Model for combined Evaluation and Recognition of Learning Outcomes

Project ConstructyVET: Middle Management in the Building Sector
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1. Introduction

The ConstructyVET project was realized between September 2015 and the end of August 2018. The projects' aim was to enhance vocational education and training paths for worksite supervisors and team leaders in the construction industry. It was carried out by a transnational strategic partnership built up within the framework of the Erasmus+ programme. It gathered training organisations and research institutes from 8 countries: Belgium, Germany, France, Italy, Poland, Portugal, Spain and United Kingdom. The project was realized in 4 phases. This report is a summary of phase 4. The reports summarizing preceding phases are listed and briefly described below:

1. **Report on the adequacy between skills needed by building companies concerning team leaders and available training offer.**
   The goal of the first phase of the project (achieved between September 2015 and October 2016) was to identify company needs in terms of knowledge, skills and competence, especially transversal, in line with the evolution of the jobs of worksite supervisor and team leader. Investigated stakeholders: national representatives knowing the reality of the jobs listed above, companies and quality managers, trainers, architects and other experts or persons dealing frequently with worksite supervisors and team leaders and the opinions of whom can be considered as representative.

2. **Renewed or new contents for initial and continuing VET addressing team leaders and worksite supervisors.**
   In Phase 2 (achieved between November 2015 and December 2016), it was very important to adopt common definitions, explanations and examples of each concept, especially transversal competences, and development of each component associated to the soft and transversal skills identified in the previous phase. An important moment of this stage was the defining of the learning units and learning outcomes to be mastered by the worksite supervisor and team leader.

3. **Guidelines for pedagogical methods and tools for (re)designed VET paths addressing both VET centers and company tutors.**
   The goal of Phase 3 (achieved between November 2016 and May 2017), was the conception and the implementation of a transnational common methodology for the training units as identified in Phase 2. Each learning unit constitutes a basis for the elaboration of the methodological framework enabling the partners to conceive specific training modules adjusted to their specific contexts. The learning units could be considered either as autonomous modules or as parts of more complex training paths: already existing or to be set up as initial or continuous training. They can be organized only in the training centre or shared with a company. They can also include e-learning.

All reports are available at http://constructyvet.eu/

Phase 4 was dedicated to the model for evaluation and recognition of the learning outcomes. The main goal of Phase 4 of the project was to pilot and evaluate the previously developed learning units and didactical methods (see: Project reports from phases 2 and 3) as well as the model for combined evaluation and recognition of learning outcomes (see: chapter 6 of this report).

2. Realization of phase 4 of the project

Phase 4 of the ConstructyVET project was realized between May 2017 and August 2018.

Preparatory stage

Between May and October 2017, the methodological framework for phase 4 was developed and presented to the partners in the report "Methodology, instructions and working materials for phase 4: Model for combined evaluation and recognition of learning outcomes."

Note to reader: for a full description of the model see chapter 6, a general overview of the model is presented below.

The model is a theoretical framework and a set of tools for increasing quality of learning, qualifications significance and stakeholders satisfaction with learning outcomes. The model helps in evaluation of training based on learning outcomes.

The model envisages collecting feedback with the following tools:

- Surveys for trainees – to analyse reactions of participants, their self-assessment of progress made, perceived usefulness of learning outcomes (etc.).
- Interviews – to analyse the results and changes in behavior. Among others, we will ask about the observations and level of satisfaction of employers and participants (trainees).
- Assessment of learning outcomes – to analyse if learners have mastered the knowledge, skills and competence and, to some extent, also the effectiveness of training. This tool refers to the examinations (and other methods) used by partners in experimentation phase.

The figure below presents the moment of use of selected evaluation tools.
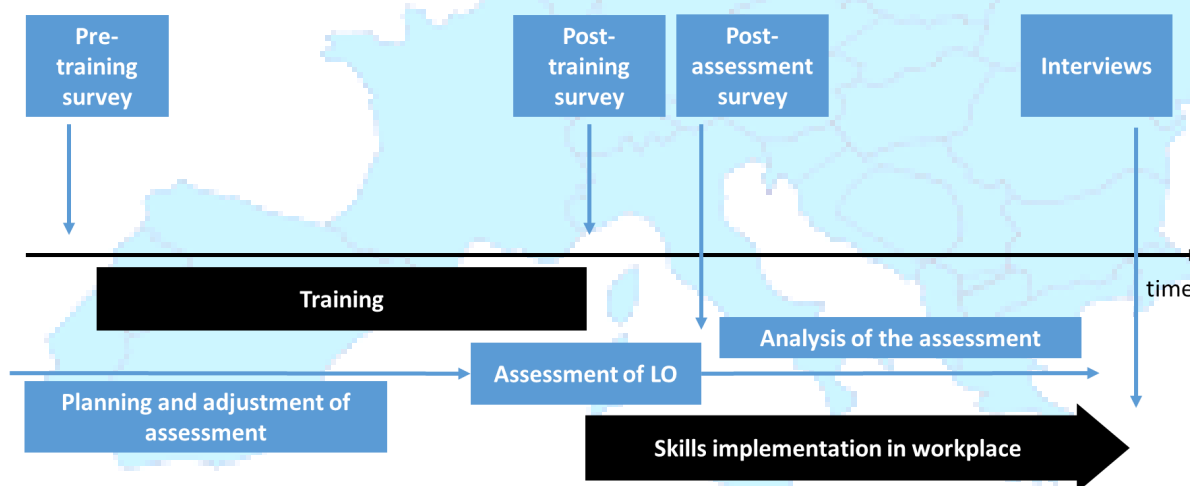
During the preparatory stage, the surveys and interview scenarios were developed. The model was later applied during experimentations carried out in partner countries. The improved model is presented in chapter 6.

Evaluation model piloting and training experimentation stage

Between October 2017 and June 2018, each partner conducted experimentations and evaluations for selected learning units. The list of learning units is presented in table 1. Each partner reported about the realization of the phase 4 using the same feedback form (see annex 1).

National actions included modifications of the trainings conducted or developing new training courses / modules ("experimentation") as well as piloting / testing the proposed model for evaluation of training and learning outcomes ("piloting"). For brevity, we will use shorthand "experimentation" and "piloting" to refer to these two aspects of the phase 4.

Each of the partners had to conduct the experimentation with ca. 50 trainees/workers on average. This guaranteed that the sample for testing learning units and model for evaluation would be adequate, and the project results – meaningful.

Partners had the liberty to organize the experimentations according to their needs. However, they were asked to fulfil the following general guidelines:

- The educational experiment had to be carried out among construction supervisors and team leaders, preferably on both of these groups in every country.
- Each partner should conduct 3 different experimentation trainings.
- Each partner should test 4 learning units with pedagogical methods and tools (developed in previous phases of the project).

The elastic approach was deemed necessary, because of the diversity of training regimes in partner countries – including both long-term courses with multiple modules (e.g. training for Master of Craft Diploma realizing multiple learning units) as well as short trainings concentrating on single learning units (e.g. specialized training for workers on health and safety).

The table below presents the list of learning units developed in the previous phases of the project[1]:

Table 1. Learning units for experimentation phase

Activities	Learning units
A01TL. TEAM BUILDING FOR SUCCES ORIENTATION (TEAM LEADERS)	A01TL.LU.01. Social regulation and safety standards in the management of the teams on worksite
	A01TL.LU.02. Organization of the work for a team on worksite
	A01TL.LU.03. Techniques of communication and solving problems within the team and on worksite
	A01TL.LU.04. Proximity management function to achieve the production objectives
	A01TL.LU.05. Team leader as a tutor
A01WSS. MANAGEMENT OF HUMAN RESOURCES AND TEAM FOR SUCCES ORIENTATION (WORKSITE SUPERVISORS)	A01WSS.LU.06. Planning and organisation of human resources
	A01WSS.LU.07. Social regulation for the management of the teams on worksite
	A01WSS.LU.08. Strategies, methods and techniques of communication to achieve production objectives and quality control
	A01WSS.LU.09. Building and maintaining his leadership of worksite supervisor
	A01WSS.10. Worksite supervisor as a tutor
A02. MENTORING / COACHING	A02.LU.11. Communication

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[1] full list with detailed information about learning outcomes and pedagogical tools are available on contructyvet.eu

Activities	Learning units
	A02.LU.12. Interview management techniques
	A02.LU.13. Capacity building processes
A03. DEVELOPING LEADERSHIP / AUTONOMY	A03.LU.14. Leadership Processes
	A03.LU.15. Optimization of teams
	A03.LU.16. Communication models and Emotional Leadership
A04. WORKING RISKS PREVENTION	A04.LU.17. SAFETY AND HEALTH AT WORK. GENERAL RISKS AND PREVENTION
	A04.LU.18. SAFETY IN CONSTRUCTION
	A04.LU.19. EMERGENCY PLANS AND FIRST AID
A05. MANAGEMENT / COMUNICATION CONFLICTS RESOLUTION AND NEGOTIATION TECHNIQUES / PROBLEM SOLVING	A05.LU.20. Emotion, conflict and performance
	A05.LU.21. Developing emotional balance
	A05.LU.22. Resolve conflictive situations
	A05.LU.23. Negotiation styles and techniques
A06TL. ORGANIZATION AND PLANIFICATION	A06TL.LU.24. ORGANIZATION AND PLANIFICATION OF WORK WITH TEAM
	A06TL.LU.25. MONITORING THE WORK PROGRESS WITH TEAM
A06WSS. ORGANIZATION AND PLANIFICATION	A06WSS.LU.26. ORGANIZATION AND PLANIFICATION OF WORK ON WORKSITE
	A06WSS.LU.27. MONITORING THE WORK PROGRESS ON WORKSITE
A07. DIGITAL COMPETENCE	A07.LU.28. The basics of the operating system Windows, the text processing Word and the e-mail program Outlook
	A07.LU.29. Construction site management with support of Microsoft programs
	A07.LU.30. Advanced operating system Windows and Microsoft Office programs
	A07.LU.31. The basics for using internet
	A07.LU.32. Using the Internet safely - Application possibilities and limits
	A07.LU.33. Using Internet for technical and business development in practice
	A07.LU.34. The basics for dealing with social media
	A07.LU.35. Using social media for technical and business development
	A07.LU.36. The basics for dealing with Auto-CAD
	A07.LU.37. Read and understand CAD drawings
	A07.LU.38. The basics for dealing with BIM
	A07.LU.39. Read and understand BIM files
A08. WORKING UNDER PRESSURE	A08.LU.40. How to work under pressure and to deal with an emergency.
A09. INTEGRATION AND GLOBALISATION / IDENTIFICATION WITH THE ORGANIZATION	A09.LU.41. Factors affecting companies' operations in construction sector
	A09.LU.42. Company mission, strategy, values and policy and its

Activities	Learning units
	implementation in practice
	A09.LU.43. Ethics on construction site – rules, consequences and techniques

The piloting of the evaluation model included translating the surveys and modifying them to specific needs of the training in a given national context. It was agreed that each partner would carry out surveys for all experimentation trainings and at least 2 interviews per training, which would result in 6-8 interviews for each partner.

The table below presents the number and scope of surveys and interviews foreseen initially.

Table 2. Surveys and interviews in the combined evaluation of training and learning outcomes.

