



ISTITUTO SUPERIORE "E. FERMI"  
Istituto Tecnico Settore Tecnologico  
Liceo Scientifico delle Scienze Applicate  
Mantova



Mantua  
Italy



Roman  
Romania

LEARNING OUTCOMES VALIDATION ACCORDING TO ECVET

Project  
(L.O.V.E.)

Roman - Romania

# WHAT IS ECVET?

**ECVET** (*European Credit System for Vocational Education and Training*)

✓ It is a methodological framework

Its goal is to promote transnational mobility and access to learning during the whole life cycle



**ECVET** is applicable for all learning outcomes acquired by an individual in the various sectors of the 'education and training, which are transferred, recognized and accumulated for the purpose of' acquiring a professional qualification.

**ECVET** is intended to enable European citizens to obtain more easily recognition of the training, skills and knowledge acquired in another Member State of the European Community.

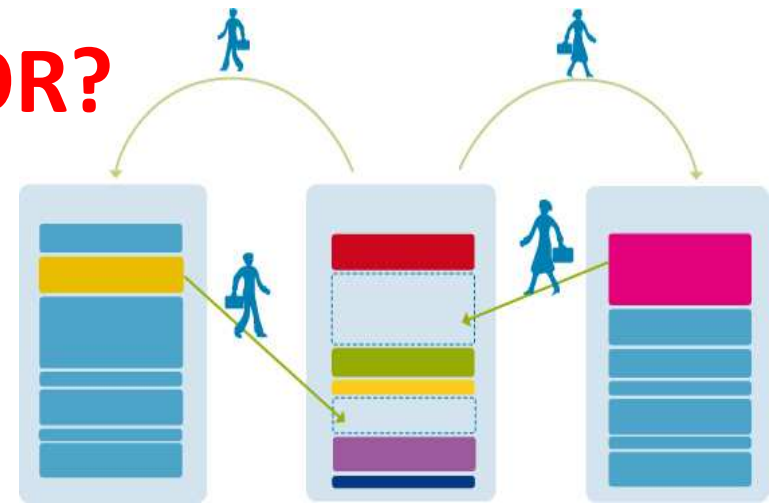


## ECVET is based on:

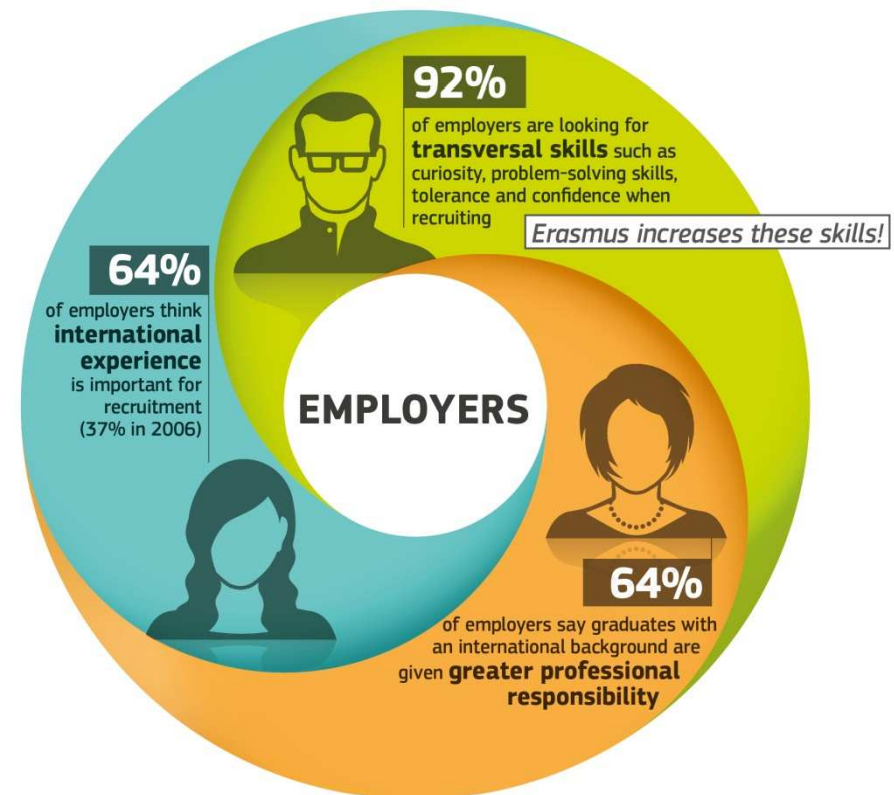
- **Learning outcomes** – statements of knowledge, skills and competence that can be achieved in a variety of learning contexts.
- **Units** of learning outcomes, that are components of qualifications. Units can be assessed, validated and recognised.
- **ECVET points**, which provide additional information about units and qualifications in a numerical form.
- Credit for assessed Units. Credit can be transferred and accumulated to achieve a qualification.
- Mutual trust and partnership among participating organisations are expressed in **memoranda of understanding** and **learning agreements**

# WHAT IS ECVET USEFUL FOR?

1. To complete professional qualifications in countries different than where they started their studies
2. To recognize prior learning if you intend to continue your studies to improve your job opportunities
3. Employers need to look for qualified personnel in the EU



