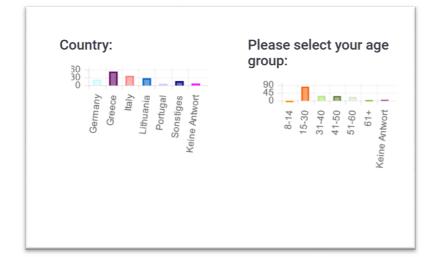# The COOL Catalogue of Assessment Methods Result 2.5

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Introduction

This catalogue gives an overview of possible methods applicable to assess the development of core competences for students and other learners.

The catalogue doesn't claim to be a complete list, but is designed to be a growing compilation of approaches to support professionals in applying the COOL competence framework and to validate competence developments. The catalogues presents a sample of methods that can be used in individual or group work, the examples shown should reflect a good balance of productive and responsive assessment methods. The annex provides materials that can be applied in certain assessment situations.

The assessment of competences on different competence levels acquires a good overview of suitable assessment methods. Not every method of data collection fits to each learning situation. We would like to provide a catalogue of methods which can be used for individual projects and settings.

Every method is presented with a short description, recommendations and instructions, and advantages as well as disadvantages of the method.

Methods and Data Collection

In many cases it is feasible to apply a set of methods to receive more and complementing data as basis for a rating on a competence level. In the design of the assessment setting you should consider the following aspects:

- Which target group do you work with and how many learners and assessors are involved?
- Which competences are to be assessed?
- How much time and interaction with the learners is available?
- For which purpose do you assess and evidence the competence developments? This determines the depth of the assessment, e.g. is it to show learners that they made any progress or is it to document achievements that shall benefit the learner in job-applications?

On the following pages you find the descriptions of different methods and approaches for data collection in different contexts.

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Method of Data Collection	Short Description of the Method	Recommendation, Instructions	Advantages and Disadvantages
Reflective Learning Diary	A reflective diary is an instrument for learner´s self-evaluation. It enables learners to document and reflect upon their learning experiences with regard to a certain topic. As a learning activity reflective diaries facilitate learner's self-reflection. As an assessment method reflective diaries provide insight in learner's understanding, content knowledge, knowledge application but also critical self-reflection and awareness. For this method it is also possible to use a blog or other digital tools, offline or online.	Give regularly time (about 15 min. each day) for the learners to write down their learning experiences in a booklet. Explain that a reflective diary should focus on some basic elements: • A description of what happened • Personal feelings about what happened • A personal interpretation / evaluation of what happened • A conclusion from the experience • Take care that learners do not only report what happened! Let them focus on an issue related to the topic. .	**Advantages:** Gives a deep insight in the learning process Facilitates reflective learning. Digital documentation can be shared with others more quickly and more easily. **Disadvantages/Difficulties:** Takes time and discipline to keep the diary regularly Requires ability for self-reflection Sharing personal feelings with others might be a sensitive issue. Digital documentation may require certain IT skills.
Concept Map	A concept map is a diagram intended to illustrate the understanding of the relationships between concepts involved with a particular area of study. A list of words describing important aspects of a topic is assembled. The words are sorted into a hierarchy from most general to specific. They are arranged so that similar terms are near each other. Links are then drawn between the concept words, and statements written to describe or explain the links. The concept map can be created in the form of a mind map.	Use a concept map at the beginning and at the end of a learning activity to identify the progress the learners made. Identify basic concepts and ask the learners to come up with related concepts and skills.	**Advantages:** It helps individuals to establish logical connection among ideas seemingly related. **Disadvantages/Difficulties:** For individuals who are not used to thinking along a clear structure, it might be difficult to reflect themselves.