Questionnaire	Main aspects analysed:
1) "Pre-training survey" for all participants of training	Reasons for participation; Expected results; Self-assessment using list of outcomes proposed
2) "Post-training survey" for all training participants directly after training	Realization of training goals; Meeting expectations; Self-assessment using list of outcomes proposed; Choice of training contents; Possible improvements; Organization of training.
3) "Post-assessment survey" for after examination	Were all outcomes tested; Were people informed about the assessment; Was the assessment accurate.
4) Interviews with training participants	Usefulness of skills in workplace (examples); Self-assessment using list of outcomes proposed; Possible improvements;
5) Interviews with partners (employers, subcontractors– who had to deal with trainees)	Usefulness of skills in workplace; Assessment of trainee skills using list of outcomes proposed; Relevance of training for needs in workplace.

Summarizing of the experimentations

Between June nd August 2018, we collected and analysed feedback provided by partners (including information about the experimental trainings, results of the surveys and interviews). The subjects of the analysis were: learning units, pedagogical guidelines and tools and the combined evaluation model. In particular, the questions we were seeking to answer in this report were:

- Were the learning units adequate to stakeholders needs?
- To what extent was it possible to develop new training paths or modify existing ones with the use of learning units?
- Were the pedagogical guidelines and tools for developing transversal competences adequate and useful?

- Was the proposed overall structure for evaluation fit for purpose and feasible in given timeframe and workload?
- Were the questions asked in the surveys and interviews accurate and adequate, how could they be improved?
- Were the methods of assessment of learning outcomes used adequate?

3. Experimentations in partner countries

All partners conducted experimentations in the period between October 2017 and June 2018. The products of previous phases of the project were tested on a significant group of trainees / workers, amounting to **782** trainees / workers. On average, each partner experimented on 6,5 learning units. A detailed account is presented in table 3 below.

Table 3. Summary of trainees / workers participating in trainings and evaluation by country.

PARTNER / COUNTRY	Number of trainees / workers	Number of learning units
BZB / GERMANY	26	12
CCCA-BTP / FRANCE	40	13
CENFIC / PORTUGAL	45	3
FLC / SPAIN	55	3
FLC Asturias / SPAIN	15	4
FORMEDIL / ITALY	113	7
IBE / POLAND	445	11
IFAPME / BELGIUM	36	5
WARRINGTON COLLEGIATE/ UNITED KINGDOM	4	1
TOTAL	782	59

The experimentations were conducted with participation of both worksite supervisors and team leaders (or, in some cases, future worksite supervisors and future team leaders). On average, the experimentations were conducted on 87 trainees / workers per partner organization – which means that the initial goal of 50 participants per partner was exceeded.

The intention of the project was to test all the learning units developed. However, partners were allowed to choose freely the units that they decide to take to the experimentation phase. As a result, not all learning units were tested. The detailed information about this issue can be seen in table 4, a matrix of experimentations with reference to learning units by partners is presented in annex 2.

Table 4. Learning units tested by partners in the experimentation phase.

PARTNER / COUNTRY	Learning units tested by partners
BZB / GERMANY	A07.LU.28. The basics of the operating system Windows, the text processing Word and the e-mail program Outlook A07.LU.29. Construction site management with support of Microsoft programs A07.LU.30. Advanced operating system Windows and Ms Office programs A07.LU.31. The basics for using internet A07.LU.32. Using the Internet safely - Application possibilities and limits

	A07.LU.33. Using Internet for technical and business development in practice
	A07.LU.34. The basics for dealing with social media
	A07.LU.35. Using social media for technical and business development
	A07.LU.36. The basics for dealing with Auto-CAD
	A07.LU.37. Read and understand CAD drawings
	A07.LU.38. The basics for dealing with BIM
	A07.LU.39. Read and understand BIM files
CCCA-BTP / FRANCE	A01TL.LU.01. Social regulation and safety standards in the management of the teams on worksite
	A01TL.LU.02. Organization of the work for a team on worksite
	A01TL.LU.03. Techniques of communication and solving problems within the team and on worksite
	A01TL.LU.04. Proximity management function to achieve the production objectives
	A01TL.LU.05. Team leader as a tutor
	A05.LU.20. Emotion, conflict and performance
	A05.LU.21. Developing emotional balance
	A05.LU.22. Resolve conflictive situations
	A05.LU.23. Negotiation styles and techniques
	A06TL.LU.24. Organization and planning of work with team
	A06TL.LU.25. Monitoring the work progress with team
	A06WSS.LU.26. Organization and planning of work on worksite
	A06WSS.LU.27. Monitoring the work progress on worksite
CENFIC / PORTUGAL	A03.LU.14. Leadership Processes
	A03.LU.15. Optimization of teams
	A03.LU.16. Communication models and Emotional Leadership
FLC / SPAIN	A04.LU.17. Safety and health at work. General risks and prevention
	A04.LU.18. Safety in construction
	A04.LU.19. Emergency plans and first aid
FLC Asturias / SPAIN	A05.LU.20. Emotion, conflict and performance
	A05.LU.21. Developing emotional balance
	A05.LU.22. Resolve conflictive situations
	A05.LU.23. Negotiation styles and techniques
FORMEDIL / ITALY	A02.LU.11. Communication
	A04.LU.18. Safety in construction
	A04.LU.19. Emergency plans and first aid
	A06WSS.LU.26. Organization and planning of work on worksite
	A06WSS.LU.27. Monitoring the work progress on worksite
	A07.LU.38. The basics for dealing with BIM
	A07.LU.39. Read and understand BIM files
IBE / POLAND	A01TL.LU.01. Social regulation and safety standards in the management of the teams on worksite
	A01TL.LU.03. Techniques of communication and solving problems within the team and on worksite
	A02.LU.11. Communication
	A04.LU.17. Safety and health at work. General risks and prevention
	A04.LU.18. Safety in construction
	A04.LU.19. Emergency plans and first aid
	A05.LU.22. Resolve conflictive situations
	A05.LU.23. Negotiation styles and techniques

	A06WSS.LU.26. Organization and planning of work on worksite
	A07.LU.36. The basics for dealing with Auto-CAD
	A07.LU.37. Read and understand CAD drawings
IFAPME / BELGIUM	A02.LU.11. Communication
	A07.LU.28. The basics of the operating system Windows, the text processing Word and the e-mail program Outlook
	A07.LU.30. Advanced operating system Windows and Microsoft Office programs
	A07.LU.32. Using the Internet safely - Application possibilities and limits
	A07.LU.33. Using Internet for technical and business development in practice
WARRINGTON COLLEGIATE/ UNITED KINGDOM	A08.LU.40. How to work under pressure and to deal with an emergency.

Learning units were not equally 'popular' for partners to choose for experimentations. The list of units selected for more than one experimentation is presented in table 5 below. According to the information provided by partner organizations, the reasons for this choice were mainly:

1) Demand for skills – understood as the direct or indirect indication by participants of the labour market (learners and workers, companies – employers and sectoral organizations) of what they need.
2) Supply of skills – understood as the ability of partners and training providers cooperating with them to provide a specific set of skills indicated in the units.

However the information about which units have been chosen more often does not provide basis for further conclusions about the quality or relevance of learning units. Partners and companies in countries have different needs and capacities, all of them had to operate in a limited time-frame and with limited financing.

Table 5. Most often chosen learning units by number of experimentations in partner organizations

Title of learning unit	Number of experimentations
A02.LU.11. Communication	5
A06WSS.LU.26. Organization and planning of work on worksite	5
A04.LU.18. Safety in construction	4
A04.LU.19. Emergency plans and first aid	3
A05.LU.22. Resolve conflictive situations	3
A05.LU.23. Negotiation styles and techniques	3
A06WSS.LU.27. Monitoring the work progress on worksite	3
A07.LU.39. Read and understand BIM files	3
A01TL.LU.01. Social regulation and safety standards in the management of the teams on worksite	2
A01TL.LU.03. Techniques of communication and solving problems within the team and on worksite	2
A04.LU.17. Safety and health at work. General risks and prevention	2
A05.LU.20. Emotion, conflict and performance	2
A05.LU.21. Developing emotional balance	2
A06TL.LU.24. Organization and planning of work with team	2
A06TL.LU.25. Monitoring the work progress with team	2
A07.LU.28. The basics of the operating system Windows, the text processing Word and the e-mail program Outlook	2

A07.LU.30. Advanced operating system Windows and Microsoft Office programs	2
A07.LU.32. Using the Internet safely - Application possibilities and limits	2
A07.LU.33. Using Internet for technical and business development in practice	2
A07.LU.36. The basics for dealing with Auto-CAD	2
A07.LU.37. Read and understand CAD drawings	2
A07.LU.38. The basics for dealing with BIM	2

4. Key findings

The findings about experimentations related to learning units, pedagogical methods and tools, described in this part, are presented in relation with the following evaluation questions:

- Were the learning units adequate to stakeholder needs?
- To what extent was it possible to develop new training paths or modify existing ones with the use of learning units?
- Were the pedagogical guidelines and tools for developing transversal competence adequate and useful?
- Were the methods of assessment of learning outcomes used adequate?

In order to provide a more transparent and communicative summary, the answers to each evaluation question is supplemented by excerpts from partner' feedback. This approach is also consistent with good practice in presenting results of qualitative research.

Were the learning units adequate to stakeholder needs?

The feedback on learning units collected was both direct (referring to the units themselves – their description, usefulness and adequacy) and indirect (referring to the competences trained and assessed during experimentations – these were based on the units, but needed to be adapted to country needs, hence the term 'indirect').

A direct feedback on adequacy of learning units was scarce, and is in general difficult to collect (especially in surveys). Most respondents gave indirect feedback, and informed about the quality and adequacy of learning outcomes provided by the experimentations.

In other words, the 'leadership' or 'teamwork' competence denoted by units A.03 and A.01 was in all cases deemed as relevant and adequate. However, there was little direct feedback saying if the "unit of learning outcomes A.01 / A.03" was adequate in the sense, that it is:

(1) accurate (relating to the topics or aspects of the competence that are relevant for a given group of workers in a given country);

(2) precisely defined (e.g. using operational verbs, assessable verification criteria);

(3) of adequate granularity[2] (either too general or too specific).

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[2] Curriculum standards may be set out in terms of a large number of relatively well defined learning outcomes or a relatively small number of generalised or holistic learning outcomes. The former are described as 'granular' while the latter are 'holistic' (Vocational pedagogies and benefits for learners: practices and challenges in Europe, Cedefop,

Ad. (1). The main finding is that the learning units have proven to be adequate to the learners and employers' needs. They were adequate to the identified (transversal) skills' gaps among middle management in the construction sector.

PT: "Participants maintained a positive evaluation of the three Learning Units and also about the structure of the combined evaluation model", "They reported having taught subjects they did not know. They never had any training about that. They understood the concept of learning outcomes and internalized the strategy (s) and tools to apply them in their daily work."

FR: "Pre-training survey put in evidence the fact that transversal competences are much more expected (by the public concerned) from the modules proposed by the training centres than typically technical (more easily accessible directly in companies)."

ES Asturias: "The competences treated have proved to be critical for the selected professional profiles."

DE: "All participants recognized a job relevant aspect in participating; the communication related to this should be kept and intensified."

IT: "Everybody thought the training was good and useful to improve their own communication skills and declared to have acquired some new communication strategies despite what they thought at the beginning."; "All the participants gave a positive feedback and found the experimentation very useful and well organised. Few of them complained the distance in terms of time of the lessons."

Partners reported that learners underlined a strong need for practical training. On one hand, this has been reported as an advantage of the proposed trainings, on the other hand (even) more practical training was a repeated suggestion in surveys.

Ad. (2) and (3). It has been established that the learning units are described in a way that allowed all partners to use them. They were specific enough, understandable and of adequate granularity.

