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## **REFRAME**

### **REGIONAL NETWORK FOR WORK BASED LEARNING**

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#### **DELIVERABLE D3.1.**

REFRAME methodological Framework and ECVET approach  
(User Guide)

**July 2019**

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## BACKGROUND

### WP3. COLLABORATIVE DESIGN BASED ON ECVET APPROACH

This report will present the methodological framework for carrying out desk and field research and it will be structured in aims and objectives of the research, guidelines principles and logical framework, methods and tools to adopt WBL and LO approaches.

Focusing our attention on the WP3, Collaborative Design based on ECVET approach, the general aim is:

- Elaborating a common European methodological framework and relevant criteria to collect and analyse the necessary elements and information about the mechanisms to design qualifications and Curricula in terms of Learning outcomes, to build a common framework to evaluate and certificate competencies and knowledge acquired through work based learning schemes in the upper vocational education context.
- Identification of the main strategies and models existing in European countries to promote WBL approach. This will be possible by focusing on the experience and models that can be considered as “learning opportunities” by the stakeholders, enabling processes of knowledge and competencies acquisition by the European Laboratory for WBL. The identification of the experiences will be based on a desk research (literature review) as well as through the FREREF network and their European University of Regions.

The REFRAME methodological framework aims to define the principles to implement WBL paths that increase the quality of the entire process.

The focus of REFRAME is to define the basic steps to build a WBL path and focus on a close association between school and company.

The main steps are:

1. Planning
2. Co-design
3. Monitoring
4. Evaluation

This User's Guide aims to be a tool for the "Planning step". This tool should facilitate the design of curricula adopted by ECVET for teachers.

This document is a guide for the teachers involved in how identify learning units of professional qualifications, susceptible to be recognized in a mutual way.

The document includes a small introduction about the ECVET system.

The system proposed for the recognition of formations is the system ECVET, in the case of Catalonia there is a normative framework in the RESOLUTION ENS / 1138/2014, of May 19, of the procedure for the recognition of curricular contents of the initial vocational training, arts and sports or design courses taken in the framework of programs or actions of mobility and international academic cooperation (DOGC 6631, 27.5.2014).

*Example from the Catalan Resolution:*

[http://dogc.gencat.cat/ca/pdogc\\_canals\\_interns/pdogc\\_resultats\\_fitxa/?documentId=663175&language=ca\\_ES&action=fitxa](http://dogc.gencat.cat/ca/pdogc_canals_interns/pdogc_resultats_fitxa/?documentId=663175&language=ca_ES&action=fitxa)

*Figure 1. Catalan Resolution of recognition*

## INTRODUCTION

REFRAME guides aims to ensure the availability and ECVET compatibility of WBL in mechatronics and automation sectors in the partners' countries of the project.

The main results will be shared references recognised by all partners (common job profiles, occupational and qualification standards) including a common European methodological framework

and relevant criteria to collect and analyse the necessary elements and information about mechanisms to design qualifications and Curricula according to the ECVET methodology, in terms of Learning outcomes, and to build a common framework to evaluate and certificate competences and knowledge acquired through work based learning schemes in the upper vocational education context.

They make possible the comparison and mutual understanding between the Mechatronic and Automation EQL level four qualifications of the concerned partner countries.

The common qualifications standards that we developed correspond to the ECVET methodology in order to be transparent, easily understandable and comparable for partners as well as project external VET actors.

Qualification standards describe the knowledge, skills and autonomy/responsibility a learner has gained on completion of a learning process.

In order to guide on the methodology, two professional profiles of EQF4 level have been identified in the mechatronics and automation sector, being included in the deliverable D3.3 (Handbook).

*“Learning outcomes are statements of what a learner knows, understands and is able to do on completion of a learning process”.* The LO will consequently be drawn using the EQF descriptors: knowledge, skills and autonomy/responsibility, which are the common denominators that fit with the diversity of existing approaches.

This output will thus provide a common framework available for all VET actors which will enable comparison between the different national training programmes concerned and provide a clear description of what the learner will know, be able to do and in which autonomy/behaviour on completion of the training programme.



Figure 2. Phases of Preparing ECVET

#### WHO WILL BE THE MAIN TARGETS OF THIS OUTPUT?

- Partners
- Trainers
- Students
- Other actors

#### WHAT WILL BE THE IMPACTS/BENEFITS?

- Partners: mutual understanding of the national training programmes bases on WBL.
- Trainers: provide coherent and transparent standards of other countries and thus facilitating the organisation of mobility learners.

- Students: Increased transparency of their training path. Besides transparent qualifications understandable and comparable frameworks helps them to be the real actors of their career.
- Other actors: Increased attractiveness of the mechatronic and automation sectors providing transparent qualifications based on WBL approach.

To identify the main strategies and models existing in European countries will promote WBL approach.

### **Why is this system necessary?**

When a student makes a mobility to study abroad, he or she will be confronted with the problem of how this education acquired in a different educational system is recognized.

Therefore, the need for the ECVET system is due to the difference between educational systems of professional training.

