

# Before assessment

## How to link education and training with assessment

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# 1 How to link education and training with assessment



In order to allow recognition of learning outcomes in the clay plastering sector, an ECVET in Earth building has been developed. The learning outcomes described in the ECVET units can be used to<sup>1</sup>

- develop curricula and training programs, i.e. to define the expectations of each learning activity
- develop assessment specifications, i.e. to define what is to be assessed and enable homogeneity in judging learners performance.

In any case, there has to be a link between education and training on the one hand, and assessment on the other. The possibility of training in clay plastering has grown considerably in the last few years in Europe, but most of the courses do not offer any possibility of assessment, nor certification. The implementation of the ECVET in Earth building encourages assessment and makes certification possible. Nevertheless, many training providers offer short clay plaster modules, between a few days and one or two weeks, where time may be considered an obstacle to organising assessment. But there are many options for different combinations of training, practice and assessment, as well as for assessment methods.

## 1.1. Possible combinations of training, practice and assessment

The assessment is the first and vital step of the ECVET process: the learning outcomes of a trainee must be evaluated and documented by a competent body A, before they can be transferred and recognised in a different context or country by a competent body B.

The assessment has therefore to be understood as a process distinct from the training process. There are different options in the combination of training and assessment. Moreover, for skilled craftspeople,

a certain amount of practice is necessary in addition to the specific training, to achieve an appropriate level of skill in order to offer work to a client.

The following diagram illustrates some of the **possible combinations of training, practice and assessment**:

- GREEN stands for training and education (initial or continuous)
- YELLOW and ORANGE stand for practice
- RED stands for assessment

In the specific case of clay plaster, we distinguish general building practice (yellow) from practice in clay plastering (orange).

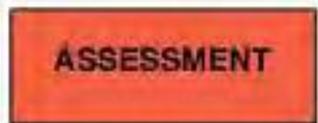
Three points are important to keep in mind:

- It is not possible to certify learning outcomes without a defined method of testing the achievements of the learner – but there are lots of methods for assessment (see next paragraph).
- The exam does not always have to be held immediately after the course.
- In the spirit of lifelong learning, assessment can be offered independently of training, to allow a person to gain recognition of her learning outcomes, whatever / wherever / whenever the learning context.

<sup>1</sup> *European Qualifications Framework Series : Note 4. Using Learning outcomes. Cedefop. 2011. <http://bookshop.europa.eu>*



TEACHER  
TRAINER



ASSESSOR

## DIFFERENT POSSIBLE SITUATIONS AND OPTIONS

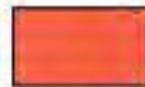
(MAY BE PRE-  
REQUESTS)



TRAINING



PRACTICE



ASSESSMENT

Training first, then the person practices at the building site and partly works with clay plastering. Then he/she is assessed.



PRACTICE



TRAINING



ASSESSMENT

Practice first, then the person trains at the course and then he/she is assessed.

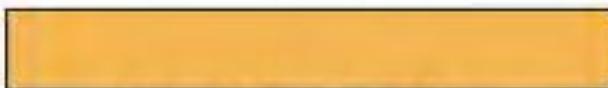


TRAINING WITH PRACTICE INCLUDED



ASSESSMENT

Long lasting training with included practice and then he/she is assessed.



CONTINUOUS PRACTICE



ASSESSMENT

Being assessed after long practice, but without attendance of training course.



INTERRUPTED PRACTICE

ASSESSMENT

Being assessed after interrupted practice, but without attendance of training course.



TRAINING INTERRUPTED WITH PRACTICE AND  
ASSESSMENTS

During the training there is growing practice followed by assessments.



PRACTICE INTERRUPTED WITH TRAINING AND EXAM

During building practice craftsman takes gradual training and is being assessed in gradual levels.

## FAQ - Frequently asked questions

### Q: Can a person achieve level 3 or 4 without practice ?

A: No. There must be provision somewhere for practice.

The training providers can set a date for later, after the course, to assess those who think they are ready. Assessment could also be once a year in each country, in a place where testing can be carried out.