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
Group Discussion	In group discussions for the purpose of assessing competence developments a learning group is interviewed by a moderator. A specific format of such a discussion are focus groups, which are in particular useful for exploring norms, beliefs, attitudes, practices and languages.	The optimal size group consists of six to twelve individuals. Choose a topic for the discussion and prepare a list of open ended questions that are arranged in a natural and logical sequence. The discussion should be audio recorded for transcription, or even filmed. An alternative is to take careful notes during the discussion. Write a summary for each group discussion. Focus groups require trained moderators.	**Advantages:** Is very close to daily communication forms. Can be used to "explore the field", to get an insight on a particular subject. The information gained can be used to generate ideas and to prepare more structured methods (e.g. questionnaire) **Disadvantages/Difficulties:** Group discussions give information about a group not about individuals; and they do also not provide any information about the frequency or the distribution of beliefs in the target population. Much effort and time is needed.
Personal (informal) Interview	A purposeful exchange between two individuals to uncover perspectives, experiences, feelings and insights on a phenomenon. A powerful method of collecting in-depth and detailed qualitative data. Data can be analyzed through content analysis with narrations and quotations.	Prepare an interview form with questions in line with the evaluation focus. Use open ended, clear questions with follow up prompts. Do not test knowledge but explore it through experience and description questions. Do not mislead respondents with biased, assumption loaded questions. Record conversation with permission (if audio recording is not possible, take shorthand notes)	**Advantages:** Uses the basic methods of communication and eliminates limitations & artificiality of writing/ filling in a questionnaire. Helps gather in-depth and detailed data. Flexible, open to follow up. **Disadvantages/Difficulties:** Much effort and time is needed. Small samples, generalization from sample to population cannot be done.

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
Questionnaire/ Test/Exam	Questionnaires or tests can be used as a measurement tool for knowledge, skills and attitudes as well as experience gained through a training/programme. It could be used to assess initial knowledge, attitude and behaviour, improvement in these respects in the training process and outcomes reached at the end of training. Questions to test or measure learning can be in verbal or written formats: verbal questioning, e.g. a question and answer session at the start and end of a session; written format e.g. tests or exams. Questionnaires can be formal as in an examination, or informal as in a quiz.	Questionnaires or tests can be used in the 3 stages of assessment: Stage 1. Initial assessment to identify prior learning, experience or achievement. This allows the assessor to develop a baseline for learning and achievement. Stage 2. Formative assessment—to identify where the learner is, what progress is being made and how to "Fill Gaps" in knowledge, skills and understanding. Learners consider where they want to be and plan how to get there. Stage 3. Summative assessment-This is carried out to make judgements about the learner performance at the end of a training/ programme or activity. Examples of questions: • "Closed" questions which restrict the learner to answering YES or NO, TRUE or FALSE • "Open" questions which allow the learner to express an opinion or knowledge in sentences • Multiple choice questions which provide a range of answers for the learner to select the right one	**Advantages:** Provides written evidence of learning. Provides assessor with a quick way to test that learning has taken place. Can be used for both formative and summative assessment. Helps to identify the strengths and weaknesses of learners and provides feedback to both learners and trainers. Fits well into formal learning situations. **Disadvantages/Difficulties:** Questions can be misunderstood, results are determined by the interpretation of the reader. Formal style does not meet needs of learners with other learning styles. Can formalise the curriculum and suppress creativity. Does not fit easily with informal learning situations. Could cover only a limited extend of the set CPD goals and processes.