The ECVET system is nothing more than a set of principles and tools that aim to recognize the learning acquired in another educational system.

### **How to implement REFRAME APPROACH?**

The main steps that must be carried out in the mobility or traineeship that receive the ECVET system are the following:

#### I. Before mobility

STEP 1: Planning. Preparation of documentation.

STEP 2: Co-design. Study of the curriculum. Identification of the Learning Results Units.

#### II. During mobility

STEP 3: Monitoring of mobility. Evaluation of learning outcomes.

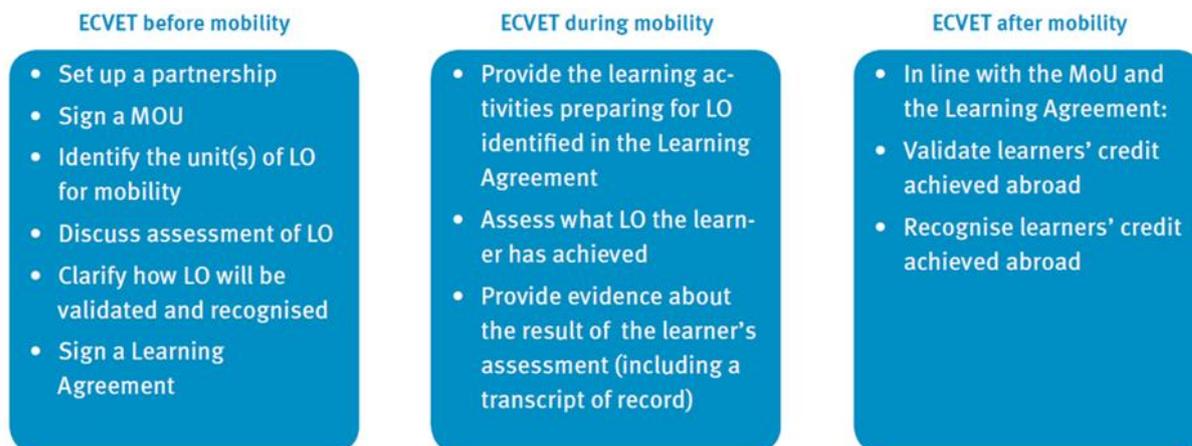
#### III. After mobility

STEP 4: Validation and recognition of learning outcomes. Process evaluation.

The protocol that includes the steps to follow to prepare the mobility of studies following the principles of the ECVET system will be included in the deliverable D3.3 (Handbook).

This document will contemplate aspects of WBL too.

Figure 2 | Key issues to be taken into account before, during and after mobility when using ECVET



Legend: LO: Learning Outcomes; MoU: Memorandum of Understanding

Figure 3. Key issues using ECVET

## INTRODUCTION TO WBL

The Riga Conclusion<sup>1</sup> stresses that there is an increased need to promote **work based learning** (henceforth, WBL) in all its forms (apprenticeship included) by involving social partners, companies, chambers and VET providers, as well as by stimulating innovation and entrepreneurship.

The European Commission<sup>2</sup> clearly demarcates WBL as:

- **School-based VET with on-the-job-training:** This second form of WBL includes on-the-job training periods in companies. These periods vary in length and typically cover shorter

<sup>1</sup> European Commission / Latvian Presidency (2015), Riga Conclusions 2015.

WBL initiatives and policy responses are also part of wider initiatives at EU level aimed at improving education and training, youth employment, and social inclusion, such as the EU Agenda for job growth, fairness and democratic change, the Youth Employment Package, and the broader European Union Youth Strategy (2010 – 2018).

<sup>2</sup> See: European Commission (2013). Work-based Learning in Europe – Practices and Policy Pointers, p. 5; European Commission (2015). Good for Youth Good for Business, p. 13.

internships, work placements or traineeships that are incorporated as a compulsory or optional element of VET programmes leading to formal qualifications.

- **Apprenticeships:** Apprenticeships formally combine and alternate company-based training (periods of practical work experience at a workplace) with school-based education (periods of theoretical/ practical education followed in a school or training centre), and lead to nationally recognised qualification upon successful completion. Most often, there is a contractual relationship between the employer and the apprentice, with the apprentice being paid for his/her work. The term apprenticeships is defined and understood differently in many countries and for research purposes.
- **Work-based learning in school:** WBL can also be integrated in a school-based programme through on-site labs, workshops, kitchens, restaurants, junior or practice firms, simulations or real business/industry project assignments. The aim is to create 'real life' work environments, establish contacts and/or cooperation with real companies or clients, and develop entrepreneurship competences.

Many countries in Europe combine these three general models of WBL. Terminology and definitions vary, and even a single term such as "apprenticeship" may have different connotations and underlying concepts. Clear statistical data on WBL is therefore not easy to locate. In general, terms, VET at upper-secondary level is mainly school-based. Apprenticeship programmes often coexist with school-based systems.

Sometimes and according to different EU countries, the terms alternance and apprenticeship are often used interchangeably. These models are characterised by a high intensity or frequency of work integration or real-life work situations.