### Q: Is there a strict minimum length of time in practice ?

A: No. In the ECVET process, we look at the output; it is not about 'what I have taught you' (input). The learning outcomes are as a result of training courses, and other personal and work experiences. How long it takes, or the path followed to achieve a certain level is not important, but the achievements required to gain a certificate for a given unit of learning outcomes are important, and are clearly described in the ECVET Earth building Handbook Part II.

### Q: Can a candidate attend an exam session without having attended a course ?

A: Yes, this is possible, but the decision is made by the assessment organiser not by the candidate themselves.

It must be clear what the requirements for the exams are, and that an ECVET Earth building assessment always consists of a combination of a practical, a written and an oral exam. So to practice skills is not enough. The theoretical knowledge is partially available in the CD « Clay plaster », which can be studied by the candidates, although this material has been expanded and developed for trainers.

### Q: Can a person mix the level 3 skills with the level 4 knowledge for instance ?

A: No. We cannot deliver a level 4 certificate if a person has achieved a lower level in skills.

### Q: Can one exam session aim at delivering different levels to different people ?

A: Yes. But this means that the organiser of the assessment must prepare different tasks for the practical exam and different questions for the written and oral exams. Ideally, there are several assessors, one for each level.

Very importantly, the level a candidate is assessed to has to be decided BEFORE the exam (read also: « assessor guidelines » and « organiser check-list »).

The candidates have to be made aware of what they are being tested on, and the level and ability they must achieve.

## 1.2. Assessment methods

The form of assessment is chosen by the organiser and it depends on several factors, most of them linked to the training itself:

- level
- duration of training
- place of training (building site or workshop)
- type of group (mixed or homogenous group of trainees regarding level of practice)
- payment and costs.

As defined in the ECVET Manual (Part I §3.6), ECVET Earth building assessment must always have a practical, an oral and a written part. All three parts are compulsory to assess trainees and deliver ECVET Earth building certificates. Except for this rule the LearnWithClay partnership does not impose any fixed form of exam, there is no fixed methodology for the three parts nor is there a specified order. Skills, competence and knowledge can be assessed on different days.

In the Handbook it states that we assess competence in the oral exam, skills in the practical exam and knowledge in the written exam.

Our experience over the last two years has shown that these separations are not as strict. For instance, the oral exam also deals with knowledge; during the practical exam the assessors also collect information about competence.

### 1.2.1. Choice of the overall framework

In our different training centres and certification systems, we may encounter the following dichotomies in methods for assessment, regarding the place and the time where assessment takes place :

- Assessment in a controlled environment / in a work place (real building site)*
- Assessment by day-to-day observation / by an exam*
- Assessment by a final exam / continuous assessment.*

Different combinations are possible. The choice lies with the assessment organiser and may be dictated by national rules. Here are the main conclusions of our discussions:

#### a) *The exam can take place*

- at the training centre or school = **in a controlled environment**
- at an on-going building site = **in a work place.**

<sup>1</sup> erhältlich unter [http://lernpunktlehm.de/wp3/?page\\_id=625](http://lernpunktlehm.de/wp3/?page_id=625)

If the practical exam is in a work place, there can be an arrangement to plan time for an oral and written exam too. Candidates must be told that they will also be asked for theoretical knowledge and the organiser must provide theoretical teaching or written sources for learning.

*b) Skills can be assessed by an **exam**, i.e. a task set up for this purpose which the candidate has to execute as an exercise, during a given lapse of time.*

Skills can also be assessed by **day-to-day observation** of practical activities occurring during **a course or during a building site**: the candidate shows their skill without being in a situation especially created for assessment; assessors carry out day-to-day observations of the candidate's work progress and skills.

The partners have not yet experimented with this kind of assessment, but would like to be informed and invited to observe if an organisation uses it, to exchange knowledge and experience about the method. They believe that there has to be a grid for and a documentation of the observations.

