

European tools for transparency and approval of educational programs (EQF and ECVET) in the context of the qualification “Specialist in Traditional Orchards”

Free movement of workers is a fundamental principle of the European Union. All citizens do have the right of working in another member state or of doing an apprenticeship abroad. However there are various educational systems within the European Union. Hence the implementation of free movement of workers is complicated by missing transparency and the acknowledgement of qualifications and achievements gained in different educational systems.

How an educational system is designed is decided by every member state, not the European Union. This means that measures for promoting transparency or the approving of qualifications gained abroad can only be recommended. There is no way of regulating such measures by European law. Therefore the European Commission has designed tools that make the learning performance and qualification gained in different educational systems transparent, comprehensible and comparable. The “European Qualification Framework of Lifelong Learning – EQF” and the “European Credit System for Vocational Education and Training” – ECVET are counted among these tools.

To cover the whole spectrum of educational achievements, EQF defines 8 levels (L 1 – L8) via so called descriptors. These descriptors do not refer to the type or period of training but the result of the learning process. What a student knows, understands and is able to do at the end of the training is essential. EQF gives a clear definition of the learning outcomes by defining the categories “knowledge”, “skills” and “competences”.

ECVET wants to increase the compatibility between different vocational education and training systems by offering structured descriptions of different qualification systems (ECVET-sheets). Sequences (parts of the qualification consisting of a cluster of knowledge, skills and competences) are combined in units. These units should be understandable, coherent and examinable.

The curriculum for the qualification “Specialist in Traditional Orchards” applies to both European tools/instruments: ECVET and EQF. The intended learning outcomes were discussed on project meetings in participating countries Austria, Poland, Hungary, Denmark and France. The questions about the equivalence of educational programs in these partner countries were raised and cleared.

In conclusion, it has been agreed that the present curriculum and teaching materials which have been also tested in the pilot orchard courses in Austria, Poland, Denmark and Hungary aim at

students in the initial vocational education/training as well as at students having a completed vocational education, higher education or adult education in a fields like agriculture, horticulture or environmental sciences. For the purpose of the pilot courses the materials are adjusted on level 4 of the European Qualification Framework (EQF). Depending on the educational approach also level 3 and 5 are considered.

Next knowledge, skills and competences were combined in units and were arranged in a matrix. The description of learning outcomes developed by the project partners refers to the recommendation of the European Parliament and of the Council on the Establishment of a European Qualifications Framework for Lifelong Learning (2008):

Learning outcomes are statements of what a learner knows, understands and is able to do on completion of a learning process. Learning outcomes are defined in terms of *knowledge, skills and competence*.

- **Knowledge** means the body of facts, principles, theories and practices that is related to a field of work or study. It is described as theoretical and/or factual knowledge;

- **Skills** means the ability to apply knowledge and use know-how to complete tasks and solve problems. They are described as cognitive (logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);

- **Competence** means the proven ability to use knowledge, skills and personal, social and methodological abilities in work or study situations and in professional and personal development. It is described in terms of responsibility and autonomy.

These units designed for the program “European Specialists in Traditional Orchards” are designed in the way that they can be taught and evaluated independently from other learning outcome units.

The title of every unit is described in a clear and understandable way, so that content and level of every unit can be assigned quite easily. Basic rules for phrasing have been considered: active, clear verbs are used (considering a taxonomy chart, Bloom 1972). Unclear, open phrasing has been avoided.

Learning outcomes are described in a way that helps to fulfil the task of preserving and maintaining the traditional orchards through their use. It is also easily possible to validate the learning outcomes.

The description of the learning outcomes shows how professional competences should be carried out (e.g. under the guidance of someone, independently, autonomously and capable).

An internal and external evaluation of the pilot courses has been conducted. The results are described on the following pages.

GUIDING NOTES FOR USERS OF THE PILOT COURSE “EUROPEAN SPECIALIST IN TRADITIONAL ORCHARDS”

As part of the ESTO project, pilot courses were held in Poland, Hungary, Denmark and Austria in 2014. The pilot courses were evaluated based on the assessment framework (see annex). In the sections below a summary of the main findings and recommendations based on the pilot courses is given.

OVERALL CONSIDERATIONS

- The teaching material (EQF level 4) was well developed and used in each location. It was contextualised by Austrian, Polish, Hungarian and Danish trainers, who used national/local knowledge, experience and examples to make the general teaching material relevant for their target groups. The target groups were lay adults (Denmark), university students (Hungary) and secondary vocational training students (Austria and Poland).
- The whole course and specific blocks need to be designed in such a way to provide a consistent and structured learning process, stating what a learner knows, understands and is able to do on completion of a learning process. This includes also the methods and processes used to assess particular knowledge, skills and competence.

COURSE DESIGN AND CONTENT

- Well-developed teaching material based on coherent learning outcomes and elaborated for skills, knowledge and competence, provide in different educational contexts (countries and target groups) for a clear basis for the trainers to adapt it to the specific target group demands.
- Limited adjustment in theory and practise is required for vocational students and lay adults as EQF 4 is geared to that level. University students (2nd year and up) cover most theory in regular classes but the practise and excursions is very relevant. University education looks at systems and the focus on very particular topics, as is done in the ESTO course, means a change in learning.
- For all target groups application of theoretical knowledge gets an extra dimension in practical classes and additional learning takes place.
- Balancing theory and practise depends on each educational context. This relates to time allocated to both aspects, to planning different sessions during the course, to making use of diverse teaching methods, to bringing in theory in practical sessions. All target groups

profit from practical classes and excursions. Additionally, bringing more theory into the practical classes is very effective as well providing much discussion space between trainer and student. The latter is especially very motivating for vocational students.

