



# WELDONE

BOOSTING INNOVATION IN WELDING TRAINING

Proj. nr. 2019-1-HR01-KA202-06-0814

# Intellectual Output 4

## Assessment methods



## IO4 - Assessment methods

### CU1

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

##### Tool A

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| <b>Competence Unit (CU)</b>   | Multiple intelligences and learning styles   |
| <b>Assessment type</b>  | Formative  |
| <b>Assessment method/tool</b>   | Interview - unstructured (discussion using probe questions)  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This assessment method is made for exercise 9 - <b>Learning Style Memory Exercise (15 items)</b></p> <p>The learning outcome that is covered by this assessment tool</p> <ul style="list-style-type: none"> <li>Illustrate the main characteristics of (each type of MI and) each type of learning style in order to better understand their practical application in the STEM learning environment</li> </ul> <p>This is a very hands-on activity that involves learners in learning and helps them to think about their learning style (in this case, participants of the ToT curriculum from the perspective of learners). It is a great way to introduce the idea of learning styles to learners. Before the actual exercise, the teacher/trainer should briefly introduce the concepts of visual, auditory and kinaesthetic/tactile learning.</p> <p>Bring 15 items to class. Choose items that can be seen, heard and touched. Place them in a box. Bring each item out of the box and pass it around in the class. Learners will have the opportunity to look at each item, feel it and hear it. Ask them to pass the items quickly. Tell learners that they will be asked to remember each of the items at the end of the exercise.</p> <p>When all of the items have been passed around and returned to the box, have students see if they can recall all of the items and write them down on a sheet of paper.</p> <p>To check the written lists, the items need to be brought out of the bag/box again and set on a table or desk. The discussion/checking of the results proceeds by asking following questions:</p> <ul style="list-style-type: none"> <li>What did you forget and why?</li> <li>How did you remember the items? What strategies did you use?</li> </ul> |

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|                | <ul style="list-style-type: none"> <li>Did it help you to remember the items because you could touch them? See them? Hear them?</li> <li>How many of you think you are kinaesthetic/tactile learners? Auditory learners? Visual learners?</li> <li>Was it more difficult to remember the unfamiliar items?</li> </ul>   |
| <b>Remarks</b> | <p>Unstructured interviews are used when the interviewer wants to let the interviewee have complete control over the content of the interview. The interviewer usually prepares one or two questions to start off the interview. Only probe questions would then be used for the rest of the interview for further elaboration of a topic.</p> <p>Interesting discussion about learning styles is generated by the above method. Many participants realize that they are kinaesthetic/tactile learners and can apply learning techniques related to this style, such as taking notes.</p> |

### Useful LINKS/ATTACHMENTS

<https://www.collegesuccess1.com/LearningStyleM.htm>

### Tool B

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| <b>Competence Unit (CU)</b>   | Multiple intelligences and learning styles   |
| <b>Assessment type</b>  | Formative and summative  |
| <b>Assessment method/tool</b>   | Online/Paper quiz  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This assessment method is made for exercise 5 - <b>Multiple intelligence - Matching exercise</b></p> <p>Learning outcome that is covered by this method is:</p> <ul style="list-style-type: none"> <li>Illustrate the main characteristics of each type of MI (and each type of learning style) in order to better understand their practical application in the STEM learning environment.</li> </ul> <p>In other words - How to learn to easily recognise which MI is most developed with your learners/trainees by matching the characteristics with specific types of MI</p> <p>This method can be executed in a paper form or as an interactive worksheet.</p> <p>a) Interactive mode: Create an interactive worksheet with a matching exercise (quiz). The worksheet should contain a table with 8 columns, each column representing 1 type of MI (inputs can be taken from links below). Characteristics typical of the 8 respective MI types are listed above or below the table (depending on the preference). Trainees drag each characteristic to the corresponding column of the table.</p> |