If we are expecting to award a certificate by day-to-day observation, then we have to consider not only skills but also competence and knowledge. During assessment by observation, assessors are observing skills and competence, and asking about knowledge and competence. So there is an oral assessment, even if not in exam format, that covers the same topics as an exam would. And there should also be a written part of the assessment, according to the rules of our ECVET Earth building.

*c) **Continuous** assessment throughout the training, rather than a **final** exam, is a possible option. If a course is long enough to allow assessors to meet and exchange with their trainees on a regular basis, the exams can be separated into several parts, set up at different times during the course.*

This has been discussed but not yet tested in our workgroups. There are several reasons why we might consider using continuous assessment, and there are several ways to do it

Continuous assessment

- is usually done by the trainer.
- is not the same as day-to-day observation (see above), it may be composed of day-to-day observation and exams.
- can be combined with final exams.
- is compulsory in some diplomas delivered by our partners that include clay plaster modules (e.g.

OPRP, France: the final result of the candidate is made up of a combination of results from continuous assessment and a final exam in given proportions).  
• lowers the pressure on trainees and trainers

If the trainer provides continuous assessment, a second assessor can provide observation at fixed times.

## **National Assessment in the UK**

The UK has two methods of assessing practical (vocational) skills.

1. NVQ, this is mainly for experienced workers and assessment takes place in the working environment over a period of 6 months to 2 years. It does not include any training, although training may have been achieved by the learner and can be used as evidence of competence. The trainee must put together a portfolio of evidence, and be assessed on-site at different times by a qualified assessor who will observe their work and ask questions to determine knowledge, skills and competence.

2. VRQ, this is training delivered in a controlled environment such as a training centre or FE college, and is meant to prepare the trainee for work. Assessment is via practical, written and oral exam.

A clay plastering training that leads to an ECVET Earth building exam most closely resembles a VRQ, but a trainee can use the ECVET certificate as evidence towards an NVQ.

Clay plastering was officially integrated into the UK National Occupational Standards (NOS) in 2011. Practitioners can be awarded an NVQ level 3 in Clay plastering within Heritage Skills.

In the following paragraph we present the options we experienced and our conclusions, but there are other options we will briefly mention at the end.

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### 1.2.2. Written exam

The written exam concerns knowledge (theoretical and factual)<sup>1</sup>.

It may be a questionnaire, with decision, closed, open or graphic questions. A pool of questions is available to the assessor to create an original questionnaire for each exam session (see § 2.1.3.). Assessors are free to build the written exam so that it best reflects the trainees' knowledge of the unit and level to be tested. The length of the written exam, in terms of duration or number of questions, may vary.

<sup>1</sup> *The European qualifications framework for lifelong learning (EQF), brochure, European commission, 2008, ISBN 978-92-79-08474-4*

### How can you assess the difference in knowledge between levels 1+2 and levels 3+4

The knowledge required for each unit is described by a list of topics. This list is very similar for all levels. At the lower levels, some topics are removed or restricted and at the higher levels they are expanded.

Despite this similarity in wording, there is of course a difference in theoretical and factual knowledge between the levels. It lies in the breadth and depth of knowledge and in the understanding of interactions. From this point of view, the following criteria can be used for the assessment of knowledge :

Subject Area	Level 1 and 2 : simple understanding	Level 3 and 4 : complex understanding
Knowledge of materials	<ul style="list-style-type: none"> <li>name and define concepts</li> </ul>	<ul style="list-style-type: none"> <li>explain, comment and classify concepts</li> </ul>
Plaster	<ul style="list-style-type: none"> <li>name and define concepts</li> </ul>	<ul style="list-style-type: none"> <li>explain, comment and classify concepts</li> </ul>
Operations	<ul style="list-style-type: none"> <li>list stages of work</li> </ul>	<ul style="list-style-type: none"> <li>describe and justify stages of work</li> </ul>
Visual data/plans	<ul style="list-style-type: none"> <li>recognise and orient different types of plans</li> </ul>	<ul style="list-style-type: none"> <li>extract the information necessary to carry out a plastering task from different plans and sketches</li> </ul>
Legislation and official guidance	<ul style="list-style-type: none"> <li>recognise</li> </ul>	<ul style="list-style-type: none"> <li>list the regulations, describe the rules</li> </ul>
Product information	<ul style="list-style-type: none"> <li>know where to get product information (technical specifications)</li> </ul>	<ul style="list-style-type: none"> <li>read product information and use effectively (technical specifications)</li> </ul>
Tools, machinery	<ul style="list-style-type: none"> <li>name</li> </ul>	<ul style="list-style-type: none"> <li>name the use, function, advantages and disadvantages</li> </ul>
Safety rules	<ul style="list-style-type: none"> <li>list the safety requirements</li> </ul>	<ul style="list-style-type: none"> <li>describe and justify the safety requirements</li> </ul>