The learning outcomes used in countries needed to be translated and applied in the national context. In that process, rephrasing and clarifying parts of learning units was needed. We expected that phase 4 would result in modification of the learning units developed in phase 2. However, the changes introduced by partners were often contradictory both in terms of contents and 'philosophy of learning outcomes'. As a result, we did not develop a new version of the learning units list.

To what extent was it possible to develop new training paths or modify existing ones with the use of learning units?

Each partner organized the experimentation with regard to the learning units developed in the previous phases of the project. The way these units have been used and implemented varied significantly from one partner to another. Therefore, the three "ideal types" were identified:

- Putting forward new courses / trainings based on the learning outcomes elaborated in the phase 2 of the project without modification;
- Moderately changing courses / training programmes or only improving the training methods.

2015, p.58). See also: Curriculum reform in Europe, Cedefop, 2012, p. 93.

- Significantly re-designing courses / training programmes and changing the training methods / contents ;

All learning units tested were useful for developing or modifying training. The learning units have proven to be universally applicable, in the sense that they can be adapted in all tested contexts / countries. However, it is important to note that the units are not a solution that can be directly implemented – their use requires critical reflection and adaptation to the country needs.

The evaluation of the experimentations has shown that in most cases, the transversal skills should be transmitted to learners together with so called 'hard skills' or 'job specific skills' (e.g. technical skills, procedural knowledge).

> *DE: "Integration into running courses, seminars was a wise decision, since any separate and extra effort to attract people for these training would have been difficult."*

> *PL: [participants' opinion] "Because of some previous experiences, initially I feared that the training on soft-skills would be theoretical and restricted to knowledge. Eventually, the opportunity to discuss technical issues in groups and train negotiation techniques in simulations of work-site situations worked out well for me."*

In some cases (Poland and UK), it has been indicated that the units should be a basis for developing a new training programme or a new qualification. Similar conclusions have been made by participants at the final conference in Warsaw on 29th June 2018.

> *UK: "All learners talked about how they thought the training was a good idea and how it would make a good qualification. There isn't a specific qualification in this country that covers the units that we intend to implement."*

> *PL, final conference participant: "Some of the qualifications in the Integrated Qualifications System in Poland have units of learning outcomes that resemble the ones developed in the project [ConstructyVET]. The units developed in the project, could be used to develop new qualifications for the construction sector"*

Were the pedagogical guidelines and tools for developing transversal competences adequate and useful?

The evaluation of experimentations in phase 4 was based on the assumption that partners used pedagogical guidelines and tools developed in phase 3. The results of the evaluation over that practical, on-the-job learning and simulations as well as e-learning and blended learning, have proven to be adequate to transversal competences (as indicated in the final report of phase 3).

> *FR: "Preliminary training survey made it clear that practical simulations and scenarios are much more expected in terms of learning methods than simple and linear transmission of knowledge (even if it cannot be eliminated). This statement is particularly strong concerning managerial skills and problem solving, whereas in case of more technical skills linear transmission of knowledge is admitted more easily."*

> *DE: "Inter-relating blocks were stressed and a stronger accent on practical training instead of theoretical instructions"*

PT: "They considered they were able to self-assess the learning outcomes they had chosen."

PL: "The courtroom simulation was a very good way to learn about the details of stressful situation in court and to gain some knowledge of possible consequences of not following health and safety procedures. It was stressful enough to make me aware of not wanting to repeat this in real life ever."

An interesting finding, which exceeded the recommendations from phase 3, was the impact of learners' participation in evaluation on the pedagogical process. In other words, the use of surveys and interviews, which were about learning outcomes and their practical application, increased the consciousness and motivation for learning.

It can be said that the evaluation has been used as a tool for formative assessment and self-assessment. By increasing both trainers and learners awareness of learning outcomes, the process of on-going evaluation of learning progress has been enhanced. During the experimentations, participants were asked to self-assess three times (before training, after training and after assessment) about all learning outcomes specified for the learning units chosen for testing.

FR: "Answers to the questions on the motivation of learners for the training were considered as essential by the trainers being a part of the focus group, as they enabled them a better understanding of the trainees' future involvement in their own learning process."

ES Asturias: "(…)Regarding the simulations, they commented the fact that they were very motivating and facilitated the subsequent dialogue and learning."

PT: "Considering the results obtained in the questionnaires applied before and after training, there is a more consistent understanding of the learning outcomes identified in each Learning Unit and the motivation to mobilize them in their daily lives."

FR: "Regarding the questions on the potential usefulness of the training for trainees themselves, they prepared their more active participation in the training process through a progressive appropriation of the operational objectives by the learners concerned."

ES Asturias: "A formative and participatory vision of the evaluation was appreciated among the subjects. The researched group considered that the evaluation system was a learning opportunity that generated greater understanding of the knowledge transmitted and favoured their participation, which facilitated the sharing of the accumulated knowledge, developing in this way a know-how that constitutes one of the most valued items."

Were the methods of assessment of learning outcomes adequate?

Assessment of learning outcomes is a process leading to the confirmation that a person has achieved the requirements specified in a standard. In case of ConstructyVET project, thess standards are learning outcomes and assessment criteria. The assessment methods can be used for formative purposes (e.g. feedback to learners, part of the 'formation' process) or summative purposes (e.g. final examination, formal assessment for a diploma).

The assessment of learning outcomes was often limited to the formative aspect. In other words, trainers

usually put effort into increasing the participants' consciousness of the progress, but there was little or no summative assessment at the end of the training.

Because of their training, the participants often received 'certificates of attendance'. Issuing a qualification based on the experimentations was not the main objective of the project. However, it remains a relevant aspect for the learners and the EU mobility and LLL policy.

> *PT: "They refer, as weaker points, the lack of external recognition and the (expected) difficulty of mobilizing all the acquired skills."*

The answers provided by partners prove that assessment of transversal skills remains a challenge:

> *PT: "In particular, it is necessary to develop and apply special tools to assess behavioural and social skills. This last observation leads us to the need of:*
> *- (…) properly trained teachers and trainers,*
> *- new assessment approaches by human resources managers, as key elements to a better planning of the workforce and the new generations of leaders inside companies (…)"*

> *PL: "The formulation of criteria for competence of team-work and leadership was both difficult and time consuming. The experimentation that we conducted with those criteria turned out fruitful for the participants, but it also revealed a need for changes in the criteria developed. One of the conclusions was that the criteria should in every case be individually adjusted to the learners' and employers' needs – which in practice is rarely possible."*

While on the other hand some partners pointed out that the formative use of assessment is more important and useful for development of transversal skills. The surveys were used as a norm-referenced assessment tool (showing change between before training and after training/assessment).

> *ES Asturias: "(…) It is appreciated in the opinions expressed that the system allows to verify the progress of learning adequately. The students do not perceive the evaluation as an error detection system, but as an aid to improve their level of understanding of the knowledge transmitted.", "A formative and participatory vision of the evaluation is appreciated among the subjects. The researched group considers that the evaluation system is a learning opportunity that generates greater understanding of the knowledge transmitted and favours their participation, which facilitates that the accumulated knowledge is shared, developing in this way a know-how that constitutes one of the most valued items."*

However, we found that using wider set of assessment methods provides relevant pedagogical benefits and is well received by most learners (not all though). Simulations, observation and open questions as well as self-assessment have proven to be useful and effective methods of assessment. Both trainers and learners expressed that these methods gave good results and a wider perspective on the transversal skills.

> *ES Asturias: "Regarding the evaluation [assessment] of the training, the participants express their agreement with the chosen evaluation [assessment] system. They comment that it is very diverse and includes various types of tests (written, practical cases, simulations …), thus making it very attractive. They highlight the difficulty of the exercises presented in the forum and comment that reaching an agreement between very different points of view was not always easy. For the majority, the written questions were the easiest to resolve. Regarding the simulations, they comment that they were very motivating and facilitated the subsequent dialogue and learning."*

FR: "The importance of open questions, related to the skills and competence not previously listed, was also pointed out by the trainers involved in the evaluation process carried out."

PT: "They considered they were able to self-assess the learning outcomes they had chosen."

5. Added value of the combined evaluation model

The general result of piloting the model for combined evaluation was positive. The tool has been perceived as relevant and useful, meaning that it addressed a need that had been indicated by partners, trainers and all stakeholders.

PT: "There are no critical aspects to note. The questionnaires were welcomed and answered without difficulty. The results, related to the trainees' expectations were very useful, not only for the development of the Learning Units but also for the trainer, helping the alignment of the program contents."

BE: "These surveys were really easy to collect and the very good point is that it gave the learners the opportunity to anticipate their training and to have a reflection beforehand. Analysis of the results was easy and did not take too much time."

An analysis of qualitative responses of partners leads to the following conclusion: the more people and time were involved in adapting the evaluation tools to, the better results it gave. This avers that the template is a good starting point, but also that it needs to be purposefully adapted to each specific context. The more people and time were dedicated to the adaptation process, the better the results. The conclusions lead to a recommendation that the evaluation tool should be adapted to a group of ca. 3-5 people, including if possible a wide variety of stakeholders (such as trainers, representatives of employees and employers).

The surveys and interviews required adjustments to national contexts (other than translations). The template character of the tools (surveys and interviews content) was underlined. This was anticipated. However, practice shows that the changes have sometimes been contradictory to each other. Different partners found different questions difficult to answer, or the same questionnaires too long or of accurate length.

Was the proposed overall structure for evaluation fit for purpose and feasible in given timeframe and workload?

The general structure of the combined evaluation model was well received and accepted. All partners reported that using surveys before and after trainings as well as interviews with stakeholders gave interesting and useful feedbacks. The most often mentioned aspect was the length of surveys (however, not all partners perceived the surveys as too long) and the possibility to merge the post-training and post-assessment surveys. Proposals were made to merge the post-training and post-assessment survey whenever possible.

The interviews scenarios have been tested with individuals and in focus groups with good results.

The general need to shorten some parts emerges from indicated difficulties of surveyed in understanding

some questions and identified redundancies as well as comments that discussing learning outcomes and assessment issues requires specific knowledge (and time) that the interviewees and surveyed do not usually have.

Although changes in the template tools are possible and will be implemented, the question remains – how to increase the ability of selected stakeholders to discuss (give feedback on) issues related to learning (outcomes and assessment). Based on the feedback collected, it seems that only focus groups with stakeholders and authors of the questions / learning units can guarantee good responses on this topic.

It has also been proposed to improve / develop the model by adding examples or tools to share feedback with stakeholders and participants.

> *FR: "Propose the ways in which feed-back from the questionnaires and interviews can be given to stakeholders and participants."*

> *PL: "In case of one experimentation, we gave individual written and oral feedback to participants and stakeholders (the company). In other cases, participants received little or no additional feedback. It is recommended, that the evaluation results are not to be withheld by trainers."*

Were the questions asked in the surveys and interviews accurate and adequate, how could they be improved?

Related to the pilot version, the surveys and interviews scenarios were modified – some questions were shortened, some minor errors have been deleted. The updated version of the surveys and interviews scenarios is presented in part 6 of this report. To underline the template character of this tool – we decided to present an updated pilot version in English.

> *FR: "The questionnaire was adjusted to the real learning situations as aimed, considering its structure and contents. Therefore, redundant questions were eliminated and some formulations were simplified in the French version. After that, it was easy to find variable items for evaluation. The focus group decided to propose a reduced number of items to facilitate spontaneous and true answers. Therefore, eight items per question were considered as a maximum."*

Below, we present some comments on the modifications of the survey content that have been made, based on specific needs in partner countries:

<div align="center">**Motivation and expected results**</div>

Some stakeholders indicated that questions about motivation could be ommited in surveys for participants of long-term courses, for example ones leading to diplomas such as master of crafts or engineer diploma. It has been pointed out that these questions, after shorter modules on transversal competences, are often perceived as illogical, since the training is part of the programme.