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
Self assessment/ Checklist	Self Assessment involves learners in the process of assessment and allows them to reflect upon their learning and to review and record their achievements. Self Assessment can be both formative and summative: In formative assessments the learner reflects on where they are and where they need to go next. In summative assessment the learner reflects on the knowledge that has been gained and the skills they have acquired, at the end of an activity. Self assessment enables learners to manage their own learning and plan their progression while they gather evidence for portfolios and qualifications.	It is important that learners have the opportunity to reflect on their own contribution to activities as well as the skills and knowledge they have gained. Self assessment can be used as a stimulus to provoke discussion and to encourage learners to develop their own techniques for reviewing their learning. The self assessment process is a cycle of planning, reviewing and evaluating. It is useful for learners to undertake some form of initial self assessment at the beginning of a learning activity, to identify existing knowledge or skills. The learner can then use this information as a base-line to monitor their progress and to recognise achievement. It is useful for the learner to develop a *logbook* as part of the planning process, which will help to identify what aim to achieve and how objectives will be achieved. Later, a comparison can be made to review progress. This is part of formative self assessment. An *evidence chart* helps the learner to keep a record of the activities done and the skills used. This is used when reflecting on what has been learned. This is part of formative self assessment An *assessment matrix* enables the learner to review their learning against pre-determined criteria by giving scores for each criterion. This gives a visual record of progress and enables to identify strengths and weaknesses. This can be used for formative and summative assessment. *Evaluation sheets* act as a reflective diary and conclude	**Advantages:** Gives ownership of learning. Builds confidence. Motivates learners to progress. Develops planning and reflective skills. Provides evidence of knowledge and competence. Improves decision making and communication skills. LEVEL5 offers an interface to e-learning platforms that enable learners to autonomously carry out their self-assessment and receive a respective certificate. **Disadvantages/Difficulties** Requires a disciplined and honest self-reflection

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| | | the self assessment process. The learner brings together the log, the evidence of achievements and assessment matrix to reflect on what was achieved and the progress made. This is summative self assessment.

Especially for target groups with little experience in self-reflection, it is recommended that a mentor is at hand to support the reflection.

When applying LEVEL5 the learner should be familiar with the structure and underlying idea of the reference system. | |

Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
Observation	The purpose of direct and indirect observation is to collect evidence of achievement by watching learners' performances while they take part in an activity, but without interfering in their work. The activity can be a real situation or a simulated situation e.g. role-plays. Observation allows you to see the knowledge being put into practice and is better used when assessing and evidencing competence based learning. Direct observation is undertaken in person, either by an assessor, peer or workplace supervisor. Indirect observation takes place when using appropriate technology such as video recording. Analysis of documents is also a kind of observation. Here documents rather than behaviour are scrutinised.	Direct Observation by an assessor: Assessor fills in a prepared observation report form during the learner is undertaking the activity – he makes a judgement against pre-determined criteria.. The assessor records what the learner does, how the learner behaves and interacts with others. Peer Assessment: This can be in the form of a discussion, a question and answer session or by recording information on a pro-forma. The peer can be another learner who has taken part in the activity alongside the learner who is being assessed. The peer assessor will either record or provide verbal feedback what the learner has done during the activity. Witness Testimony: This is a statement from a "third party" who has witnessed the learner take part in the activity in verbal or written form. The witness could be a work supervisor or colleague. Indirect Observation: This can be a video or film of the learner taking part in an activity. The assessor can recognise competence or achievement by observing the activity on the video. This can be supplemented by asking the learner questions about what is taking place on the film. 360% Feedback: this is a deliberate confrontation of observations and views on the learner's performance from different perspectives – e.g. of trainer, supervisor and colleagues.	**Advantages:** Provides the learner with the opportunity to demonstrate competence and skills Allows learner to put knowledge into practice Provides creative and innovative method of assessment Contributes to the development of an activity based curriculum Provides a range of evidence for Portfolios **Disadvantages/Difficulties:** Can be time consuming for assessor Can be difficult to observe and assess individuals within a group
(E-)Portfolio	Portfolios are personal collections of information describing and documenting a person's achievements and learning.	Ask your learners/ learners to create their own portfolio/e-portfolio, e.g. on the REBUS Platform. Encourage them to include all kinds of activities.	**Advantages:** Enables the individual to be evaluated on various levels.