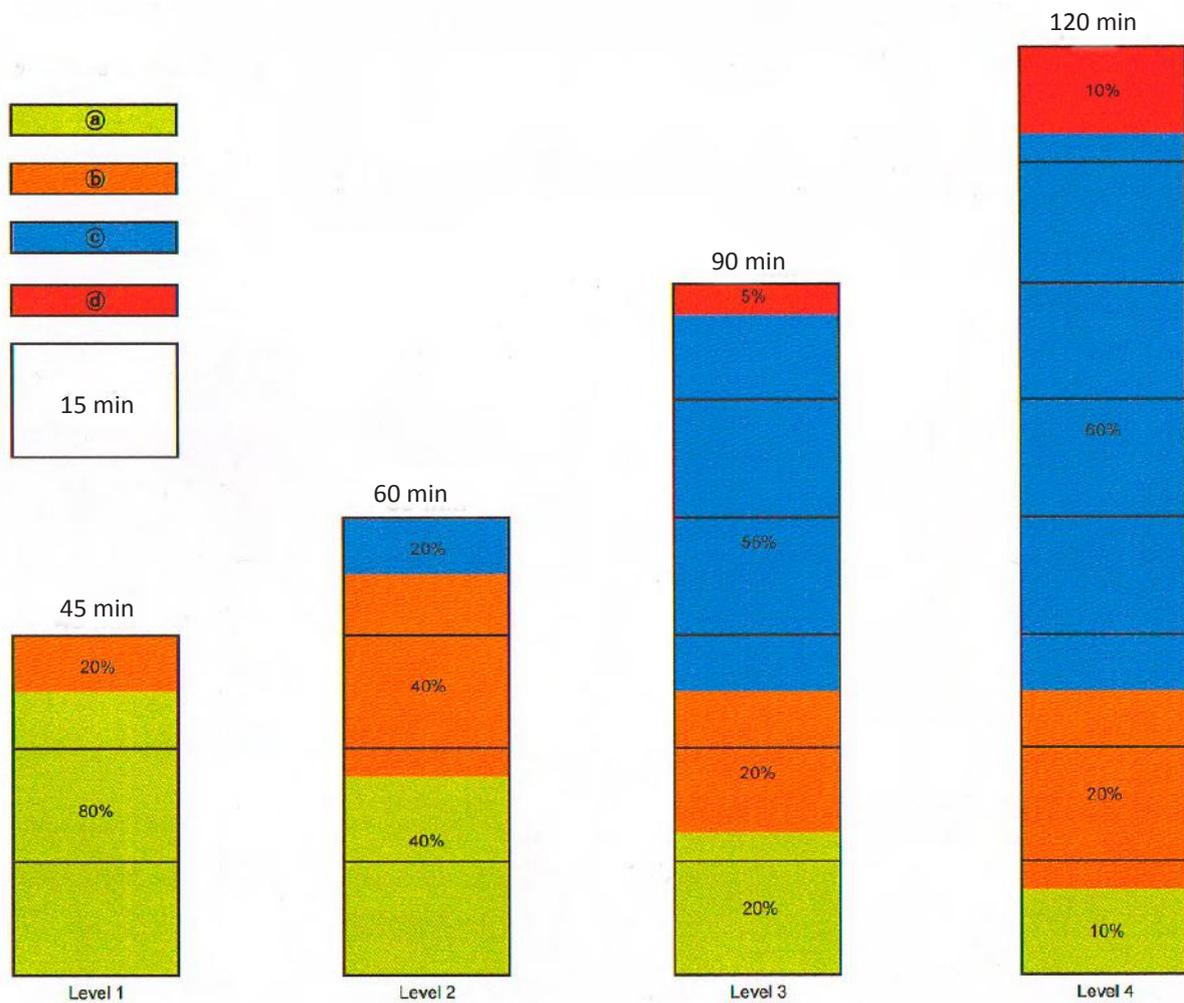
The following diagram shows the recommendations that have been made by the Partners regarding the length and mix of question types according to level. The timings are given for an exam of twenty questions.