> *PL: "Questions about motivation to participate in classes – participation of students in the classes and passing the exam is a condition for continuing education in the chosen field – therefore these questions were excluded from the survey."*

However, most partners see the motivation as a very important aspect of the combined evaluation method – a source of useful information and a pedagogical tool at the same time.

In a few cases, the distinction between 'expected results' of the training and 'motivation for participation' has been questioned. For example 'increased efficiency', 'increase in future wages', 'better job opportunities' etc. are all expected results and sources of motivation. On the other hand, information about the role of 'curiosity', 'formal requirements to participate in training' or 'personal life benefits' remains valuable for training providers. Summarizing – every user of the model needs to decide which aspects of its motivation and expected results are relevant to them and adjust the surveys accordingly.

Form of training and form of assessment

Many partners gave feedback on the usefulness of these questions, especially the expectations linked to training forms and assessment methods.

> FR: "The questionnaire made it also possible to compare the expectations of learners regarding learning methods and the methods really put forward in learning situations: several gaps were identified and trainers could realise what was really lacking."

However, the information about intended forms of training and assessment should be available before the training begins. The goal of the surveys is not to collect this information from participants. The formulation of the questions about form of training and form of assessment has been modified – shortened, with more focus on the learners' expectations.

If there is a possibility that the training and assessment are not conducted as intended in the documentation – the questions in the surveys can be modified accordingly to collect information from the participants.

Self-assessment and skills improvement

The questions about self-assessment before and after the training, as well as after assessment, allow a view of the self-perceived change in skills mastery by participants. The question 'has the training helped you to develop new / existing skills' allows to assess the extent in which the training has provided useful support in mastering the skills. Some of the respondents considered these questions very similar, which shows that in some countries, a more operationalised approach could be useful. Depending on the training specific, the question could be about 'direct support of trainer', 'amount of learners' workload in and out of class/workshop' etc. In some cases, it is possible that questions about trainers' work and training materials qualities should be sufficient.

Some of the comments regarding self-assessment show a difficulty to understand the difference between the questions. For example, self-assessment and the helpfulness of training (see paragraph above) or relevance of the exam to the learning outcomes. To some extent, this could have been caused by the questions formulation. However, it has also been pointed out that these issues were difficult for learners to answer quickly. The resulting recommendation is that when adapting the surveys, time to fill them in and their difficulties (in terms of cognitive workload) needs to be adjusted.

> PL: "Question about self-assessment and if the exam has assessed the identified learning outcomes were treated by students as very similar, which in their opinion, made the survey unnecessary long".

6. The model for combined evaluation – improved version

6.1 Methodology for combined evaluation of learning outcomes

The model is a theoretical framework and a set of tools for increasing quality of learning, qualifications significance and stakeholders satisfaction with learning outcomes. The model helps in evaluation of training based on learning outcomes.

It is developed for and by sectoral organizations dedicated to increasing quality of learning, qualifications significance and stakeholders satisfaction. The tool end beneficiaries are trainees/learners and employers.

The underlying assumption of the model is that, without cooperation there is no Quality. Using the tool will require coordination with the following actors:

- Organizations/experts responsible for formulating learning outcomes,
- Training organizations and staff,
- Assessing and certification bodies,
- Learners/trainees,
- Employers.

Evaluation begins in parallel with preparation of the training. The concept (and tools) of the evaluation should be adjusted before the start of the training so that all necessary data can be collected. Because the verification of learning outcomes is also important - the assessment tools and process should be analysed (and possibly corrected) before it is carried out.

6.1.1 Methodological background of the model

The model draws from Kirkpatrick's Four-Level Training Evaluation Model for Analysing Training Effectiveness. The four levels are briefly presented in Figure 1:

Figure 1. Four levels of evaluation of training

Reaction
- measure how participants find the training

Learning
- measure the change in knowledge, skills and competences resulting from training

Behavior
- measure the extent of applied learning back on the job

Result
- investigate the effects on the business and environment resulting from the training
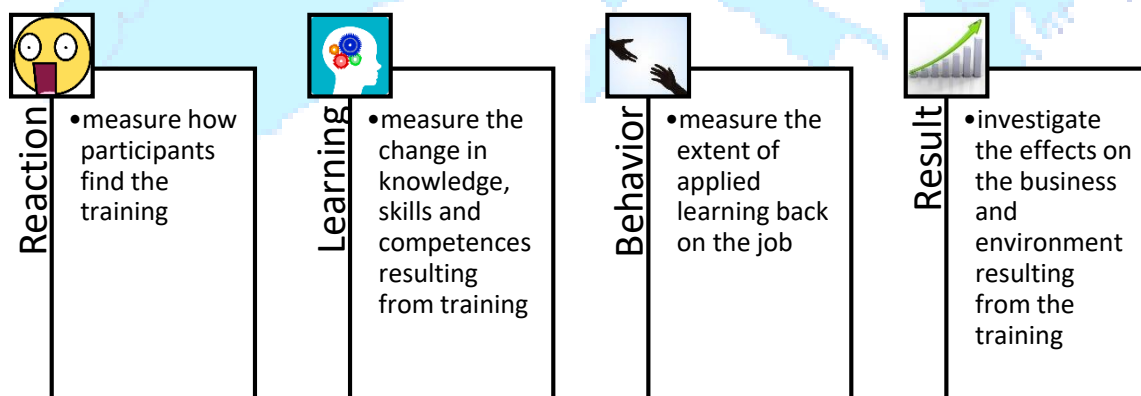
The four levels indicated in the original methodology have been adjusted to fit in the context (and

limitations) of the project – to evaluation of learning outcomes. As a result, we have a combined approach, which takes into account both the learning outcomes and training perspective.
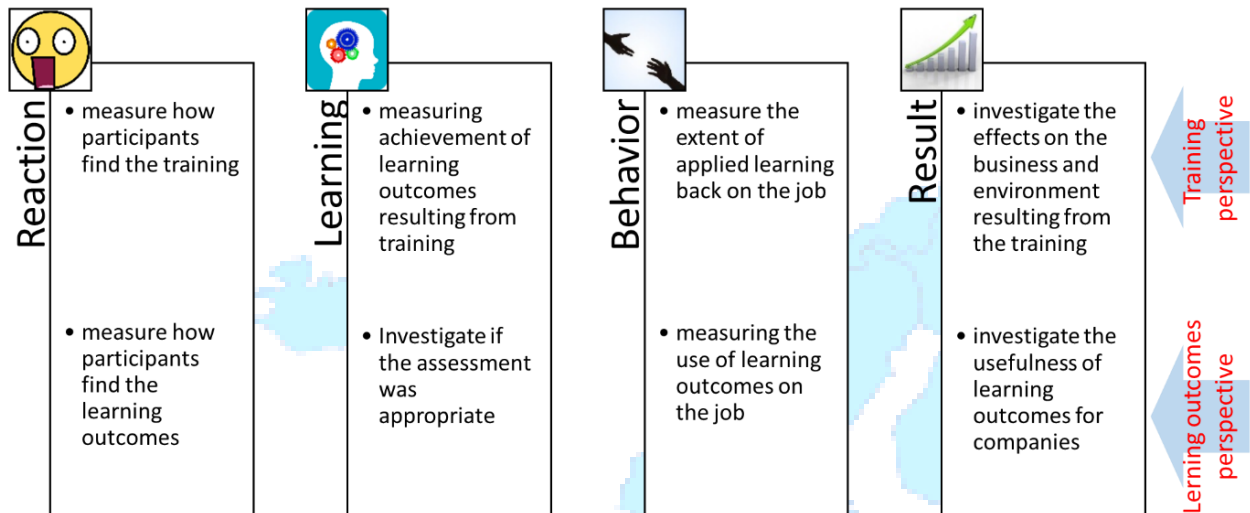
Figure 2. Four levels of evaluation of learning outcomes and training

6.1.2 Subject of the combined evaluation model

The following key aspects should be the subject of evaluation:

- Learning outcomes
- Training provision
- Assessment of learning outcomes
- Environment impact

Evaluation refers to four key aspects, namely the learning outcomes (understood as the pre-defined objectives as well as the resulting achievement of new skills), the training process (provision), assessment process (tools and organization of the verification whether the learning outcomes have been achieved) and the impact of training on the environment.

Evaluation of learning outcomes involves an assessment of how they are formulated, i.e. whether they are precise, measurable, achievable and understandable, but also whether they are "thought through", i.e. consistent, tailored to the needs of recipients (participants and employers) .

Evaluation of the training process includes an analysis of the quality of work and the trainer's competence, selection of training methods and training materials / tools, as well as the organizational side of the training.

Evaluation of the obtained learning outcomes includes checking whether the participants achieved the assumed learning outcomes. In order to assess this, appropriately selected verification methods of the learning outcomes applied by competent assessors are used. Therefore, not only the result of this measurement, but also the choice of methods and the way of carrying out the validation are subject to evaluation.

Evaluation of the impact of training on the environment includes, in particular, the study of the usefulness of training effects, their application at work and the benefits that result from them.

Figure 3. Model for Combined evaluation and recognition of learning outcomes

Source: own work.

6.1.3 Practical tools for the combined evaluation

The basic source of information and reference point are documents such as training scenario and training program, description of qualifications, learning units, subject syllabus, training materials (guides, instructions, presentations, tasks), examination sheets / questions, etc.

A thorough analysis of these documents is the first step of evaluation. The analysis should involve reflecting on the contents and the interrelations between their elements. There are no specific tools for this first task other than a checklist composed of general questions:

1) Are the learning outcomes clearly stated and easy to understand?
2) Are the proposed learning outcomes relevant for the relevant work context?
3) Are the proposed training programme and/or training materials corresponding to the intended learning outcomes?
4) Are the proposed training programme and/or training materials coherent and of high quality?
5) Does the training involve elements of formative assessment?
6) Is the final assessment adequate to the intended learning outcomes?
7) Is the overall documentation of the training and examination coherent?

The questions indicated above are purposefully stated in a general way and need to be adapted to specific context (e.g. How is high quality understood?).

In order to provide a thorough evaluation, we used three basic types of tools:

1) Surveys – to analyse participants' reactions, their self-assessment of progress made, perceived usefulness of learning outcomes (etc.).
2) Interviews – to analyse the results and changes in behaviour. Among others, we asked about the observations and level of satisfaction of employers and participants.
3) Assessment of learning outcomes – to analyse if learners had mastered the knowledge, skills and competences and, to some extent, the effectiveness of training. This tool refers to the examinations (and other methods) used by partners in the experimentation phase.

Note: these tools are supposed to be used for combined evaluation of learning outcomes. But, at the same time, one of the aims of the project is improving and experimenting with assessment methods of learning outcomes. This will require critical reflection on the assessments conducted by partners, for example on the organization, methods and results of assessment of learning outcomes for analysing the improvement of skills, training quality and accuracy of assessment methods.

6.1.4   Recommendations for the use of the method

The described method determines the general framework for conducting evaluation and selected tools. The 4 levels of evaluation set the framework for action and the scope of the analysis, while the tools can be helpful to collect the necessary data to evaluate the training. However, the assessor performs the decisive role for the quality of evaluation.