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
	An electronic portfolio, is a collection of electronic evidence (artifacts, including inputted text, electronic files such as Word and PDF files, images, multimedia, blog entries and Web links etc.) assembled and managed by a user, usually online. (E-) Portfolios are both demonstrations of the user's abilities and platforms for self-expression, and, if they are online, they can be maintained dynamically over time.	Review during your project how competence levels are changing.	Highlights all of an individual's skill sets. Extra-curricular activities can also be highlighted. Allows the reader to understand the different dimensions of the individual. Empowers individuals to connect their formal education, work experience and extra curricular activities. **Disadvantages/Difficulties:** Learners might need individual help. E-portfolios require some technical skills as well as available soft- and hardware.

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
Games	A tool to assess knowledge, skills or attitudes in a non formal way. Learners of a group get questions or task in a playful surrounding.	Not all people like games or are open to participate. Consider this when you select games. Make a good balance between knowledge questions and creative tasks. The atmosphere must be friendly enough to protect "losers". The group must not be too big. Invent tasks, which are also nice or useful to the other participants that are not directly involved in the task. Play the game yourself first before using it in the group to see the traps and to make a time-table. Every game needs a games-master. The games-master makes notes about the answers and assesses the orders.	**Advantage:** Creates a nice atmosphere. The learner can demonstrate skills or knowledge in a creative way. Improves communication skills. **Disadvantages/Difficulties:** Not every group appreciate "just games". Because of the gamble part it is a roughly assessment. It takes time, to prepare it and to play it.
Case study	A strategy to describe events and processes within a framework through various data collection methods such as observation, interview, document analysis in order to understand and evaluate the case.	Use the case study strategy to evaluate the implementation and the effects of an event or process on individuals/groups, e.g. the REBUS learning project. Case studies focusing on implementation help the evaluator to make decision whether the implementation responds to the initial intent. Case studies focusing on program outcomes assess the impact of the program and help identify reasons for success and failure. Plans should be made to obtain longitudinal data in depth and in detail.	**Advantages:** It helps to assess a complex activity or process through longitudinal, in depth and detailed description and contextual analysis. Both qualitative and quantitative data could be collected and analysed for triangulation. **Disadvantages/Difficulties:** Time consuming. Only small samples can be included in the study.
Essay	An essay is, generally, a piece of writing that gives the author's own argument — but the definition is vague, overlapping with those of a paper, an	An essay (depending on the types of essays) is usually expected to consist of an	**Advantages:** • Essays have the ability to

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
	article, a pamphlet, and a short story. Essays have traditionally been sub-classified as formal and informal. An Essay is an assessment question that requires an answer in a sentence, paragraph, or short composition. Essay assessments are usually classified as subjective assessments as there are normally a variety of responses.	1. Introduction/Aims/Objectives 2. Major points and ideas explained and summarized 3. Results/Related points/Issues/or others depending on the topic 4. Conclusion – future work In regard to the taxonomy essays can be used as project reports thus tackling higher competence levels or key competences of higher complexity like related to Entrepreneurship projects. An essay (depending on the types of essays) is usually expected to consist of an 1. Introduction/Aims/Objectives 2. Major points and ideas explained and summarized 3. Results/Related points/Issues/or others depending on the topic 4. Conclusion – future work Recommendations: - Let students know the assessment criteria and marking scheme, including grammar, spellings and other issues. - Try to reduce ambiguity in the essay questions, clearly define the expected response such as compare, evaluate, summarize, critique etc. - Do not use essays to measure knowledge or understanding that can be assessed using less time consuming assessment methods.	assess all levels of learning objectives. • It encourages original and creative thinking. **Disadvantages/Difficulties:** • Due to the subjective nature of essay assessments, grading is very unreliable even for the same assessor at different periods. • Grading may be influenced by other factors such as handwriting and length of response. • As essays are very time-consuming to answer and to correct, they are not recommended if only low-level of learning outcomes are assessed which can be assessed by multiple choices or short answer questions. • Although guessing is not possible in essay assessments, but "bluffing" is. • It is also not advisable to give the topic of the essay to the students at an early

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Method of data collection	Short description of the method	Recommendation, instructions	Advantages and disadvantages
			date. This may give rise to superficial learning where students concentrate all their efforts in completing the essay only.

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