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|         | <p>There are many applications available at the moment, but <i>Liveworksheets</i> is a free and very simple to use option. After the worksheet is created, a link is generated that can easily be sent out to all participants. They complete the exercise, either hit the CHECK ANSWERS button or send it to the teacher's mailbox. In any case, the application corrects participants' answers, and the number of points is available right away.</p> <p><i>LearningApps.org</i> is also a good option.</p> <p>b) Paper mode: Give each pair/group of teachers/trainers one flipchart paper and cut out characteristics of MI types. They draw a table with 8 columns and distribute the cut-out characteristics across the table (or if you have enough flipcharts for all the groups, they can use safety pins to attach the answers).</p> <p>In this case the teacher/trainer needs to check the answers.</p> |
| Remarks | This method can be used for both formative and summative assessment depending on what the teacher's/trainer's goal is.   |

### Useful LINKS/ATTACHMENTS

<https://www.teachervision.com/multiple-intelligences/multiple-intelligences-questionnaire>

<https://www.teachervision.com/multiple-intelligences/multiple-intelligences-chart>

<https://www.businessballs.com/freepdfmaterials/MI-test-intelligences-descriptions.pdf>

### Tool C

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|---|---|
| Competence Unit (CU)  | Multiple intelligences and learning styles  |
| Assessment type   | Formative   |
| Assessment method/tool  | Art   |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p>This assessment method is made for exercise 3 - <b>Activities Across 8 Multiple Intelligences</b> targeting:</p> <p>a) bodily/kinaesthetic learners (those enjoying dancing, crafts, or sports)</p> <p>b) visual/spatial learners (those enjoying drawing and painting)</p> <p>This assessment method covers the learning outcome</p> <ul style="list-style-type: none"> <li>Develop learning activities for STEM subjects that are in accordance with and best suited for the preferred type of learner's intelligence</li> </ul> <p>a) This method is cross-curricular, connecting biology and geography.</p> <p><b>Activity:</b> Use the human body as a "map" for learning new information in different subjects. In geography, for example, the</p> |

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|                | <p>body might represent Europe. If the head is Scandinavia, then where is Italy?</p> <p>Have learners draw the human body on a flipchart/piece of paper and ask them to write the name of the European country that you have just called out in the corresponding place.</p> <p>Another version could be to have the learners themselves assign a country for every major body part (body parts need to be established beforehand).</p> <p>b) Play drawing games such as <i>Pictionary</i>, <i>Charades</i> or <i>Win, Lose or Draw</i>. Have learners make rapid drawings to capture key points being discussed in a class lesson.</p> <p>Typically, Charades is played in pairs, with one person drawing, and the other one guessing. Organise the game depending on the number of participants you have.</p> |
| <b>Remarks</b> | <p>This method can be applied literally to every subject and every topic. Using the established rules of the above-named games the teachers can check how well the learners have mastered the subject taught in the lesson. You can go from general to specific and apply the method to your liking and needs considering the age of the participants and level of education.</p>   |

### Useful LINKS/ATTACHMENTS

<https://www.teachervision.com/multiple-intelligences/multiple-intelligences-activities>

### Tool D

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| <b>Competence Unit (CU)</b>   | Multiple intelligences and learning styles  |
| <b>Assessment type</b>        | Formative   |
| <b>Assessment method/tool</b> | Interview   |
|                               | <p>This assessment method is made for exercise 2 - <b>Show your intelligence</b> targeting logical-mathematical learners.</p> <p>The learning outcome that is covered by this assessment tool is</p> <ul style="list-style-type: none"> <li>Develop alternative assessment tools and strategies for STEM learning outcomes</li> </ul> <p>The idea behind this method is to choose a slightly more complex topic/process from the STEM area, e.g. differences between a Diesel and an Otto engine.</p> <p>There are different types of interviews that can be used for the purpose of assessment - casual chats with learners, five-minute interview assessments and structured/unstructured interviews. The same principle applies here, depending on what the teacher/trainer wishes to achieve.</p> |