Clarification of training goals/ learning outcomes should also include identifying those behaviours we want to observe in the workplace. The methods of verification of learning outcomes described later can be applied both directly after the end of the training (whether knowledge, skills and social competences have been passed), as well as at the workplace (whether knowledge and skills are used or the attitudes of the participants have changed). They will then refer to level 2 and level 3 of the analysis.

For the effectiveness of the training, it is necessary to involve the recipients of the training, which requires the persons conducting the evaluation to establish a direct relationship with the contracting company and the participants. In this way, it is possible to specify precisely questions in individual (and group[3]) interviews.

The basic mistake in using evaluation is to limit yourself to the first two levels of analysis. We do not obtain key information this way, i.e. regarding the reference of training to practice and the impact on the functioning of the enterprise. The guidelines on verification methods cited in the next part meet this need - the proposed verification methods can be used both as a data collection tool at the third level of

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[3] Due to the specificity of the industry and the difficulties associated with the collection of many construction managers working in different companies, the project did not envisage group interviews, which, however, are also a recommended way of gathering information.

evaluation.

6.2 Assessment

Part of task is to analyse the organization and results of assessments of learning outcomes, as well as the methods of assessment used.

- To analyse the organisation, you can use the outcomes of the appropriate survey (post-assessment survey) and results of phase 3 of the project.
- To analyse the accuracy / appropriateness of the assessment methods, you can use the information presented below (especially in point 3.2. and 3.3.).
- To analyse the results of assessment, you need to gather information about the assessment (organization, examination tasks, required proof etc.) and the information about results of the summative assessment.

Subchapter 6.2.1. provides common understanding of assessment – this is necessary to build understanding and communicating project results to external stakeholders.

Subchapter 6.2.2. presents the proposed list of assessment methods, which classifies the most often met forms of gathering evidence if learners mastered learning outcomes. This intends to build common terminology for discussing assessment.

Subchapter 6.2.3. discusses the problem of matching assessment methods with learning outcomes, using examples from the project. This part considered as an helpful material when analysing if the assessment methods used in experimentation have been appropriate / accurate for the learning outcomes.

6.2.1   Common understanding of assessment

Assessment of learning outcomes is a process leading to the confirmation that a person has achieved the requirements specified in a standard.

In case of ConstructyVET project, these standards were learning units and assessment criteria. Depending on the outcomes, different assessment methods can be used.

There is not one catalogue of assessment methods. The material presents a list of assessment methods that were proposed for use during the ConstructyVET project.

One part of the document intended to provide common vocabulary to discuss the issues of relation between learning outcomes and assessment.

Assessment methods had to be carefully selected and applied. A transparent, thorough and fair assessment motivates the workers and pupils to learn and develop.

This material was also intended to help in final selection of assessment methods as well as evaluation of the assessment methods used in experimentation.

6.2.2 List of assessment methods:

Table 6. List of assessment methods

Methods	Description / assessment tools
1. Oral examination	Usually an interview with scenario (question list).

2. Written examination
   2.1. Open ended questions
   2.2. Multiple choice questions
   2.3. Written task
	A test with open-ended questions or multiple-choice questions. Often also larger tasks, such as solving a complicated case study or preparing documentation.

3. Presentation	Usually presenting a self-prepared material multimedia presentation, poster to an audience.
4. Observation in simulated conditions	Observation of the realization of a task in simulated conditions or persons' behaviour in simulation games/tasks, group work projects, etc. Both the process and outcome can be subject of assessment
5. Observation in real conditions	Work-place observation with list of criteria. 360 degree assessment. Both the process and outcome can be subject of assessment
6. Outcome/product analysis	Assessment of prepared product (element, document) or result of a service. No analysis of process involved.
7. Dossier/portfolio analysis	Assessment of declarations and documents presenting previous experience and achievements.
8. Assessment Center	is a process of assess by gathering all relevant information under a standardized conditions about an individual's capabilities to perform a given task

Source: own work using:

- Educational Research Institute publication entitled "Walidacja. Nowe możliwości zdobywania kwalifikacji" [*Validation. New opportunities for attaining qualifications*];
- European Inventory on validation of non-formal and informal learning, update 2016 (http://www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory)

6.2.3 Selecting assessment methods for learning outcomes

To confirm that a person has achieved a learning outcome, more than one method of assessment is usually used.

The general rule of thumb is: for practical learning outcomes select practical assessment methods.

The difference between 'knowing how to do something' and 'doing it' is key. If the outcome is about 'talking', the assessment should involve talking and if the outcome is about 'doing' something, the assessment should involve doing it (not just talking about how it should be done).

In case of soft skills, it will not always be possible to have one, final (summative) assessment at the end of the training. These skills require innovative approach, and using new, in some context, experimental methods.

For example some communication skills can be:

- Assessed based on evidence collected during training (e.g. video of a person using negotiation techniques);
- Assessed based on a 360 degree assessment, which involves talking to co-workers about changes in communication of the assessed person.

Table 7. Examples of relation between learning outcomes and assessment methods

Exemplary learning outcome	Assessment methods	Comments
Prepare and conduct a meeting	- Analysis of product/outcome (such as prepared agenda and materials for the meeting) - Observation in simulated conditions (a group work project during assessment centre) - Observation in real conditions (during a work meeting)	Analysis of prepared agenda and materials does not provide full proof of achievement of learning outcome, since it only proves the ability to prepare a meeting (as opposed to prepare and conduct). Observation in real conditions is usually the best method, but also the most expensive one.
Explains the risks related to subcontractors failure to deliver goods or services	- Oral examination (including answering questions related to selected risks) - Written examination (open ended question 'explain the …')	Both written and oral examinations are suitable to assess the ability to explain risks.
Implement the procedures, from the documentation of the work and	- Observation in real conditions (visit on construction site and assessment of the extent of application of the procedure)	Oral examination is possible, but it can be questioned whether it takes into account the implementation and application

applying the rules of hygiene, safety and health protection at work.	- Oral examination based on documentation and case analysis (with specific questions about ways to implement procedures and safety measures in given conditions);	(…) at work. Note that if the outcome was "explains procedures for (…)" completely different methods could be applicable.

6.2.4 Surveys and interviews

This part of the document outlines the concept for collecting feedback with the use of surveys and interviews in phase 4 of the ConstructyVET project.

These instruments will be used to evaluate:

- the satisfaction with the proposed contents, perceived usefulness of the training and participants motivation; and overall satisfaction with participation in the course;
- quality of assessment of learning outcomes;
- probable effects of training on business and environment (measuring them exceeds the project timeframe);
- possible improvements of the training methods and contents;
- organizational and other factors influencing the training.

Table 8. List of proposed surveys and interviews (in order of use):

Name	Main aspects analyzed:
1) "Pre-training survey" for all participants of training	Reasons to participate; Expected results; Self-assessment using list of outcomes proposed
2) "Post-training survey" for all training participants directly after training	Realization of training goals; Meeting expectations; Self-assessment using list of outcomes proposed; Choice of contents; Possible improvements; Organization of training.
3) "Post-assessment survey" for after examination	Were all outcomes tested Were people informed about the assessment
4) Interviews with training participants	Usefulness of skills in workplace (examples);

	Self-assessment using list of outcomes proposed; Possible improvements;
5) Interviews with partners (employers, cooperants – who had to do with trainees)	Usefulness of skills in workplace (examples); Assessment of trainee skills using list of outcomes proposed; Relevance of training for needs in workplace

*In some cases, training and assessment may be organized on one day, in that case one, combined survey can be used.

The proposed content of surveys and interview scenarios are presented in chapter 7.

6.3 Chronology of actions

The evaluation takes place at different moments in relation to the formation, assessment and use of learning outcomes. The general representation of this is presented in figure 4 below:

Figure 4. Chronology of formation, assessment and use of learning outcomes.
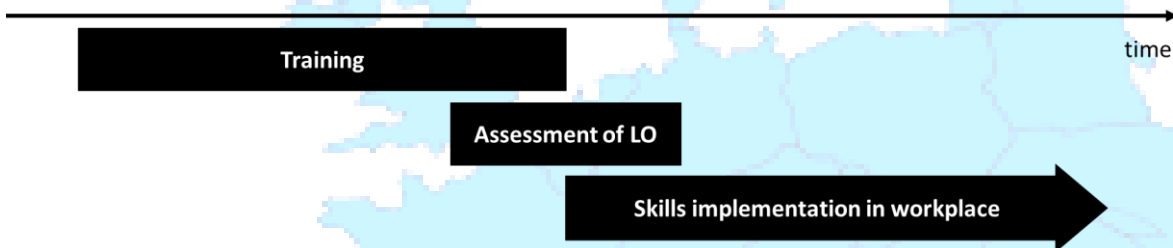
Souce: own work

Please, note that the assessment can very often be a point in time, but it can also take a longer time to present the achievement of some skills (e.g. collection of evidence). In some cases, it can begin during the training process.

The figure below presents the moment of use of selected evaluation tools.

Figure 5. Chronology of evaluation actions in ConstructyVET project.
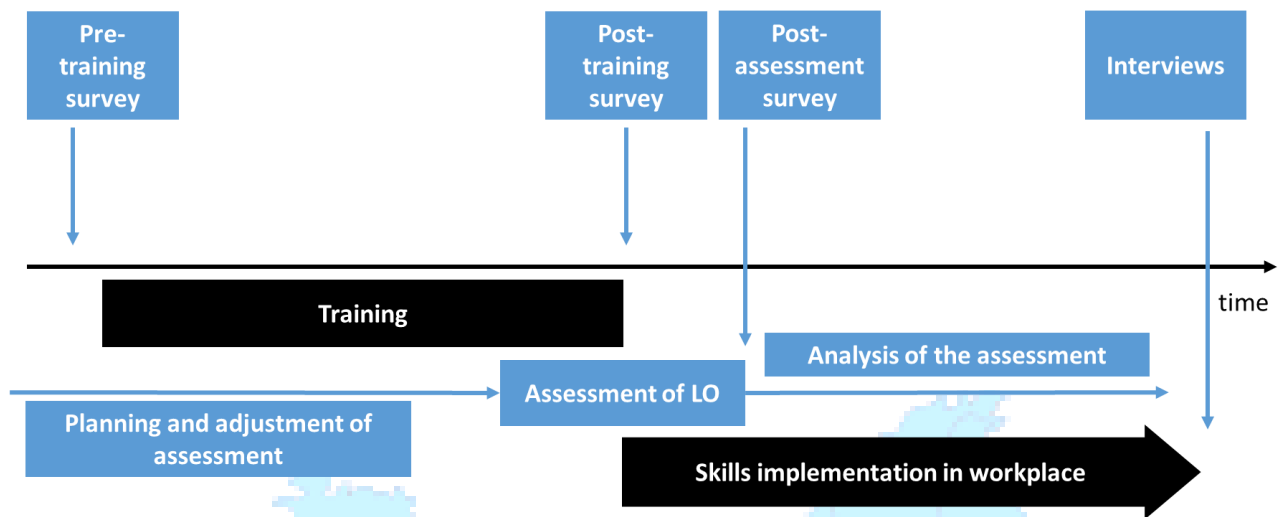
Source: own work.

In order to assess the whole process of formation, assessment and use of learning outcomes, we need to look at different moments in the process. For example:

- the pre-assessment of the learning outcomes is only possible before the training. Without this, we will not know if the learners have achieved the skills as a result of training or, perhaps, already had the skills and only needed to confirm that;
- the use of learning outcomes in the workplace can only be assessed after a certain period of time – e.g. 2 months after the training.