Cedefop defines alternance training as *'education or training combining periods in an educational institution or training centre 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.

Be aware that countries with strong apprenticeship systems like Germany report very good results in terms of young people's transition to employment. Learners acquire the skills they need for a first step into the labour market, while employers train their workforce with a view to supplying the knowledge, skills and competences, which they need to stay competitive.

## Training context

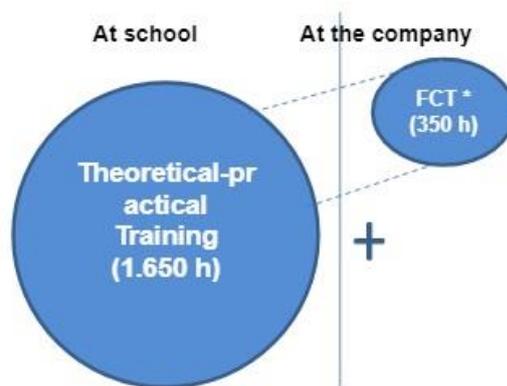
The training context in the WBL could be according to the different models:

**School-based VET with on-the-job-training** is a kind of WBL that includes on-the-job training periods in companies. These periods vary in length and typically cover shorter internships, work placements or traineeships that are incorporated as a compulsory element of VET programmes leading to formal qualifications.

Students make coordinated tasks between the training centre and the company (it depends on the curricula) during between 100 and 300 hours at the company. In some cases, these hours are done preferentially during the second school year. Depending on the training centre's timetable, students can work at the company during four hours a day, mornings or afternoons, five days per week.

In that case, companies usually do not pay to the students, but many times the companies pay something and it depends on the country /region.

For example, the theoretical-practical training at school is around 1650 h during the two school years.



(\*) Compulsory in-company training

Figure 4. Example of School-based VET with on-the-job-training

**Apprenticeships:** Apprenticeships formally combine and alternate company-based training (periods of practical work experience at a workplace) with school-based education (periods of theoretical/practical education followed in a school or training centre), and lead to nationally recognised qualification upon successful completion. Most often, there is a contractual relationship between the employer and the apprentice, with the apprentice being paid for his/her work.

**Apprenticeships** is similar to **School-based VET with on-the-job-training** in coordinated tasks' terms between the training centre and the company, increasing students work hours at the workplace (Enterprise based training). Depending on the country or region, students start at the company preferentially on the last three months of the first school year or they start at the first course. Depending on the training centre's timetable students can work at the company during four or five hours a day, mornings or afternoons, five days per week.

In both kind of WBL (**School-based VET with on-the-job-training** and **Apprenticeships**) there is a training centre's tutor that is the contact person on behalf of school and responsible for finding quality workplaces, drawing up a individual (or collective) learning plan, signing (collective or individual) contracts with the employers, monitoring and assessing the practical learning, and assuring that learning outcomes of the practical training match the VET curriculum.

At the same time the employers providing a learning place, assign a qualified staff member (trainer or tutor) to accompany the learner during his stay at the company.

**It is essential to ensure health and safety in the workplace.** Part of the quality assurance process for WBL is ensuring that learners are placed in suitable and safe learning environments. Strict adherence to health and safety regulations is therefore essential. Mechanisms need to be in place to ensure learners

are fully aware of health and safety standards and that they are supervised appropriately in the workplace. Importantly, those responsible for carrying out this training must be fully supported and qualified to perform this task. Given that learners participating in WBL are typically new to the workplace, health and safety training should be an integral feature of induction/initial assessment and form an on-going aspect of the personalised learning plan. Learners must be fully informed both of the regulations, rights and duties with regard to health and safety that they and their employers are

bound by.

Where WBL takes place on an employer's premises, it is normally the case that the employer has a legal responsibility for health and safety in the workplace. It is important to note however that the legal status of the learner as an employee, learner or hybrid status of employee/learner varies from country to country and across different forms of WBL. As such a key issue to consider in relation to the health and

Safety of learners is clarity regarding the legal obligations that fall to employers/schools/colleges together with the necessary contractual arrangements and insurance in place to protect the learner, employer and education provider.

## Professional involved in WBL

Work-based learning can take place in **VET institutions** and **in companies**. The difference in learning venue questions who is responsible for the delivery of WBL. When it concerns the delivery of WBL in the VET school, sometimes the VET teacher that is responsible for the theory part of VET programmes is playing a role in the WBL as well (and needs additional didactical and technical competence doing this). In other cases, the VET teacher is only responsible for assuring that the practical training is aligned with the curriculum and learning outcomes of the VET programme, while the practical training is done by special trainer / instructor for WBL (with technical expertise, but with or without didactical or pedagogical qualification).

In case WBL is taking place outside **the VET school / centre**, VET teachers, trainers, or organisers of practice have often the responsibility to guide learners in the practical training that takes place outside school (in company or intercompany training centres). They are the contact persons on behalf of schools and responsible for finding quality workplaces, drawing up a individual (or collective) learning plan, signing (collective or individual) contracts with the employers, monitoring and assessing the practical learning, and assuring that learning outcomes of the practical training match the VET curriculum.