*a = decision question: answer = yes/no, right/wrong, multiple choice*

*b = closed question, only one answer is expected: answer = enumeration of terms or facts*

*c = open question, requires a description (e.g. of a technique) or an opinion or justification (e.g. of a choice): answer = sentence*

*d = graphic question: answer = drawing, illustration*



For more recommendations on written exams, see the “assessor guidelines” tool.

### 1.2.3. Practical exam

The practical exam concerns the skills (cognitive and practical<sup>1</sup>) and competences (responsibility and autonomy<sup>2</sup>) of trainees. It allows the assessor to evaluate the trainees' ability to fulfil the required tasks. The tasks requested should be appropriate to the unit and the level of the exam. The assessors decide the duration of the practical exam.

Practical exams can use workshop background units, or real backgrounds. The partners have successfully experienced workshop background units, i.e. constructions specially built for the purpose of assessment, to assess units U1 to U5 (see § 2.2. good practice examples). This facilitates the exercises and ensures comparable conditions.

Different activities can be assessed depending on the workshop or building site conditions. However, the partners agreed that ALL the ECVET Earth building criteria and ALL the indicators MUST be used. If some of the Indicators are not covered by the practical exam, then the assessor must make sure to ask about these Indicators in the oral exam.

This is a consensus resulting from long discussions about the comparability of assessment run by different partners. We did not specify precise instructions or minimum standards for a degree of difficulty, such as a minimum surface that has to be plastered during the exam, for instance. Our common work and exchange as assessors during the two year project has proved that the Partners and training organisations take the assessments seriously, that the assessors are competent and that there is trust between the Partners.

It is important to prepare the trainees for assessment, encouraging self-assessment regarding their own level, objectives and projects. This helps the candidates to be ready for the constraints of the exams.

### 1.2.4. Oral exam

The oral exam is a verbal exchange between the trainee and the assessor. Questions may concern skills, competence and/or knowledge. Assessors lead the interview in the way that they want, asking questions that are relevant to the unit and the level of the exam. The duration of the oral exam is decided by the assessor.

An evaluation of the exams held in 2011 and 2012 within the framework of the Leonardo da Vinci Partnership project LearnWithClay showed that the technical discussions related to knowledge and the piece of work executed. The oral exam was carried out parallel to or at the end of the practical exam.

It is always important to:

- inform the examinees that an oral assessment will take place, to allow them to plan their practice and have enough time for the oral exam,
- plan enough time for an oral exam within the time schedule of the assessment

Several types of oral questions are used. The assessor may ask about :

- the practical task: why did the candidate act in a chosen way, why he/she chose a particular plaster mix or tool, how does the candidate evaluate his/her results, what went wrong, why, how could he/she have made it better, what would be the next steps, etc.
- errors or unclear answers in the written exam
- own professional experience : how does the candidate usually manage sourcing of materials, which machines does he/she use, how did the candidate behave in a given situation regarding a technical problem or regarding the relationship with the client, etc.
- imagined situation : what would the candidate do if...

If all these points are raised, the interview should take about 20 minutes per person.