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| <p><b>Operationalisation</b><br/> <b>(what is being assessed and why, how to conduct it)</b></p> | <p>If the purpose is to simply find out whether the learner has grasped the basic differences between the two abovementioned concepts, then a short 5-minute interview works really well. However, in depth "structured" interviews with a handful of carefully selected learners will enable the teacher/trainer to readily judge the extent of understanding the learners have developed with respect to a series of well-focused, conceptually-related scientific ideas.</p> <p>In its simplest form a structured interview is simply one person asking another person a series of questions about a carefully selected concept/topic or asking her to perform a task. Any materials to be used (props, problems, etc.), many of the questions to be asked, and some responses from the teacher/trainer to expected statements or actions of the trainee are carefully planned in advance. Importantly, however, the teacher/trainer is free to ask additional questions that focus on issues arising during the course of the interview. It is this freedom to follow the trainee, to ask for clarifications, and to focus on errors, misconceptions, and gaps in knowledge, that makes the interview so much more fruitful than more traditional methods of assessment.</p> <p>During a structured interview, the teacher/trainer uses a set of questions, called "probes" (and sometimes selected photographs or other props) designed in advance of the interview to elicit a portrait of the learner's understanding about a specific concept/topic but it is typically required to go beyond simple recognition of a concept to construct a detailed personal explanation.</p> <p>It is also important to note that the goal of the interview is to describe <b>how</b> a learner understands a scientific concept or phenomenon, and not simply to provide a measurement of the degree to which this understanding approximates the scientific explanation.</p> <p><b>Teaching Goals</b></p> <ul style="list-style-type: none"> <li>▪ Analyses problems from different viewpoints.</li> <li>▪ Recognizes interrelationships among problems and issues.</li> <li>▪ Applies principles and generalizations to new problems and situations.</li> <li>▪ Demonstrates a basic knowledge of the concepts and theories of this subject.</li> <li>▪ Demonstrates synthesis and integration of information and ideas.</li> <li>▪ Uses appropriate synthetic and analytic methods to solve problems.</li> <li>▪ Communicates effectively.</li> </ul> <p>It is important to document learner progress. Sometimes working with paper and pencil is the best way to go about it.</p> |
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|                | <p>Have a simple tracking sheet in front of you as you have a conversation with the learner. When you have a computer, you might be focused on the data entry rather than on listening to the learner.</p> <p>A documentation tool allows teachers/trainers to quickly collect data in a way that does not distract or detract from the meaningful conversation. As a teacher, you can choose to have it during the conversation or to fill it out very soon afterward. You might decide to have a sheet for each learner that lists learning goals, the conversations (assessments) you have with that learner, and a score for each assessment.</p>   |
| <b>Remarks</b> | <ul style="list-style-type: none"> <li>▪ Structured interviews are designed to elicit how a learner understands a scientific concept. As such, they should be used in addition to, not instead of, other forms of evaluation.</li> <li>▪ Interviews are quite time-consuming. Teachers/trainers should interview a broad sample of learners in a class in order determine how learners are reacting to and understanding concepts presented in class.</li> <li>▪ The usefulness of the interview technique is largely determined by the nature and quality of the probes and follow-up questions. Thus, a substantial amount of planning may be required to design an informative interview.</li> </ul> |

### Useful LINKS/ATTACHMENTS

<http://archive.wceruw.org/cl1/flag/cat/interviews/interviews1.htm>

<https://www.edutopia.org/article/7-smart-fast-ways-do-formative-assessment>

### Tool E

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|---|---|
| <b>Competence Unit (CU)</b>   | Multiple intelligences and learning styles  |
| <b>Assessment type</b>  | Formative/Summative   |
| <b>Assessment method/tool</b>   | Writing   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This assessment method is made for exercise 2 - <b>Show your intelligence</b> targeting verbal-linguistic learners.</p> <p>This assessment tool covers the learning outcome</p> <ul style="list-style-type: none"> <li>▪ Develop alternative assessment tools and strategies for STEM learning outcomes</li> </ul> <p>Areas of application for this method are numerous just as the number of school subjects it can be applied in. Some of the possibilities are: comment on a recent event or take an important event from the history, write a speech for a specific occasion, <b>describe the working principle of a machine</b>, give your opinion on a social matter, <b>describe development of a product</b> ... - the ones in bold being best suited for STEM area.</p> |