At the same time the employers providing a learning place, assign a qualified staff member (trainer or tutor) to accompany the learner. Especially for the tutors active in companies, the question is whether there are stipulated requirements for their qualification and competences (showing the level, specific expertise and the pedagogical / didactic competences) and whether tutors are supported in their continuing update of their pedagogical / didactical and transversal competences (and who is responsible for this). In some countries the chambers of commerce are responsible for providing this training and setting requirements for enterprises that offer practical training as part of a compulsory or optional element of VET programmes, as well as for the teachers and trainers delivering the practical training. In other countries, this task is fulfilled by the Ministry of Employment or Education.

As a summary:

		IN VET SCHOOLS	IN COMPANIES
GENERAL VET	Teachers	General subjects VET teachers	
WBL	Teachers	Practical subject VET Teachers	Trainers
	Trainers	Trainers/instructors	Mentors Workplace tutors WBL tutors

Figure 5. Professionals involved in WBL

## ECVET SYSTEM

The European Credit System for Vocational Education and Training, often referred to as ECVET, is a technical framework for the transfer, recognition and (where appropriate) accumulation of individuals' learning outcomes with a view to achieving a qualification. Guided by a European-level recommendation, ECVET relies on the description of qualifications in units of learning outcomes, on transfer, recognition and accumulation processes and on a series of complementary documents such as a Memorandum of Understanding and Learning Agreement.

ECVET is intended to facilitate the recognition of learning outcomes in accordance with national legislation, in the framework of mobility, for the purpose of achieving a qualification.

ECVET aims to support the mobility of European citizens, facilitating lifelong learning - achieved in formal, non-formal and informal settings - and providing greater transparency in relation to individual learning experiences, making it more attractive to move between different countries and different learning environments.

At a systems level, ECVET aims towards greater compatibility between the different vocational education and training (VET) systems in place across Europe, and their qualifications.

From a geographical mobility perspective, ECVET aims at facilitating the validation, recognition and accumulation of knowledge and skills acquired during a stay in another country, with a view to ensuring that such achievements can contribute to the achievement of vocational qualifications.

ECVET relies on a series of common goals, principles and technical components that centre on the recognition of learning outcomes and achievements for European citizens undertaking vocational education and training, irrespective of the learning context, location or delivery method.

ECVET works hand in hand with the European Qualifications Framework (EQF) to provide greater transparency in European qualifications, promoting the mobility of workers and learners, and facilitating lifelong learning.

ECVET brings together a wide range of actors, at local, national and European levels, with a view to encouraging its wider implementation and use, particularly in learning mobility.

## EXPLANATION OF POLITICAL CONTEXT

**Europe 2020** is a 10-year strategy proposed by the European Commission on 3rd March 2010 for advancement of the economy of the European Union. It aims at "smart, sustainable, inclusive growth" with greater coordination of national and European policy. It follows the Lisbon Strategy for the period 2000–2010.

The strategic **framework for European cooperation in education and training** ("ET 2020") is a forum that allows Member States to cooperate in building best practice. The forum provides opportunities to gather and disseminate knowledge, and seeks to advance educational policy reforms at the national level.

The framework is based on the lifelong learning approach. It therefore addresses outcomes from early childhood to adult vocational and higher education, and is designed to cover learning in all contexts: formal, non-formal and informal.

ET 2020 pursues the following four common EU objectives:

- Make lifelong learning and mobility a reality;
- Improve the quality and efficiency of education and training;
- Promote equity, social cohesion, and active citizenship;
- Enhance creativity and innovation, including entrepreneurship, at all levels of education and training.

### **A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy**

VET is chosen by an average of around 50% of all students in upper secondary education. However, the sector needs to be modernised to make it a more attractive and high-quality option, so that it provides young people with the right skills to find a suitable job and adults with an opportunity to update skills throughout their working life.

The plans adopted by the Commission outline several possible ways to give vocational education and training a new impetus. They include:

- Ensuring access to training and qualifications is flexible and open at all stages of life;
- Promoting mobility to make it easier to gain experience abroad, or in a different sector of the economy;
- Ensuring the highest possible quality of education and training;
- Providing more opportunities for disadvantaged groups such as school drop-outs, the low-skilled and unemployed, people with migrant backgrounds and the disabled;
- Nurturing creative, innovative and entrepreneurial thinking in students.

### **The Bologna Process**

The Bologna Process is an intergovernmental cooperation of 48 European countries in the field of higher education. It guides the collective effort of public authorities, universities, teachers, and students, together with stakeholder associations, employers, quality assurance agencies, international organisations, and institutions, including the European Commission, on how to improve the internationalisation of higher education.

The main focus is:

- the introduction of the three cycle system (bachelor/master/doctorate)
- strengthened quality assurance
- easier recognition of qualifications and periods of study

Widely differing education and training systems in Europe have traditionally made it hard for Europeans to use qualifications from one country to apply for a job or a course in another. Increased compatibility between education systems makes it easier for students and job seekers to move within Europe.