EMPLOYMENT AND CAREER DEVELOPMENT



# TOOLS AND TACTICS

- 1) spreading knowledge and use of specialized websites which help the first approach to ECVET
- 2) supporting the use of ECVET in our schools and partner companies
- 3) promoting ECVET at relevant institutions in order to develop the program



# Specialized websites



*two important websites:*

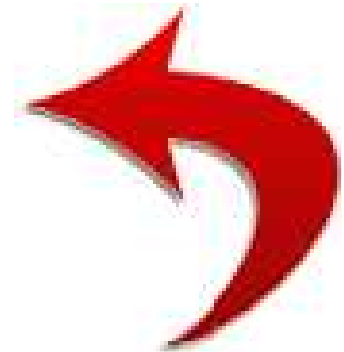
- <http://www.ecvet-team.eu/en/>  
registration to the site allows you to follow international seminars about ECVET!!
- <http://e2-community.ecvet-team.eu/>







between knowledge  
and  
know-how



# What are Learning Outcomes ?

Learning outcomes indicate what a student knows, understands and is able to do at the end of a learning process . Learning outcomes are defined in terms of knowledge, skills and competencies

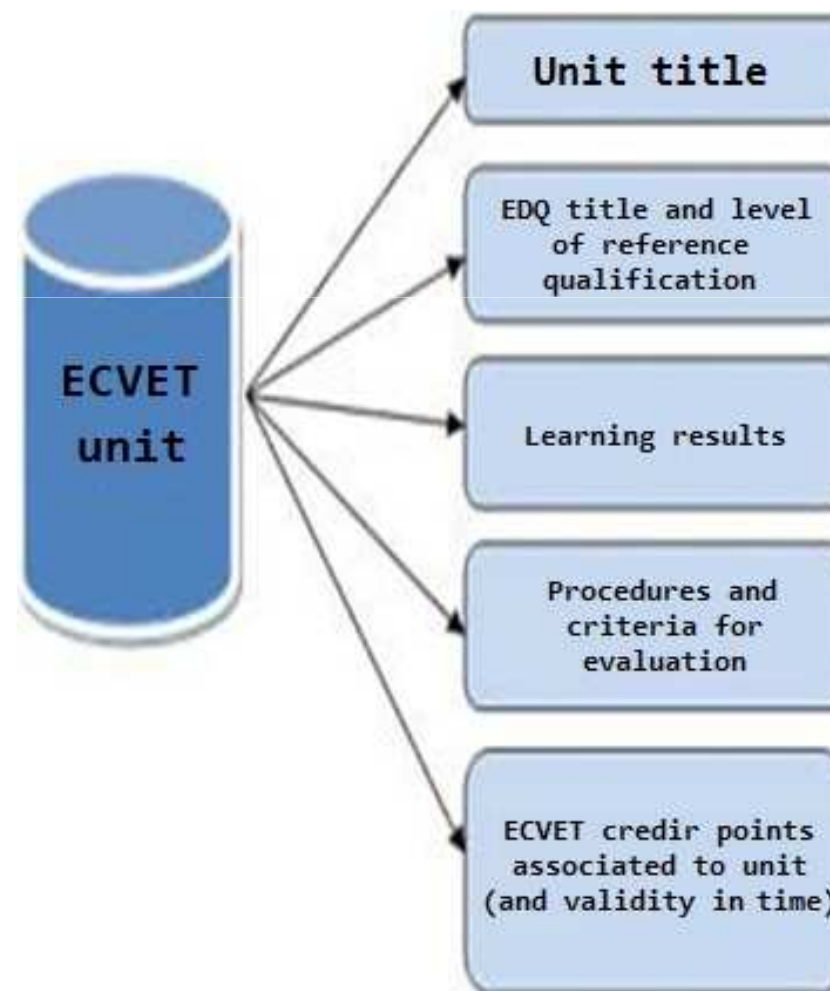
- ✓ **Knowledge:** indicate facts, principles, theories and practices related to a field of work or study. It is described as theoretical and/or practical
- ✓ **Skills:** indicate the ability to apply knowledge and use the knowledge to complete a task or to solve problems. We distinguish the cognitive (logical, intuitive and creative thinking) the practical skills (which involve manual skills, the use of procedures, materials, tools and machinery)
- ✓ **Competencies:** indicate the ability to use knowledge, skills and social skills and methodologies in the workplace or study for their professional and personal development. They are described in terms of responsibility and autonomy



## What are learning outcome units according to the ECVET recommendation

“A learning outcome unit is one of the components of a qualification, and comprises a coherent set of knowledge, competences, and skills which can be evaluated and validated”

*ECVET Recommendation*



# HOW CAN LEARNING OUTCOME UNITS BE ESTABLISHED?

- A learning outcome unit should be designed in such a way as to constitute a **set (almost complete) of learning processes, with coherent learning results and clear evaluation criteria.**
- Partners must agree on **the objective to accomplish during a learning unit**; this may depend on the duration of the internship and on the workload (in terms of time) required to complete a learning outcome unit.
- **This can be accomplished in a clear way by assigning tangible and measurable tasks.**