- Specific attention is required for the cultural and historical role and value of traditional orchards, its diverse fruit varieties and traditional applications.
- Explicit linkages to environmental consciousness and traditions need to be made and the pilot courses show that this increased the interest of all target groups.

Interaction and learning process

- Interactive learning is key in outcome-based learning. All available teaching aids and didactic methods are useful to make the course attractive: group sessions, open discussions, presentations by students, diverse types of assessments, workshops combining theory and practise.
- Creating an open and interactive learning atmosphere and environment triggers students to ask diverse questions and interact with each other and the trainer. Especially for vocational students this is very motivating.
- Teaching based on learning outcomes demands diversity in educational methods and interaction between trainer and student. In the pilot courses this asked for changes in trainer attitude, in initiating interaction between trainer and students through using diverse methods and in being creative in using the teaching material.
- Respecting knowledge of the students by the trainer and actively using it in the teaching method is very stimulating for students.
- When the duration of the course is longer, at least one week, a project assignment in which the student has for example to plan the development of an orchard, is very productive. Integrating theory in excursions to different orchards by analysing the real situation, speaking with fruit growers or propagators, making comparisons of different fruits, propagation, planting and management methods is effective for all target groups.
- Take in consideration the choice of the trainer. Most trainers are more acquainted with conventional production systems. A course on traditional orchards needs to involve trainers with specific knowledge and experience on traditional orchards and the cultural, regional and economic aspects of it. The trainer can also bring specific materials like albums, books or other publications showing the value of traditional orchards. Bringing in or visiting experts is also very effective.
- Depending on the student profile and practical possibilities as many real steps of the whole fruit tree production and processing process should be incorporated. For diverse student groups it can for example be very interesting to buy different apple varieties, run each processing step and finish with bottled juice. Or in the pomology part, actual determination of old varieties is a must to gain the knowledge and the appreciation for

such varieties. In addition, a pomological on line tool for determination is a good alternative in case varieties are not available.

- A successful teaser for a trainee is to get his/her own fruit tree at the end of the course.

ASSESSMENT

- Diverse assessments are required. In the pilot courses short questionnaires, open questions, individual and group presentations, preparing an orchard plan or practical tests in propagation of trees or processing were used. Competences can also be assessed by trainer observation on how practical task in groups are organized and fulfilled.
- Especially for vocational students diverse assessment methods are important to gain balanced understanding in knowledge, skills and competences and to gain insight for the trainer to stimulate their development. Therefore assessments can be done during the course after each module (open questions), or through interviews with trainees before the course and after the course, verification of homework, observation of trainee's activities and involvement in the course (discussion, creativity).

ASSESSMENT OF PILOT COURSE “EUROPEAN SPECIALIST IN TRADITIONAL ORCHARDS” (ESTO)

A: Overall reflection on the pilot course

1. Does the course consist of a coherent set of purposes, learning outcomes elaborated for skills, knowledge and competence, teaching materials and practise, and assessment?
2. Can the following stages be distinguished during the pilot course:
 - a. Orientation phase: explanation of teaching purposes and tasks? Is existing knowledge and skills of trainees used?
 - b. Implementation phase: does the trainee gain experience with acquired knowledge and skills? Does actual practising take place, individually and/or in groups?
 - c. Reflection phase: how does reflection and feedback on what has been learned take place?
3. Assessment phase: how are knowledge and/or skills and/or competence being assessed?
Educational content: balance between personal development and occupational knowledge/skill development. Use of theoretical and real situations, use of social, political, economic and cultural context.

B: Interaction and learning process:

4. Trainer and educational content:
 - a. What role does the trainer play to stimulate the learning process? What kind of expertise does this require of the trainer?
 - b. Does the trainer address personal learning purposes of trainees related to: which skills do I have/do I need to acquire to act as traditional orchard expert? Can I reflect on the traditional orchard context?
 - c. Does the trainer address/convey knowledge on different types of orchard farming? (traditional, intensive, ...) Does he/she have a knowledge and experience in field of pomology of traditional orchards? Care and management of traditional orchards? Processing and marketing of traditional orchards products?
 - d. Does the trainer have knowledge and experience on entrepreneurship? Does he/she share knowledge on political, social and financial matters and opportunities, including rules and regulations?
5. Materials and sources: what kinds of resources are being used to acquire knowledge and skills? Which different teaching aids and didactic methods (plenary sessions, group discussion, role plays, excursions, final presentations by trainees etc) are used? Are real life assignments being given?

6. Interaction:

- a. What is the balance between individual and group learning?
- b. How do the trainees interact with each other, how is this facilitated by the trainer or didactic methods?
- c. How does the trainer interact with the trainees, does he/she attract the attention, does he/she give clear instructions, does he/she create a conducive learning environment, does he/she summarise discussions, reflect on the lessons. Does he/she involve the trainees in such processes?
- d. Locations: where does learning take place: inside and outside, relevance of locations?

C: Assessment of the trainees

7. Assessing trainees:

- a. In what ways are course results being assessed?
- b. What is the quality of the assessment methods and process?
- c. What is the balance between assessing knowledge, skills and competence?