At the same time, the Bologna reforms help to make European universities and colleges more competitive and attractive to the rest of the world.

The Bologna Process also supports the modernisation of education and training systems to make sure these meet the needs of a changing labour market. This is important as the proportion of jobs requiring high skills grows, and the demand for innovation and entrepreneurship increases.

## ECVET RECOMMENDATIONS

European Credit System for Vocational Education and Training (ECVET) is a technical framework for the transfer, recognition and, where appropriate, accumulation of individuals' learning outcomes with a view to achieving a qualification.

For the purposes of this recommendation, the following definitions shall apply:

- (a) **'Qualification'** means a formal outcome of an assessment and validation process which is obtained when a competent institution determines that an individual has achieved learning outcomes to given standards
- (b) **'Learning outcomes'** means statements of what a learner knows, understands and is able to do on completion of a learning process and which are defined in terms of knowledge, skills and competence
- (c) **'Unit of learning outcomes'** (unit) means a component of a qualification, consisting of a coherent set of knowledge, skills and competence, that can be assessed and validated
- (d) **'Credit for learning outcomes'** (credit) means a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications
- (e) **'Competent institution'** means an institution which is responsible for designing and awarding qualifications or recognising units or other functions linked to ECVET, such as allocation of ECVET points to qualifications and units, assessment, validation and recognition of learning outcomes, under the rules and practices of participating countries
- (f) **'Assessment of learning outcomes'** means methods and processes used to establish the extent to which a learner has in fact attained particular knowledge, skills and competence
- (g) **'Validation of learning outcomes'** means the process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification
- (h) **'Recognition of learning outcomes'** means the process of attesting officially achieved learning outcomes through the awarding of units or qualifications
- (i) **'ECVET points'** means a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification.

### 1. Units of learning outcomes

A unit is a component of a qualification, consisting of a coherent set of knowledge, skills and competence that can be assessed and validated with a number of associated ECVET points. A qualification comprises in principle several units and is made up of the whole set of units. Thus, a learner can achieve a qualification by accumulating the required units, achieved in different countries and different contexts (formal and, where appropriate, non-formal and informal), while respecting national legislation relating to the accumulation of units and the recognition of learning outcomes.

The specifications for a unit should include:

- the generic title of the unit
- the generic title of the qualification (or qualifications) to which the unit relates, where applicable
- the reference of the qualification according to the EQF level and, where appropriate, the national qualifications framework (NQF) level, with the ECVET credit points associated with the qualification
- the learning outcomes contained in the unit
- the procedures and criteria for assessment of these learning outcomes
- the ECVET points associated with the unit

- the validity in time of the unit, where relevant

## 2. Transfer and Accumulation of learning outcomes, ECVET partnerships

In ECVET, units of learning outcomes achieved in one setting are assessed and then, after successful assessment, trans-ferred to another setting. In this second context, they are validated and recognised by the competent institution as part of the requirements for the qualification that the person is aiming to achieve. Units of learning outcomes can then be accumulated towards this qualification, in accordance with national or regional rules. Procedures and guidelines for the assessment, validation, accumulation and recognition of units of learning outcomes are designed by the relevant competent institutions and partners involved in the training process.

Credit transfer based on ECVET and applied to learning outcomes achieved in formal learning contexts should be facilitated by establishing partnerships and networks involving competent institutions, each of which is empowered, in their own setting, to award qualifications or units or to give credit for achieved learning outcomes for transfer and validation.

The establishment of partnerships aims to:

- provide a general framework of cooperation and networking between the partners, set out in Memoranda of Understanding (MoU) through which a climate of mutual trust is established
- assist the partners in the design of specific arrangements for credit transfer for learners.

The MoU should confirm that the partners

- accept each other's status as competent institutions
- accept each other's quality assurance, assessment, validation and recognition criteria and procedures as satisfactory for the purposes of credit transfer
- agree the conditions for the operation of the partnership, such as objectives, duration and arrangements for review of the MoU
- agree on the comparability of qualifications concerned for the purposes of credit transfer, using the reference levels established by EQF
- identify other actors and competent institutions that may be involved in the process concerned and their functions.

## 3. Learning agreement and personal transcript

For applying credit transfer involving two partners and a specific mobile learner, a learning agreement is concluded by the two competent institutions involved in the training and validation process and the learner, in the framework of a MoU. It should:

- distinguish between competent 'home' and 'hosting' institutions
- specify the particular conditions for a period of mobility, such as the identity of the learner, the duration of the mobility period, learning outcomes expected to be achieved and the associated ECVET points

The learning agreement should lay down that, if the learner has achieved the expected learning outcomes and these have been positively assessed by the 'hosting' institution, the 'home' institution should validate and recognise them as part of the requirements for a qualification, according to the rules and procedures established by the competent institution.