The evaluation should end with the identification of areas / aspects to improve the training (or qualification description) and, if possible, an indication of constructive solutions for those leading.

7. Surveys and interviews scenarios

7.1   Pre-training survey

Middle Management Skills in the Building Sector:
Adjustment of the Vocational Education to the Evolution of Company Needs
Contract: 2015-1-FR01-KA202-015054

PRE-TRAINING SURVEY

The information that will be provided in this survey will serve as a guide to raise the level of training in which you participate, as well as the level of effectiveness and attractiveness of the next training. We kindly ask you to fill in all the headings and enter any comments you consider helpful.

Learning unit title: _____

Date and place of training: _____

Trainer(s): _____

1. ***Why do you participate in the training?****

REASONS / MOTIVATION	Mark your answer with X
I need the skills – it will be useful for work	
I like to learn new things / out of curiosity	
My employer sent me / it was obligatory	
Other:	

*When implementing the program in the education system, it is recommended to omit this question.

2. ***What results do you expect after the training?*** *(multiple choice)*

TRAINING RESULTS	Mark your answer with X
New skills for the job / increased effectiveness	
Increase my value for the employer (future employers) as an employee	
Strengthening and expanding knowledge	
Learning how to solve typical problems	
Other:	

3. ***What do you expect of the training in relation of its form?*** *(multiple choice)*

TRAINING FORMS	Mark your answer with X
Lectures	
Practical training / simulation	
Group work	
Presentations	
Solving practical tasks during classes [workshops]	
Own work under the supervision of the teacher	
Presenting on the group forum [participants]	
Individual consultations with the lecturer	
Mutual assessment by participants	
Other:	

4. ***What is the most significant competence, that you expect of the training?***

5. Self-assessment. Would you meet the following requirements?

I can/ I am able:	I can not	I rather can not	hard to say	I rather can	I can
Insert L.O 1	1	2	3	4	5
Insert L.O 2	1	2	3	4	5
Insert L.O 3	1	2	3	4	5
Insert L.O 4	1	2	3	4	5
Insert L.O 5	1	2	3	4	5

Age: _____

Position in company (if applicable): _____

Years of work experience (if applicable): _____

Years of work in the company (if applicable): _____

7.2 Post-training survey

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POST-TRAINING SURVEY

The information that will be provided in this survey will serve as a guide to raise the level of training in which you participate, as well as the level of effectiveness and attractiveness of the next training. We kindly ask you to fill in all the headings and enter any comments you consider helpful.

Learning unit title: _____

Date and place of training: _____

Trainer(s): _____

1. General feedback:
[Please assess below-listed components using the scale 1-5]

	bad / weak / I do not agree	rather bad / rather weak / I do not agree	hard to say	rather good / useful / I agree	perfectly / very useful / I agree completely
Overall Verdict	1	2	3	4	5
Training Structure	1	2	3	4	5
Training Content	1	2	3	4	5
Did the training relate to everyday work experience?*	1	2	3	4	5
Training was a pleasure	1	2	3	4	5
I learnt something useful	1	2	3	4	5
Did the training meet my expectations	1	2	3	4	5
The quality of training materials (if applicable)	1	2	3	4	5

* When implementing the program in the education system, it is recommended to omit this question.

2. Trainers' assessment. How do you evaluate the trainers' way of conducting training?

	1 bad	2 insufficiently	3 enough	4 good	5 very good
The ability to transfer knowledge	1	2	3	4	5
Conducting training in a logical and understandable way	1	2	3	4	5
The ability to establish contact with the group and create a positive atmosphere at the training	1	2	3	4	5
The ability to involve participants in discussions and exercises	1	2	3	4	5
Overall impression	1	2	3	4	5

3. Self-assessment. Have you achieved the following learning outcomes?

I can/ I am able:	I can not	I rather can not	Hard to say	I rather can	I can
Insert L.O 1	1	2	3	4	5
Insert L.O 2	1	2	3	4	5
Insert L.O 3	1	2	3	4	5
Insert L.O 4	1	2	3	4	5
Insert L.O 5	1	2	3	4	5

4. Which outcomes do you think will be useful for your work?*

Learning outcomes:	Not useful at all	Rather unhelpful	Hard to say	Rather useful	Very useful
L.O. 1	1	2	3	4	5
L.O. 2	1	2	3	4	5
L.O. 3	1	2	3	4	5
L.O. 4	1	2	3	4	5
L.O. 5	1	2	3	4	5

When implementing the program in the education system, it is recommended to omit this question or rewrite the content of the question.

5. What else would you like to learn during this training?

Please indicate the most specific answers

6. How do you evaluate each parts of the training (i.e. 1st part, 2nd part, practical part, etc.)?

7. What can be improved / changed?

[Please provide us with specific aspects and solutions that could be improved. Remember that general statements such as 'improve the quality of training materials' will only slightly improve the training]

Age: _____

Position in company (if applicable): _____

Years of work experience (if applicable): _____

Years of work in the company (if applicable):_____

7.3 Post-assessment survey

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POST-ASSESSMENT SURVEY

The information that will be provided in this survey will serve as a guide to raise the level of training in which you participate, as well as the level of effectiveness and attractiveness of the next training. We kindly ask you to fill in all the headings and enter any comments you consider helpful.

Learning unit title: _____

Date and place of training: _____

Trainer(s): _____

1. General feedback on assessment / validation:

[Rate the following aspects on a scale 1]

	I do not agree	I rather disagree	Hard to say	I rather agree	I agree
The questions / tasks checked the relevant knowledge and skills	1	2	3	4	5
The form of the assessment / exam made it difficult for me	1	2	3	4	5
The assessment / exam was too easy	1	2	3	4	5

2. Did you have enough time to answer / solve tasks?

[circle and answer]

YES / NO   Which parts or tasks require more time?

3. Were you informed about the form(s) of assessment in advance?
[circle and answer]

YES / NO   How many days in advance, was the information sufficient?

4. Were you informed about the criteria for assessment in advance?
[circle and answer]

YES / NO   How many days in advance, was the information sufficient?

5. Self-assessment. Indicate the level of mastery of the following learning outcomes/ competences?

I can/ I am able:	I can not	I rather can not	Hard to say	I rather can	I can
Insert L.O 1	1	2	3	4	5
Insert L.O 2	1	2	3	4	5
Insert L.O 3	1	2	3	4	5
Insert L.O 4	1	2	3	4	5
Insert L.O 5	1	2	3	4	5

6. What could be improved / changed on assessment / validation?
[Please indicate the most specific suggestions for improvement, or specific elements for improvement]

Age: _____

Position in company (if applicable): _____

Years of work experience (if applicable): _____

Years of work in the company (if applicable): _____

7.4 Interview scenario – training participants

Middle Management Skills in the Building Sector:
Adjustment of the Vocational Education to the Evolution of Company Needs
Contract: 2015-1-FR01-KA202-015054

Interviews with training participants

Aim: to analyze the learning outcomes and quality of provided training on Middle Management Skills in the Construction Sector

Target group: persons trained and assessed in the project

Date and place: _____

Before the interview:

- Insert learning outcomes in the places marked with red font;
- Be prepared to remind the respondent about the training, date, time, place, etc.;
- Have the list of learning outcomes and description of assessment in handy, you might need to refer to it during the interview.

Part 1: **Preliminary part - presentation of the Moderator and the participant**

Moderator:

Good morning/afternoon,

My name is _____ and I represent_____.

We meet on this interview to get your opinion on the learning outcomes, quality of training and assessment in the project *Middle Management Skills in the Construction Sector* that you've participated in _____ months ago. I would like to ask you some questions about the usefulness and effectiveness of training and assessment.

Moderator:

During this meeting I will ask you number of questions. Please do not hesitate to express any opinion about the training or assessment. All your feedback will be extremely important and valuable for drawing up the final report and for improvements. I would like to record today 's meeting and ask for your permission. Do you agree?

Moderator:

Please introduce yourself briefly.

Name and surname:	
Current position in the company:	
Name of the company:	
Country/ town of employment:	
Experience in construction sector:	*Clarifications for respondent, if needed: What did you do in construction sector and for how long? How many years of experiences do you have in construction sector?*
How many years of organized education in the field of construction do you have? ***School/University:***	*Clarifications for respondent, if needed: In which/what kind vocational school, college or university?*
Attended courses and trainings:	

Part 2 : **Questions about the training and assessment**

Moderator:

Let's move on to the main purpose of this meeting, which is to collect comments on the quality of the training and assessment. Please share with me your opinion about the training and assessment. We will start with questions about the training.

1. *What were the strengths of the training:*

Clarifications for respondent, if needed: What elements were better compared to other trainings he/she has been through. Which elements would he/she like to see more of in other trainings?

2. *What were the weaknesses of the training?*

Clarifications for respondent, if needed: What elements were worse compared to other trainings you have been through. Which elements would you like to see less of in other trainings?

3. *What was the most valuable part of the training?*

Clarifications for respondent, if needed: Which topic, which unit of learning you find most useful?

4. *What could be improved in the training?*

Clarifications for respondent, if needed: Which parts of the training? You can refer to training forms, trainers skills, materials given, location of the training, duration, the topic of the training, etc.

5. *Name one thing you learned in the course that surprised you:*

If the respondent has nothing to name, move on to next question. Do not suggest anything.

6. What is your overall opinion about the training?

<div style="border:1px solid black; height:150px;"></div>

Clarifications for respondent, if needed: Please describe if it was useful or not, good quality training or low quality? Ask for descriptive feedback. If the respondent has problems expressing overall opinion, ask how would he/she rate it on a scale 1-10 (where 1 is very bad and 10 excellent)

Part 3 : **Usefulness of skills in workplace**

Moderator:

Now please let's focus on usefulness of acquired skills in workplace. Tell me please:

7. Do you use the skills and knowledge in workplace?

<div style="border:1px solid black; height:150px;"></div>

Clarifications for respondent, if needed: If yes, how often? Every day, every week, once a month, never? Can you give examples of situations when you had a chance of using the skills and knowledge in workplace?

8. Do you use acquired skills in relation to co-workers/ subordinates?

<div style="border:1px solid black; height:150px;"></div>

Clarifications for respondent, if needed: Or maybe in private situations?

9. Describe at least one specific thing you learned on the training that you used in your job:

<div style="border:1px solid black; height:150px;"></div>

Information for the interviewer: ask for a description, not just a statement such as 'I used it to deal with my boss'.

10. Name one thing you think you will use in your job, but did not use yet:

11. In what way did the training help in your personal and professional development?

Clarifications for respondent, if needed: Did the training help you develop new skills, improve them, refresh (which ones?) or systematized knowledge? Did it increase your self-consciousness, self-confidence?

12. Do you think your company has benefitted from the training?

Clarifications for respondent, if needed: what kind of benefits?

13. Have you noticed any change in your relationships with co-workers/ subordinates after the training?

Clarifications for respondent, if needed: please give examples of situations.

Part 4: **About the assessment of LO**

Moderator: Thank You, now we will move on to your opinion about assessment:

14. What were the strengths of the assessment:

Clarifications for respondent, if needed: Which qualities or parts of assessment contribute to a trustworthy, thorough and accurate assessment? The answer can refer to assessors, organization/location, duration, assessment methods, difficulty of assessment, task/questions asked, information about the assessment prior to it, etc.

15. What were the weakness of the assessment?

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Clarifications for respondent, if needed: Which qualities or parts of assessment undermine the trustworthiness, thoroughness and accuracy of the assessment? The answer can refer to assessors, organization/ location, duration, assessment methods, difficulty of assessment, task/questions asked, information about the assessment prior to it, etc.