<sup>1</sup> The European qualifications framework for lifelong learning (EQF), brochure, European commission, 2008, ISBN 978-92-79-08474-4

<sup>2</sup> The European qualifications framework for lifelong learning (EQF), brochure, European commission, 2008, ISBN 978-92-79-08474-4

### 1.2.5. Oral exam and competence assessment

At first it seemed that competence had not been assessed in the oral exams, only knowledge and skills. However at the end of the technical discussion the assessors placed a cross in the particular competence column of the assessment sheet.

So what happened? Discussing it more deeply in our work group we came to the conclusion that the assessor is assessing competence, by observing and considering the results of all three elements of the exam – written exam, practical work and technical discussion.

This enables him or her to assess if the examinee has achieved the learning outcomes at the examined level, for example 'to apply clay plaster' (ECVET earth building unit 2) either under supervision with some autonomy (level 2) or under direct supervision (level 1).

The notion of competence is crucial to the ECVET system, but at the same time is not easy to comprehend. In the context of EQF, competence means a person is able to use knowledge and skills to perform a particular task, like 'preparing clay plaster' in terms of responsibility and autonomy. Let's look at the following examples, for Unit 1, level 1 and 2.

- At level 1 the examinee is able to put clay, sand and water in a bucket and mix it with a machine, when you tell them exactly what to do. You tell them to take two shovels of clay, one shovel of sand and s/he does it, s/he can count and can repeat the task following the recipe you have told them precisely. This is the competence for level 1: counting, repeating the work as directed, under direct supervision with no autonomy.
- At level 2 you expect them to ask if something is not as expected. For example, the clay has run out. So you expect them to ask: What shall I do or where can I find more material? This is under supervision but with some autonomy.

The competence of levels 3 and 4 cannot easily be observed in a practical exam, the assessor needs to observe the examinee on a building site, but this is difficult to do in practice. So the assessor has to ask appropriate questions during the technical discussion. A question should relate to a competence as described in the unit of learning outcomes. Ideally the assessors would ask a question on each of the listed competences or would relate their observations of the performance of the practical exam to these competences.

It is the main responsibility of the assessors, to choose the appropriate work task for the examined

level, and to assess competence by observation and technical discussion.

Our workgroup "Competence Assessment" suggested that competence assessment should be on the agenda for future projects. It recommended:

- to learn more about the descriptors of the National Qualification Frameworks (NQF), which are often more detailed than the EQF;
- to check the competence descriptions at the different levels to see if they meet the level descriptors at EQF and NQF;
- to set up a question pool for competence related questions;
- last but not least to set up a training programme for the assessors.

### 1.2.6. Other options

A person can use a **portfolio** to document their achievements, with illustrated examples of his/her work experience.

After training, several candidates may collaborate via group work and present their progress and achievements by different means (video, oral presentation, portfolio,...).

The trainees may assess themselves in addition to the written, practical and oral exams, although in itself this personal assessment is not sufficient. Self assessment gives extra information to the assessor concerning the ability of trainees to judge their own work; it may also show the level of self-confidence of the trainee. **Self assessment** can be carried out with an interview or questionnaires. The assessors are free to decide whether or not they want to run self assessment in addition to the other compulsory parts.

## 1.3. EQF levels in building occupations

In our ECVET in Earth building, we defined the units of learning outcomes according to the different levels 1 to 4 of the EQF (European Qualification Framework). The reason for this is the following: when you teach, or when you assess, you should always make clear what level you expect the learner to be able to reach.

Teaching or assessing clay construction is different depending on who you are addressing, whether a labourer, a worker, a site foreman or a clerk of works etc. In the building process, as each job is different, responsibility is different, and so each needs different knowledge and skills.

The EQF gives us level descriptions to define these differences. Of course the official list of descriptions is very general and abstract, because it has to fit any job or qualification.