Transfer between partners can apply to learning outcomes achieved in formal and, where appropriate, non-formal and informal contexts. Thus, the transfer of credit for achieved learning outcomes has three stages:

- the 'hosting' institution assesses the learning outcomes achieved and awards credit to the learner; the learning outcomes achieved and the corresponding ECVET points are recorded in a learner's

'personal transcript'

- the 'home' institution validates the credit as a suitable record of the learner's achievement
- the 'home' institution then recognises the learning outcomes that have been acquired; this recognition gives rise to the award of the units and their corresponding ECVET points, according to the rules of the 'home' system.

Validation and recognition by the competent 'home' institution depend on the successful assessment of learning outcomes by the competent 'hosting' institution, in accordance with the agreed procedures and quality assurance criteria.

#### 4. ECVET points

ECVET points provide complementary information about qualifications and units in numerical form. They have no value independent of the acquired learning outcomes for the particular qualification to which they refer and they reflect the achievement and accumulation of units. To enable a common approach for the use of ECVET points, a convention is used according to which 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time VET.

In ECVET the allocation of points usually has two phases: ECVET points are allocated first to a qualification as a whole and then to its units. For a given qualification, one formal learning context is taken as a reference and, on the basis of the convention the total number of points is assigned for that qualification. From this total, ECVET points are then allocated to each unit according to their relative weight within the qualification.

For qualifications which do not have a formal learning pathway reference, ECVET credit points can be allocated through estimation by comparison with another qualification which has a formal reference context. To establish the comparability of the qualifications, the competent institution should refer to the equivalent EQF level or, possibly, NQF level, or to the similarity of the learning outcomes in a closely related professional field.

The relative weight of a unit of learning outcomes, with regard to the qualification, should be established according to the following criteria or to a combination thereof:

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

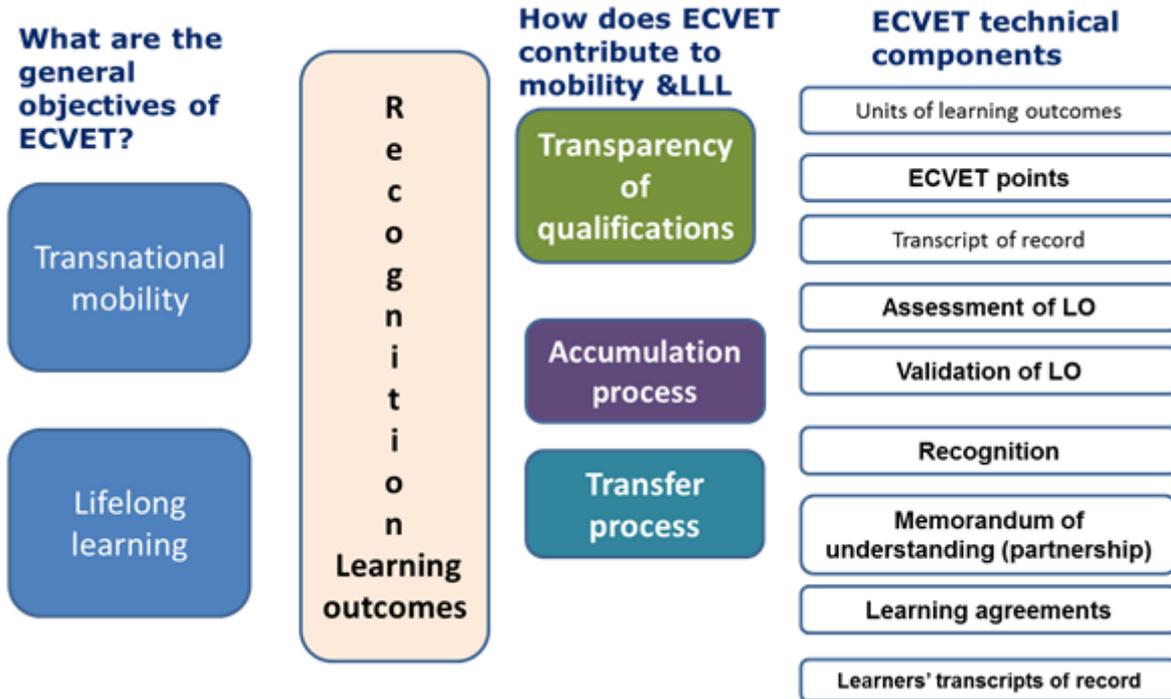


Figure 6. ECVET Summarize

## DEFINITION OF EQF DESCRIPTORS

The EQF descriptors were changed in 2016 in order to facilitate their understanding.

With the former “KSC” descriptors (Knowledge, Skills, Competences), the meaning of “competences” caused difficulties to many users and was interpreted in different ways.

To ease the understanding and the use, the descriptors were changed into “KS” (Knowledge, Skills) and Autonomy/ Responsibility.

The classification of these three descriptors for EQF level 4 is the following:

- **Knowledge:** Factual and theoretical knowledge in broad contexts within a field of work or study
- **Skills:** A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.
- **Autonomy/ Responsibility:** Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.

## TWO COMPLEMENTARY DEFINITIONS OF LEARNING OUTCOMES

There are two complementary definitions of Learning Outcomes (LOs).