16. Would you say the assessment was accurate?

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Clarifications for respondent, if needed: For example have practical skills been assessed in practice? Did the assessment confirm the skills listed as goals for the training. If the respondent does not know the learning outcomes, show him the list of learning outcomes, in order to answer the questions.

17. Do you have suggestions for improving the assessment?

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Clarifications for respondent, if needed: The suggestions can relate to assessors, organization/ location, duration, assessment methods, difficulty of assessment, task/questions asked, information about the assessment prior to it, etc.

18. What is your overall opinion about the assessment

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Clarifications for respondent, if needed: Please describe if it was trustworthy or not, good quality or low? Ask for descriptive feedback. If the respondent has problems expressing overall opinion, ask how would he/she rate it on a scale 1-10 (where 1 is very bad and 10 excellent)

Part 5 : **Self-assessment after the training**

Moderator:

Thank You for all the answers so far. Now I would like to ask You for a self-assessment of skills:

19. Have you achieved the following learning outcomes?
[fill in before doing the survey: please put in the outcomes for the unit]

	Not at all				Yes
[insert LO 1]	1	2	3	4	5
[insert LO 2]	1	2	3	4	5
[insert LO 3]	1	2	3	4	5
[insert LO 4]	1	2	3	4	5
(…)	1	2	3	4	5

Note for interviewer: The respondent might ask for clarification about the learning outcomes. Please note which outcomes required clarifications. And what kind of questions were asked.

Interviewer notes about questions concerning learning outcomes:

20. What did you hope to achieve with this training:

Clarifications for respondent, if needed: what kind of skills, what job-related benefits, etc.

Other, general comments and conclusions of the participant:

General conclusions and comments of the interviewer:
(to be completed immediately after the interview)

Middle Management Skills in the Building Sector:
Adjustment of the Vocational Education to the Evolution of Company Needs
Contract: 2015-1-FR01-KA202-015054

Interviews with employers / colleagues

Aim: to analyze the learning outcomes and quality of provided training on Middle Management Skills in the Construction Sector

Target group: employers, cooperants,

Date and place: _____

Before the interview:

- Insert learning outcomes in the places marked with red font.
- Be prepared to briefly describe the purpose and the scope of training and its short characteristics
- Have the list of learning outcomes and description of assessment in handy, you might need to refer to it during the interview.

Part 1: **Preliminary part - presentation of the Moderator and the interviewee**

Moderator:

Good morning/afternoon,

My name is _____ and I represent_____ .

We meet on this interview to get your opinion on the learning outcomes, quality of training and assessment in the project *Middle Management Skills in the Construction Sector* that your partner (cooperant, employer, employee) has participated in _____ months ago. I would like to ask you some questions about the usefulness and effectiveness of training and assessment.

Moderator:

During this meeting I will ask you number of questions. Please do not hesitate to express any opinion about the trainee or the relevance of training for needs in workplace. All your feedback will be extremely important and valuable for drawing up the final report and for improvements. I would like to record today 's meeting and ask for your permission. Do you agree?
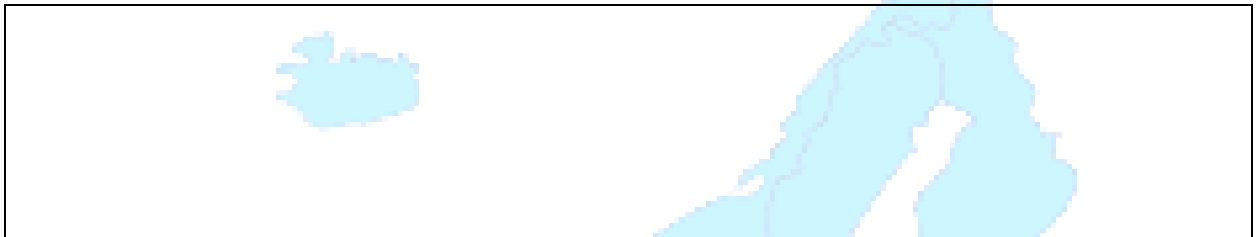
Moderator:

Please introduce yourself briefly.

Name and surname:	
Name of the company/ institution:	
Current position in the company:	
Country/ city:	
Interaction with participants of the training	*Clarifications for respondent, if needed: have you cooperated with persons participating in the experimental training (after the training)? In what situations, roles did you interact with them?*
Involvement in the experimental training	*Clarifications for respondent, if needed: have participated in the training as lecturer/trainer, have you consulted the learning outcomes, helped in recruitment of the trainees (etc.)?*

Part 2 : **Questions about the overall assessment of the usefulness of the training**
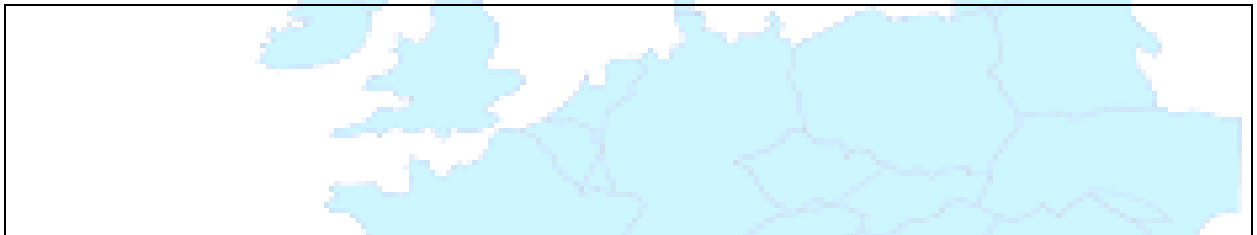
Moderator:

Let's move on to the main purpose of this meeting, which is to collect comments on the overall assessment of the training and its usefulness. Please share with me your opinion about:

21. *What is your opinion about the training:*

Clarifications for respondent, if needed: is it needed or not? Why?

22. *What do you think are main benefits of the training for partners (co-workers, cooperants) and employers?*

If the respondent has nothing to name, move on to next question. Do not suggest anything.

23. *Have you received any feedback from your worker/partner who participated in the training?*
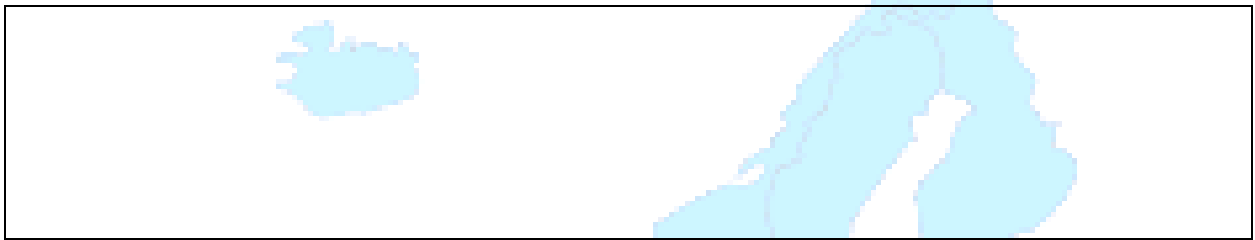
Clarifications for respondent, if needed: Has a trainee referred to training forms, trainers skills, materials given, location of the training, duration, the topic of the training, etc.

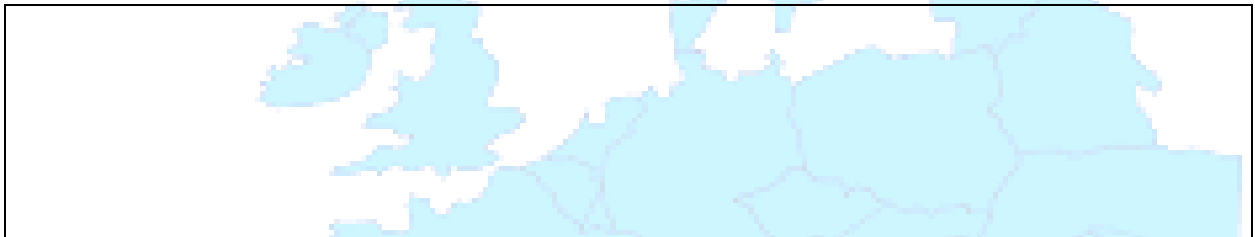Part 3 : **Assessment of trainee's skills**

Moderator:

Now please let's focus on the assess of trainee's skills acquired on the training. First I would like to ask about new skills, improved/developed skills and how these matched with your previous expectations.

24. Have the trainee(s) acquired new skills after this training?
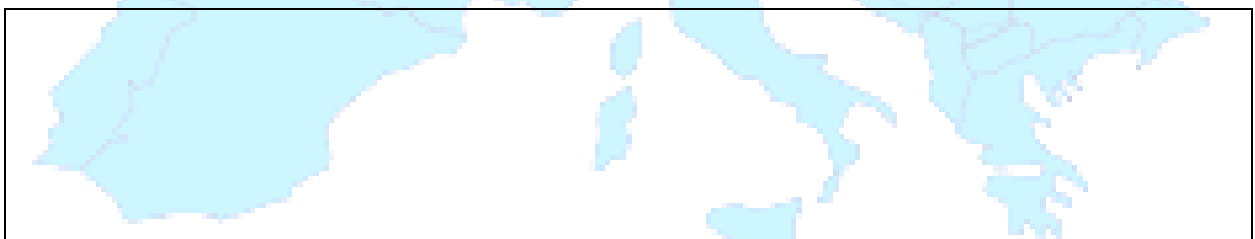
Clarifications for respondent, if needed: If yes, name this skills. Are these skills useful at work?

25. Has a trainee improved the competences that she/he already possessed?

Clarifications for respondent, if needed: If yes, name this skills. Are these competences useful at work?

26. What skills/ competences you expected a trainee to achieve?

Clarifications for respondent, if needed: Has it met your expectations? In what areas? Was there something missing? Do not accept vague answers such as "it was too general" or "I thought it would be more practical". Ask for specific examples of expected outcomes – you can ask "what new things did you expect the person to be able to do after the training?" or "what changes in the behavior did you expect?".

27. Please give your opinion about skills of the trainee you cooperated with. Assess the trainee skills before and after the training:

Before training					Skills acquired by the trainee	After training				
1	*2*	*3*	*4*	*5*	[insert LO 1]	*1*	*2*	*3*	*4*	*5*
1	*2*	*3*	*4*	*5*	[insert LO 2]	*1*	*2*	*3*	*4*	*5*
1	*2*	*3*	*4*	*5*	[insert LO 3]	*1*	*2*	*3*	*4*	*5*
1	*2*	*3*	*4*	*5*	[insert LO 4]	*1*	*2*	*3*	*4*	*5*

[fill in before doing the survey: please put in expected skills]

Note for interviewer: The respondent might ask for clarification about the skills. Please note which outcomes required clarifications. And what kind of questions were asked.

Interviewer notes about questions concerning learning outcomes:

28. In what way did the training help in personal and professional development of a trainee?

Clarifications for respondent, if needed: Did the training help develop new skills, improve them, refresh (which ones?) or systematized knowledge? Did you notice the increase of his/her self-consciousness, self-confidence?

Part 4: **Usefulness of skills in workplace**

Moderator:

Thank You, now we will move on to your opinion about the usefulness of skills acquired by a trainee:

29. Do you think your company has benefitted from the training?

Clarifications for respondent, if needed: what kind of benefits?

30. Does the trainee(s) use the skills and knowledge in workplace?

Clarifications for respondent, if needed: If yes, how often? Every day, every week, once a month, never? Can you give examples of situations when a trainee had a chance of using the skills and knowledge in workplace?