The common vocational diplomas are at level 3 or 4, depending on whether the professional works alone or manages a team, whereas a building site manager would be at level 5. In our Partnership we looked for the correlation of the different occupations between our different languages. Here are preliminary results:

EQR-Niveau	Berufsabschluss	Vereinigtes Königreich	Frankreich	Deutschland
2	UK : NVQ 1	Builder's labourer	aide-maçon	Hilfsarbeiter/-in
3	UK : NVQ 2 FR: CAP	Craft level worker / mason, bricklayer, painter, plasterer, etc.	maçon, peintre, plâtrier, etc.	Baufacharbeiter/-in ( 2-jährige Berufsausbildung)
4	UK: NVQ 3 FR: BAC DE: Geselle/-in	Foreman Site foreman	chef d'équipe chef de chantier	Geselle /-in, Maurer/-in, Maler/in, Putzer/-in etc. (3- und 3 ½ -jährige Berufsausbildung), Vorarbeiter/-in
5	UK: HND/C or degree FR: BTS	Clerk of works, supervisor, building site manager	conducteur de travaux	Polier/-in
6	DE: Meister/-in oder Bachelor			Maurermeister/-in, Malermeister/-in, etc.

### FAQ - Frequently asked questions

#### Q: What is the difference between level 1+2 and levels 3+4 ?

A: At the lower levels 1 and 2, the person is able to execute simple tasks, following instructions.

At the higher vocational levels 3 and 4, the person is able to run their own company, which means that they are a professional, able to plan and organise and execute the whole process.

#### Q: What is the difference between level 3 and level 4 ?

A: At level 4, the professional can not only master all the steps, but they can also supervise and coordinate the work done by a team of craftspeople, in consultation with the client.

#### Q: What is the difference between level 1 and level 2 ?

A: Level 1 is an entry-level, level 2 is the beginning of the professional training.

People on level 1 do not have any professional building site experience, or a vocational qualification in a building

sector craft, or any experience of manual work. These people need educational support in their first steps towards this professional activity. They are under constant supervision, they only execute tasks that do not need any theoretical or practical professional knowledge. They are able to evaluate the result of the task that the supervisor has asked them to do.

#### Q: What is the target group for level 1 ?

- people who left school at school leaving age, i.e. young, 16 years and upwards
- people without any building site or manual work experience
- migrants who do not know the written and spoken language used in the context where the learning takes place
- differently abled people who are limited in their understanding or in their movements

**Level 1** certificates are meant to value the work of young people and those with no experience so far. Learning outcomes on level 1 need to be very different to level 2. We are expecting too much of new young trainees. The achievements we expect people to have on level 1

have to be reduced. The competence as defined in the units of learning outcomes will partially have to be revised. This work has been started but not finished during our partnership project.

**Q: When does the organiser choose the level of the assessment ?**

A: There are 2 options :

- The organiser decides the level, the course participants and/or external candidates apply for this level.
- The organiser offers several levels, the candidates choose/the organiser advises. The organiser must know the level of the candidates early on so as to be able to design the exam accordingly so the examinee pre-exam questionnaire needs to be sent out early!

The EQF is a **common scale** for any qualification, diploma or certificate. It is a tool for translation between the qualification levels in different countries, based on the learning outcomes.

According to the level descriptions, the European levels 5 to 8 correspond to the university levels, with the license (DE) diploma on level 6 and the master diploma (DE) on level 7 for example.

There is not yet an official document about the equivalence between existing vocational qualifications and the EQF. The EQF Recommendation formally entered into force in April 2008. It sets 2010 as the recommended target date for countries to relate their national qualifications systems to the EQF, and 2012 for countries to ensure that individual qualification certificates bear a reference to the appropriate EQF level.

Some countries, like France, already had a national qualification framework, that also has 8 levels, but numbered the other way round. Others didn't have such a framework, like Germany, and created one called DQR, but using slightly different level descriptions from the EQF

In the EQF Recommendation, learning outcomes are defined as statements of what a learner knows, understands and is able to do on completion of a learning process

The term learning outcomes may also embrace general knowledge and ethical, cultural, and social

skills that go beyond the needs of the labour market.

The EQF classifies learning outcomes into knowledge (facts, principles and concepts), skills (cognitive and practical) and competences (such as ability to take responsibility and show autonomy).

In some settings the EQF categories are subdivided further. For example, competence is divided into personal and social competences and in another case, context, role, learning to learn and insight. The DQR defines competence as 'the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development'