They can be both, an individual’s achieved learning outcomes as well as an individual’s expected



Example from the Catalan Diploma [Technician in Electromechanical Maintenance](#)(EQF4):

*PROFESSIONAL MODULE: "Mechanical Assembly and Maintenance"*

*LEARNING OUTCOMES acquired by the learner:*

*LO1– Defines functional blocks in machines and equipment, interpreting plans of elements and assemblies of machinery and equipment, principle diagrams and circuit diagrams.*

*LO2– Carries out assembly and dismantling operations of mechanical and electromechanical elements in machines, interpreting the technical documentation provided by the equipment manufacturer.*

*LO3– Carries out simple repair or modification operations in the functional status of the machine, following the instructions contained in the reference plans.*

*LO4– Runs the installation and coupling of the electromechanical equipment and machinery, carrying out functional tests and, later, verifying their functioning.*

*LO5– Diagnoses breakdowns or operating defects of the machinery's electromechanical systems, interpreting their symptoms and relating them to the malfunctions.*

*LO6– Diagnoses the condition of the elements and parts of the machines, using the suitable measuring instruments for each case.*

*LO7– Applies maintenance techniques that do not involve the replacement of mechanical and electromechanical parts of*

*machinery and automated production lines, selecting and applying the procedures to follow.*

*LO8– Conducts maintenance operations that do not involve the replacement of mechanical and electromechanical parts of machinery and automated production lines, selecting and applying the procedures to follow.*

Figure 7. Example of Learning Outcomes

## MAIN STEPS OF USING REFRAME APPROACH FORM ORGANISED WBL

This section outlines the main issues to be taken into account in using REFRAME for WBL traineeship.

- **Before the mobility:** The VET-provider and the abroad institution set up the contents that the

students will learn at the workplace within a **Memorandum of Understanding (MoU)** that is adapted to the needs and profile of the post to be occupied. The signing of a collaboration agreement, between the school and the company guarantees the fulfilling of all the smaller pacts and agreements. Project development of the learning outcomes based, **wbl/mobility** plans in order to reduce the risks of a mismatch between an overestimated request of the learner (expectations of the learners, of the sending institutions, of the promoters of the mobility initiatives) and the learning real offer of activities to be realized within the host context.

- **During the mobility:** realization of the WBL/mobility activities in correspondence with the agreed learning outcomes, assessment of the acquired learning outcomes and valorisation them through the collection of “learning proofs”, for an awareness building.
- **After the mobility:** validation of the acquired learning outcomes and certification of the WBL/mobility experience, in order not to lose the precious amount of learning outcomes and promote, therefore, recognition procedures in the sending context through the acquisition of credits points, recognition of the mobility programme plan (time hours of the work placement, time hours of the training at school, etc..) within the formal learning pathway attended in the mother country.

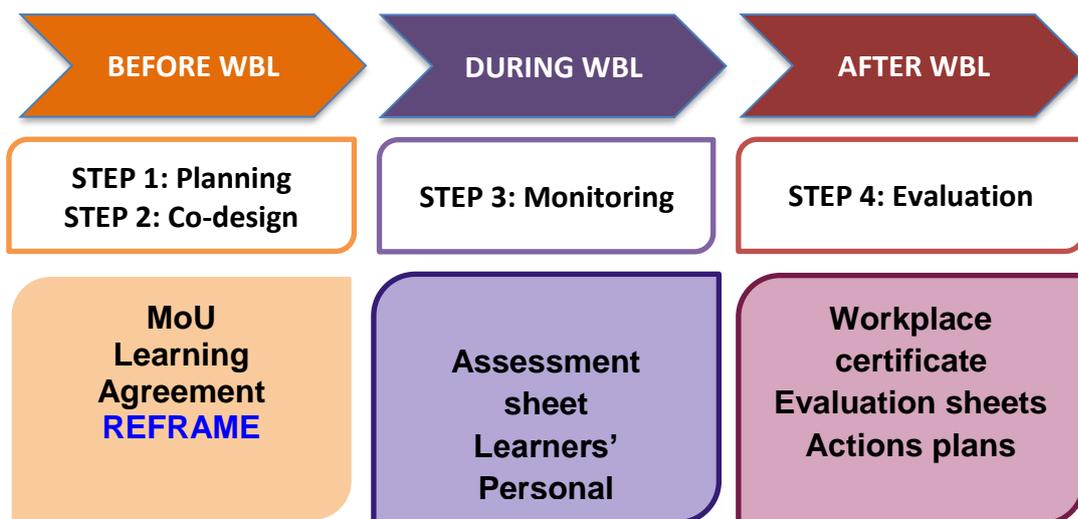


Figure 8 . Steps for organize WBL

According this structure, the main steps and phases that must be carried out for WBL traineeship are the following:

	Steps	Phases	Description	Documents

BEFORE TRAINEESHIP/ MOBILITY	STEP 1: Planning. Formalising a partnership for WBL/Mobility	P 1	Set up a partnership. Identifying suitable partners and exchanging information.	Memorandum of Understanding (MoU).
		P 2	Preparation of documentation. Mapping the roles and responsibilities of each actor.	
		P3	Preparation of the traineeship period / school period. Programming, organizing and coordinating the training process Planning and organising the stay	Information for the organisation and Implementation of the traineeship.
	STEP 2: Co-design Defining the conditions each individual learner.	P 1	Study of the curriculum	Learning Agreement (LA) in the framework of a MoU.
		P 2	Identification of the Learning outcomes suitable to be acquired at the company.	
		P 3	Co-design (REFRAME platform) Clarify how LO will be validated and recognised	
DURING TRAINEESHIP/ MOBILITY	STEP 3: Monitoring. Acquisition and assessment of knowledge, skills and competence during the traineeship	P 1	Company hosting/school protocol. Learning at the receiving institution	Assessment sheet Learners' Personal Transcript Learning outcomes assessments.
		P 2	Monitoring of learning outcomes.	
		P 3	Evaluation of learning outcomes	
AFTER TRAINEESHIP/ MOBILITY	STEP 4: Evaluation and Improving Conclusion of the process Follow-up	P1	Validation learning outcomes.	Certificates, workplace certificate.
		P2	Recognition of learning outcomes.	
		P3	Process evaluation.	Evaluation sheets and action plan for implementing changes.

Figure 9. Steps and Phases WBL

## STEP 1: PLANNING

We could start planning a student stay in many ways that is why we have at least three actors in this process: the student, the company and training centre.

A good framework to begin is that every training centre involved in this project must seek available companies in his area that is set up some partnerships.

The way to set up a new company is signing up a Memorandum of Understanding (MOU): a document explaining the relationship rules between companies, training centres and administration.

In this step, there is no role for students.

## STEP 2: CO-DESIGN

Once we have a new partnership, it is time to analyse the activities in order to link with the Learning Outcomes that the students will be able to practise at each one.

It must be identified the different Learning Outcomes (LO's) that can be validated and recognised depending on the studies curricula.

When the previous requirements are achieved, we are ready to sign up a Learning Agreement between the three parts: student, company and training centre, where it is explained all agreement conditions, mainly the period and the timetable of the relationship student vs company.

In this step, the only one role for students is accept by signing up the Learning Agreement document.

## STEP 3: MONITORING

Training centre has to provide to students and factories a transcript of record. This document includes the learning activities preparing for LO that student will achieve in the company where he will practise. The LO shown at transcript of the record will be as a result of an agreement between the company and training centre.

While students are learning/working at the factories they have to fill a transcript of record assessing which LO's the student has achieved.

The student has to fill the transcript of the record consistently, for example weekly.

At the same time, the student's tutor at the company assess which LO's the learner has achieved.

It must be done consistently, for example, monthly.

Having made the evaluation by the student and the factory's tutor and monthly, the training centre's tutor look about both assessments and give his okay or, in case of trouble, try to find a solution.

## STEP 4: EVALUATION

At the end of student's stay and, once the two assessments have finished, one by the student and the other one by the company,

In line with the MoU and the Learning Agreement, the training centre's tutor validates and recognises the credit achieved abroad by the student.



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## Annex

### MODEL OF LEARNING OUTCOMES

Unit 1: Unit Name	
LO 1. (Learning Outcomes)	
Responsibility/Autonomy	
Description of responsibility and autonomy about the unit	
Skills	Knowledge
<i>Once completed the candidate will have the skill to:</i>	<i>Once completed the candidate will know:</i>
<b>U1S1: Skill.....</b> U1S1.1 ..... U1S1.2 .....	U1K1 Knowledge U1K2 ..... U1K3 ..... U1K4 .....
<b>U1S2: Skill.....</b> U1S2.1 ..... U1S2.2 ..... U3S2.n .....	U1K5 ..... U1K6 ..... U1K7 ..... U1K8 ..... U1K9 .....
<b>U1S3: .....</b> U1S3.1 .....	U1K10 ..... U1K n .....
Assessment criteria	
<ul style="list-style-type: none"> <li>❖ Criteria 1</li> <li>❖ .....</li> <li>❖ Criteria n</li> </ul>	

LO 2. (Learning outcome)	
<b>Responsibility/Autonomy</b>	
Description of responsibility and autonomy about the unit	
<b>Skills</b> <i>Once completed the candidate will have the skill to:</i>	<b>Knowledge</b> <i>Once completed the candidate will know:</i>
<b>U2S1: Skill.....</b> U1S1.1 ..... U1S1.2 .....	U2K1 Knowledge 1 U2K2 ..... U2K3 ..... U2K4 ..... U2K5 ..... U2K6 ..... U2K7 ..... U2K8 ..... U2K9 ..... U2K10 ..... U2K n .....
<b>U2S2: Skill</b> U1S2.1 ..... U1S2.2 ..... U3S2.n .....	
<b>U2S3: .....</b> U1S3.1 .....	
<b>Assessment criteria</b>	
❖ Criteria 1 ❖ ..... ❖ Criteria n	

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