31. Does the trainee(s) use acquired skills in relation to co-workers/ subordinates?

Clarifications for respondent, if needed: please give examples of this situations.

32. Was there noticeable change in the trainee's way of work after the training?

Clarifications for respondent, if needed: What areas? Attitude to work? Effectiveness of realization of assigned tasks? Improving the employer-employee relationship or/and co-worker relations or whole field? None?

33. In what trainee's work area did the training not give sufficient result?

Clarifications for respondent, if needed and ask for examples.

34. Was/were the trainee(s) participating in other trainings of similar profile in the last 4 months?

Note for interviewer: please ask for the title(s) of the training(s).

Part 5 : **Relevance of training for needs in workplace**

Moderator:

Thank You for all the answers so far. Now I would like to ask You about a relevance of this kind of training for needs in workplace:

35. Do you think such training was/is needed?

Clarifications for respondent, if needed: Could you give reason why yes or not?

36. Would you recommend this training to the companies or institutions you work with?

Clarifications for respondent, if needed: Are there any problems in cooperation? What are the problems?

37. Could developing the skills acquired in such training reduce problems in cooperation in building sector?

Clarifications for respondent, if needed: could you give examples of problems in sector. Can you provide ideas for solving this problems ?

38. The skills acquired during such training are more useful in the inside the company or in the relationships between companies ?

39. Do you often attend training courses?

Name of the courses. Who organized them, where, which company? What is the evaluation of these trainings?

Other, general comments and conclusions of the participant:

General conclusions and comments of the interviewer:
(to be completed immediately after the interview)

Conclusion: Further use of the combined evaluation model

The model is publicly available and can be used for all kinds of training and certification. The project results have been published on the project website and partners websites. Additionally, the model has been shared with relevant stakeholders in partner countries.

The project results are mainly for the construction sector, but the transfer of the model to any other sector is possible. The model was tested on transversal skills (learning units developed in the project). However, specific skills were also (inevitably) taken into account during the experimentations and testing of the model. As a result, we can recommend to further use the combined evaluation model in all possible sectors, in relation to all type of skills and competences.

The project assumption was that the model of combined evaluation of training and learning outcomes could be used to increase quality of learning, qualifications significance and stakeholders satisfaction with learning outcomes as well as for evaluation of training. It has been confirmed in Phase 4 of the projects that the Model can be used for:

1) Evaluation of qualifications (or training programmes) – the tool can be used to increase the labour market and social relevance of learning outcomes.
   - The model allows evaluating changes in existing qualification (or programmes) or implementing new ones. Phase 4 of the ConstructyVET project has shown that it can be used as a tool supporting implementation of changes – for example related to transversal competences.
   - The model allows identifying qualifications or parts of qualifications (or programmes respectively) that require change or that are not needed anymore. The model can be used to update the training and certification offer of an organization or institution or assessing to what extent the offer meets selected criteria – such as provision of selected transversal competences in the programme.
2) Evaluation of training – the model allows assessment of trainers' performance, quality of training materials etc. In this aspect, the model can be used for constant improvement of the training offer of an organization.

The model can be used by different institutions – central, regional and local:

- Central organizations responsible for skills development in a given sector (such as CCCA-BTP, Formedil, Cenific and FLC in ConstructyVET project) can adopt the model to their needs or recommend its use to its training and examination centres.
- The National Agencies for Erasumus+ or other national organizations which are funding training actions, can use the model or require the funded organizations to conduct evaluation using the model.
- Regional training organizations such as training centres, but also regional administration financing trainings for workers and unemployed are welcome to adapt and use the tools to evaluate trainings and qualifications.
- Individual training institutions or accreditation bodies can use the model to increase the quality of provided training and examinations.

For any organization that is willing to adapt the Model, we recommend to form a small team composed of teacher(s)/trainer(s), worker(s) and assessor(s). Their main goal is to align the template tools with the organization needs and introduce necessary modifications.

Annex 1. Format of country feedback on realization of phase 4

Information about the Experimentations in [insert country name]

Please insert information about conducted experimentations in Your country using the following grid.

Experimentation [insert number]. [insert title of training]

Title of training / name of VET track:	
Training provider:	
Information about the learning units trained:	
Name of document issued upon completion of the training and assessment:	
Number of trainees:	
Dates of training:	
(other)	

Results of the evaluation of the experimentations

Please insert information about the result of the evaluations of experimentations in your country using the following grid. Indicate key findings about the experimentations, the units descriptions, relevance, pedagogical methods and tools used etc.

Experimentation [insert number]. [insert title of training]

Title of training / name of VET track:	
Pre-training survey	Description of key findings
Post-training survey	Description of key findings
Post-assessment survey	Description of key findings
Interviews with participants	Description of key findings
Interviews with partners	Description of key findings
Other findings	E.g. resulting from comparison of findings of pre-training and post-training survey, or comparing opinions of participants about usefulness of selected skills from interviews and surveys.

Conclusions for the combined evaluation model

Information about the usefulness of the surveys and interviews, proposals for improvement. This could be based both on the improvements made during the adoption of surveys and interviews to national contexts, and conclusions from conducting the surveys and interviews (what did not work). Proposals to improve the combined evaluation model and identification of barriers for its use.

Please insert information about the conclusions for the combined evaluation model resulting from experimentations in your country using the following grid.

Pre-training survey	
Post-training survey	
Post-assessment survey	
Interviews with participants	
Interviews with partners	
Barriers for using the combined evaluation model	
Proposals for improvement of the combined evaluation model	
Other findings and conclusions	

[Optional] Answers to questions in surveys

Please send us the survey's results in a spreadsheet

Or

If you decided to fill in the survey in text, please re-type the results to a spreadsheet.

Annex 2. Matrix of experimentations - learning units by partners

Activities	Learning units	CCCA-BTP / FRANCE	FORMEDIL / ITALY	CENFIC / PORTUGAL	FLC / SPAIN	FLC Asturias / SPAIN	IFAPME / BELGIUM	BZB / GERMANY	WARRINGTON / UNITED KINGDOM	IBE / POLAND
A01TL. TEAM BUILDING FOR SUCCES ORIENTATION (TEAM LEADERS)	A01TL.LU.01. Social regulation and safety standards in the management of the teams on worksite	x								x
	A01TL.LU.02. Organization of the work for a team on worksite	x								
	A01TL.LU.03. Techniques of communication and solving problems within the team and on worksite	x								x
	A01TL.LU.04. Proximity management function to achieve the production objectives	x								
	A01TL.LU.05. Team leader as a tutor	x								
A01WSS. MANAGEMENT OF HUMAN RESOURCES AND TEAM FOR SUCCES ORIENTATION (WORKSITE SUPERVISORS)	A01WSS.LU.06. Planning and organisation of human resources									
	A01WSS.LU.07. Social regulation for the management of the teams on worksite									
	A01WSS.LU.08. Strategies, methods and techniques of communication to achieve production objectives and quality control									
	A01WSS.LU.09. Building and maintaining his leadership of worksite supervisor									
	A01WSS.LU.10. Worksite supervisor as a tutor									
A02. MENTORING / COACHING	A02.LU.11. Communication		xxx				x			x
	A02.LU.12. Interview management techniques									
	A02.LU.13. Capacity building processes									
	A03.LU.14. Leadership Processes			x						

| Activities	Learning units	CCCA-BTP / FRANCE	FORMEDIL / ITALY	CENFIC / PORTUGAL	FLC / SPAIN	FLC Asturias / SPAIN	IFAPME / BELGIUM	BZB / GERMANY	WARRINGTON / UNITED KINGDOM	IBE / POLAND
A03. DEVELOPING LEADERSHIP / AUTONOMY	A03.LU.15. Optimization of teams,			x						
	A03.LU.16. Communication models and Emotional Leadership			x						
A04. WORKING RISKS PREVENTION	A04.LU.17. SAFETY AND HEALTH AT WORK. GENERAL RISKS AND PREVENTION				x					x
	A04.LU.18. SAFETY IN CONSTRUCTION		xx		x					x
	A04.LU.19. EMERGENCY PLANS AND FIRST AID		x		x					x
A05. MANAGEMENT / COMUNICATION CONFLICTS RESOLUTION AND NEGOTIATION TECHNIQUES / PROBLEM SOLVING	A05.LU.20. Emotion, conflict and performance	x				x				
	A05.LU.21. Developing emotional balance	x				x				
	A05.LU.22. Resolve conflictive situations	x				x				x
	A05.LU.23. Negotiation styles and techniques	x				x				x
A06TL. ORGANIZATION AND PLANIFICATION	A06TL.LU.24. ORGANIZATION AND PLANIFICATION OF WORK WITH TEAM	xx								
	A06TL.LU.25. MONITORING THE WORK PROGRESS WITH TEAM	xx								
A06WSS. ORGANIZATION AND PLANIFICATION	A06WSS.LU.26. ORGANIZATION AND PLANIFICATION OF WORK ON WORKSITE	xx	xx							x
	A06WSS.LU.27. MONITORING THE WORK PROGRESS ON WORKSITE	xx	x		58					
A07. DIGITAL COMPETENCE	A07.LU.28. The basics of the operating system Windows, the text processing Word and the e-mail program Outlook						x	x		
	A07.LU.29. Construction site management with support of Microsoft programs							x		

Activities	Learning units	CCCA-BTP / FRANCE	FORMEDIL / ITALY	CENFIC / PORTUGAL	FLC / SPAIN	FLC Asturias / SPAIN	IFAPME / BELGIUM	BZB / GERMANY	WARRINGTON / UNITED KINGDOM	IBE / POLAND
	A07.LU.30. Advanced operating system Windows and Microsoft Office programs						x	x		
	A07.LU.31. The basics for using internet							x		
	A07.LU.32. Using the Internet safely - Application possibilities and limits						x	x		
	A07.LU.33. Using Internet for technical and business development in practice						x	x		
	A07.LU.34. The basics for dealing with social media							x		
	A07.LU.35. Using social media for technical and business development							x		
	A07.LU.36. The basics for dealing with Auto-CAD							x		x
	A07.LU.37. Read and understand CAD drawings							x		x
	A07.LU.38. The basics for dealing with BIM		x					x		
	A07.LU.39. Read and understand BIM files		xx					x		
A08. WORKING UNDER PRESSURE	A08.LU.40. How to work under pressure and to deal with an emergency.								x	
A09. INTEGRATION AND GLOBALISATION / IDENTIFICATION WITH THE ORGANIZATION	A09.LU.41. Factors affecting operations of companies in construction sector									
	A09.LU.42. Company mission, strategy, values and policy and its implementation in practice									
	A09.LU.43. Ethics on construction site – rules, consequences and techniques									

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BZB — Bildungszentren des Baugewerbes e.V.
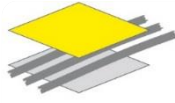
CCCA-BTP — Le réseau de l'apprentissage BTP

Cenfic — Centro de Formação Profissional da Indústria da Construção Civil e Obras Públicas do Sul

FORMEDIL — ENTE NAZIONALE PER LA FORMAZIONE E L'ADDESTRAMENTO PROFESSIONALE NELL'EDILIZIA

FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN

FUNDACION LABORAL DE LA CONSTRUCCION DEL PRINCIPADO DE ASTURIAS — **flc**

IBE — INSTYTUT BADAŃ EDUKACYJNYCH

CENTRE **IFAPME** Liège-Huy-Waremme

Warrington Collegiate