# CRITERIA FOR DEFINING LEARNING OUTCOME UNITS

- 1) Learning outcome units should be designed in such a way as to be **as independent from one another as possible.**
- 2) Learning outcome units must **contain all the outcome results necessary to perform a given task (professional competences, but also social and personal skills)**
- 3) **They should not be too ample.** Their completion should not exceed the duration of the internship.
- 4) **it is not necessary to define a complete qualification in terms of learning outcomes.**
- 5) The results of learning outcome units **must be measurable.**



Learning Outcomes	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
<b>Knowledge</b>	Basic general knowledge;	Basic factual knowledge of a field of work or study;	knowledge of facts, principles, processes and general concepts, in a field of work or study;	Factual and theoretical knowledge within a field of work or study;	Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundary of that knowledge;	Advanced knowledge of a field of work or study involving a critical understanding of theories and principles;	Highly specialised some of which is at the forefront of knowledge in a field of work or study as the basis for original thinking and/or research;	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields;
							Critical awareness of knowledge issues in a field and at the interface between different fields;	

Learning Outcomes	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
<b>Skills</b>	Basic skills required to carry out simple tasks;	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools;	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information;	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study;	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems;	Advanced skills demonstrating mastery and innovation required to solve complex and unpredictable problems in a specialized field of work or study;	Specialized problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	The ability to apply the most advanced and specialized skills and techniques including synthesis and evaluation to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice;

Learning Outcomes	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
<b>Competences</b>	Work or study under direct supervision in a structured context;	Work or study under supervision with some autonomy;	Take responsibility for completion of tasks in work or study adapt own behaviour to circumstances in solving problems;	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change;	Exercise management and supervision in contexts of work or study activities where there is unpredictable change;	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts;	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches;	Competence at the forefront in work or study including research contexts demonstrating substantial authority, innovation, autonomy, scholarly or professional integrity and sustained commitment to the development of new ideas or processes;
				Supervise the routine work of others, take some responsibility for the evaluation and improvement of work or study activities;	Review and develop performance of self and others;	Take responsibility for managing professional development of individuals and groups;	Take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams;	

# Summarizing...

## five rules:



- 1) identify work processes
- 2) determine the tasks to be assigned to students
- 3) establish corresponding evaluations and related qualifications
- 4) concretely define learning outcomes, in terms of knowledge, skills and competences
- 5) identify the EQF level



# WHAT TO KEEP PRESENT WHEN FORMULATING LEARNING OUTCOMES

1) The description of learning outcomes must be based on a **presumed average student**. Learning outcomes must be described from the point of view of the student, not of the teacher.



2) They can also be created taking into consideration working processes.



3) Learning outcomes must be **verifiable and measurable**. Learning outcomes must be described with terms as concrete as possible.

4) As a general principle, **learning outcomes should not be too many, nor too few**.



# Who formulates learning outcomes and defines units of learning outcomes ?

The partner institutions, jointly



"LEARNING OUTCOMES VALIDATION according to ECVET" (L.O.3.1.1)

Title: Electrical systems operator

Description: The operator of the electrical-electronic systems is capable of assembling individual devices/electric and electronic installations

QUALIFICATIONS	KNOWLEDGE	ABILITY
1. Can decode the schema of installations and technical manuals (KQF2)	<ul style="list-style-type: none"> <li>• Is familiar with the norms and elements of electric-electronic design: signs, symbols, scales and methods of representation</li> <li>• Can recognize electronic and <del>electronic</del> components</li> </ul>	<p>Reads and interprets the schema and layout of the project, distinct bases and technical documentation</p> <p>Understands the data, the symbols and the instructions present in the reference manual</p> <p>Can locate material, electronic and <del>electronic</del> components and assembly tools</p>
2. Composition of electronic systems (KQF2)	<ul style="list-style-type: none"> <li>• Knows the principles of electronics and of <del>electronic</del> installations</li> <li>• Knows the technical principles for the assembly and installation of the instruments</li> <li>• Knows the main instruments, equipment, and work facilities and mode of use</li> </ul>	<p>Can apply the techniques of electronic assembly</p> <p>Recognizes the functional characteristics of the components and of the parts of the system and can discern their function</p>
3. Adaptation features and control system of electronic and <del>electronic</del> instruments (KQF2)	<ul style="list-style-type: none"> <li>• Knows how every electronic component works</li> <li>• Knows the function of the instruments</li> <li>• Understands the concept of calibration of electrical equipment</li> </ul>	<p>Can discern when the material needs intervention for regulation and calibration</p> <p>Can use the electric-electronic instruments as well as software</p> <p>Can determine the function of every single electric <del>electronic</del> element/component</p>

[Example of LEARNING OUTCOMES VALIDATION according to ECVET.docx](#)

## Bibliography:

- \* [www.adirisorse.it](http://www.adirisorse.it)
- \* [www.ecvet-team.eu](http://www.ecvet-team.eu)
- \* <http://e2-community.ecvet-team.eu>

*Thanks to Silvia Faggioli*