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|                | <p>Suggestions on how to prepare an Essay Assessment</p> <ul style="list-style-type: none"> <li>▪ Select the course objectives that can be assessed through an Essay</li> <li>▪ Request to focus on hypothetical data, solve sample problems, compare concepts, etc.,</li> <li>▪ Phrase the questions in a clear way in order to allow the trainee to identify what is expected from his/her reply,</li> <li>▪ Indicate the value of the question and the time suggested for answering it,</li> <li>▪ Prevent the use of questions involving long answers</li> </ul> <p>Suggestions on how to assess Essay responses</p> <ul style="list-style-type: none"> <li>▪ Previously decide on which factors will be considered in evaluating the responses through a marking scheme,</li> <li>▪ Value only the significant and relevant aspects of the responses,</li> <li>▪ Application of a uniform standard to all papers,</li> <li>▪ Hide the identity of the trainee to avoid the “halo effect”,</li> <li>▪ Grade one question at a time for all papers to help minimizing the halo effect, using the marking scheme.</li> </ul> |
| <b>Remarks</b> | <p>When using writing as an assessment method and assigning essays, one has to bear in mind the purpose of the assignment and what one wants to achieve/what kind of feedback one is looking for. Accordingly, writing can be used both in a formative and summative way, always taking into consideration the (dis)advantages of the method.</p> <p>Another important issue with essay writing is choosing the right type of essay. Two most typically used in everyday education are <i>Summary of a text or an article</i> and <i>Illustration or examples of principles</i>. <i>Advantage/Disadvantage Essay</i> and <i>Causes or Effects Essay</i> are a bit more complicated.</p>  |

## Useful LINKS/ATTACHMENTS

<https://www.yourarticlelibrary.com/statistics-2/essay-test-types-advantages-and-limitations-statistics/92656>



**CU2**
**Tool A**
**B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL**

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|---|---|
| <b>Competence Unit (CU)</b>   | CU 2 Learner Centred Didactics: Problem Based Learning, Critical Thinking   |
| <b>Assessment type</b>  | <b>Formative</b>  |
| <b>Assessment method/tool</b>   | Interview   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This formative assessment will be implemented at the end of the workshop session dedicated to the principles of Learner Centred Didactics (LCD).</p> <p>An interview is a brief, structured discussion between the trainer and a trainee (or group of trainees), with a specific purpose and conducted under a given environment (i.e., calm, friendly, secure) that fosters trainees' active participation, or willingness to speak.</p> <p>During interviews, open-ended questions allow trainees to be creative and provide an array of possible answers, and allow trainers to understand what trainees know, feel or understand.</p> <p>This formative assessment method focuses on the following Learning Outcome:</p> <ul style="list-style-type: none"> <li>• Use LCD strategies in classroom to adapt the learning environment to learners' characteristics.</li> </ul> <p>The trainer will provide one question at the time to the trainees, so they are able to reflect on their replies. The questions are:</p> <ol style="list-style-type: none"> <li>1. <b>Why is it important to have learners actively involved in their own learning process?</b><br/>       (Trainees must refer the importance of stimulating learners' creativity and critical thinking and their ability to work collaboratively. The reply must also refer to the increased and dynamic interaction between them and their learners (and among learners as well))</li> <li>2. <b>What LCD strategy(ies) you use with your own learners? Please provide an example of the impact it/they have on learners' learning process.</b><br/>       (The reply to this question will allow the trainer to understand if the trainee already has experience with this approach and to understand if the trainee requires, or not, additional knowledge about LCD strategies)</li> <li>3. <b>Did you acquire new knowledge/skills on LCD strategies in this session?</b> <ol style="list-style-type: none"> <li>a. If <b>yes</b>, please indicate what new knowledge/skills were acquired and how you will implement them.</li> </ol> </li> </ol> |

