity to give their degree program an added value when it comes to enabling students to achieve a wide range of learning outcomes.

The main principles/questions for establishing quality criteria for WBL are:

1. Possible approaches of education as work-based learning program?
2. Possible/Existing Support and Quality Assurance principles?
3. Generic course content?
4. Work-based learning agreement?

Traditionally, WBL is presented in areas where a high level of face-to face support, i.e. mentoring, is required. Where a high level of face-to-face support is not required, then there is no need to incorporate mentoring support into WBL courses.

In setting out to develop and deliver quality criteria for work-based learning, course teams should answer the following two key questions:

- What are the requirements of the relevant occupational standards, or professional guidelines?
- How best can the occupational standard be assessed and supported at a distance?

Once the occupational standard has been identified, course teams will need to liaise with the relevant professional body or occupational representatives in order to agree the skills that are to be met within the new course and program. Course teams and program

committees will need to work closely with occupational representatives to identify these skills as well as the learning outcomes.

The final learning outcomes for the course and program must be understood and accepted at occupational and educational levels.

This process is an important stage in ensuring that students gain an accredited qualification which will enable them to both further their career and gain higher education credit.

The main criteria for evaluation and examination procedures are based on

- 1) professional profile – which includes specific professional activities as well as the knowledge and skills required to carry out these activities
- 2) the training framework leading to the acquisition of a qualification according to a specific curriculum.

Because WBL activities are drawn from working situations they are less easy to fit into a traditional structured and progressive learning program.

However, the same principles have to apply to designing assessment of this type of learning as to all other types, i.e.: a curriculum structure that has clearly defined learning outcomes (reflects academic, professional and employment demands).

A WBL quality assessment criteria should check if a program:

- is explicitly aligned with student learning;
- is clear and equitable;
- enables students to demonstrate the achievement of the learning outcomes.

Having the above in mind we suggest that in filling the checklist attached there should be paid attention to the following:

Checklist for establishing quality criteria course teams developing WBL education:

Question	Remarks
1 Applicable full range of learning outcomes? (knowledge, understanding, cognitive skills, key skills, practical and professional skills).	
2 Students are able to gain credit points (Education system)?	
3 Assessment strategies enable students to demonstrate academic and work-related outcomes?	

4 Student support frameworks must be available for both their workplace activities and their higher education studies	
5 Are course materials linked to appropriate occupational competencies or standards?	
6 Do the WBL and learning outcomes meet the needs of the relevant professional body or employer groups?	
7 Does the course (structure and design) encourage and support independent study?	
8 Does the course (structure and design) enable students to learn from their own workplace experiences?	
9 Will students be able to relate their workplace experiences to the course materials included theories/models/concepts?	

Brief checklist for developing a WBL program:

Question	Remarks
1 WBL program addresses which NQF/EQF level?	
1 Is the WBL included in a study program? (to enable students to achieve specific work-related learning outcomes)	
2 Do the WBL outcomes have parity with National educational learning outcomes?	
3 Does the WBL support the award of learning outcomes?	
4 Are the WBL assessment principles integrated within the program? (not only confined to specific courses).	
5 Does the WBL offer new/specialized learning opportunities within existing study programs?	
6 Does the WBL offer added value learning opportunities appropriate for employment and careers?	
7 Do links with relevant authorities and their frameworks, or other occupationally relevant external agencies exist?	
8 Does the WBL offer periodically updates its requirements based on the market demands and novelties?	

Conclusions

The above presented state of the art presented for different European countries has shown the existing WBL systems and their implementation conditions and use. In the same time it showed the degree of the existing implementation and the need for increasing the efforts in harmonising and implementing the WBL system for the manufacturing sector, with the support of local and European cooperative structure involving the European Federation for Welding, Joining and Cutting (EFW), National Authorized Bodies (ANBs) for Qualification, VET providers (ATBs, Approved Training Bodies), companies and learner, to set the requirements for apprenticeships and in-company training to be recognized at European, national and regional levels.

For this purpose, clear criteria have been defined in this document. Since the VET approaches of each country are diverse due of the fact that different communities and industries have different approaches, such an approach took into consideration various regional/national factors that have to be quantified taking into consideration those specific factors. Implementing those criteria will help in harmonising and also in a faster implementation of the existing WBL system at apprenticeship and system level. The defined criteria took into consideration all main aspects starting from the contract, regulatory framework, health and safety aspects, career guidance etc.

Another conclusion refers to the fact that developing a Guideline that should integrate a clear and harmonized WBL system for the EWS and EWP qualifications would surely assure a faster and smother development of the European regulations in the National VET system.

Such a Guideline should contain in more details and clearly state the quality requirements/responsibilities/assessment criteria that would allow employers/companies implement them as smooth and fast as possible (in terms of facilities, health and safety regulations, at workplace, etc.).

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