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|         | <p>b. If <u>no</u>, what would you like to explore further in terms of LCD strategies to acquire that knowledge/skills.<br/>         (The reply to this question will allow trainers to understand if there is the need to adjust training contents and materials to increase trainees' skills/knowledge of LCB strategies)</p> <p>This assessment is meant to promote trainees' self-reflection on the knowledge/skills they acquired at the end of the session, and their practical applicability, and to allow the trainer to understand the need to adjust the training contents, accordingly.</p>  |
| Remarks | <p>In order to facilitate the collection of replies to the interview and their assessment, the trainer can interview each trainee individually, or create a small group of trainees (3-4) to conduct the interview, depending on the size of the class.</p> <p>The replies can be provided by trainees:</p> <ul style="list-style-type: none"> <li>a. In an anonymous way, i.e., the trainer makes the question and then asks trainees to write their reply in a paper or post it and to deliver it to the trainer. The trainer then reads each reply out loud and promotes discussion among trainees:</li> <li>b. In an "open" way, i.e., the trainer can ask trainees to reply to each question out loud, by providing a different answer from the previous trainee, thus ensuring all trainees reply in a constructive way.</li> </ul> |

## Tool B

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

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|---|--|
| Competence Unit (CU)  | CU 2 Learner Centred Didactics: Problem Based Learning, Critical Thinking  |
| Assessment type   | Summative  |
| Assessment method/tool  | Essay  |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p>This summative assessment tool constitutes an exam to be conducted at the end of the implementation of CU2 (i.e. last workshop session) and, as such, it represents 60% of the final grade.</p> <p>This exam can be provided to trainees in paper or online versions, depending on the way the workshop is implemented (in person or online).</p> |

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|                       | <p>It focuses on assessing trainees' achievements in terms of CU2 Learning Outcomes:</p> <ul style="list-style-type: none"> <li>• Use LCD strategies in classroom to adapt the learning environment to learners' characteristics.</li> <li>• Create Problem-Based Learning (PBL) exercises for welding/STEM in accordance with the steps, resources and criteria needed for its implementation.</li> <li>• Select tools to foster Critical Thinking in learners, integrating them in the learning environment.</li> <li>• Plan a Collaborative Learning environment following its three-steps process to improve learners' group dynamics.</li> <li>• Use Collaborative Learning experiences to promote communication and cooperation between learners.</li> </ul> <p>The question of this Essay is:<br/>Based on the development of the PBL (an activity conducted during the workshop), please elaborate on the following topics:</p> <ul style="list-style-type: none"> <li>• What were the steps and criteria you used to design the PBL;</li> <li>• How did that activity promote collaborative learning? What were the steps followed to improve the group dynamic? Would you plan the activity in another way to promote collaborative learning and, if so, how would you do it?</li> <li>• To what level did the activity promote critical thinking?</li> </ul> <p>Trainees will have 1 hour to elaborate this essay.</p> |
| <p><b>Remarks</b></p> | <p>The best way to teach trainees to create a PBL exercise for welding/STEM is to ask them to solve a PBL in class. The solution can be reached by working collaboratively, and by thinking critically, thus addressing all Learning Outcomes of this Competence Unit in a practical way.</p> <p>As such, after providing an overview to trainees about learner centred didactics, the trainer asks trainees to gather in groups, working collaborative with other trainees and thinking critically about the case study illustrated by the PLB, to solve it and to take a notes about their experience during the process.</p> <p>This experience will allow them to write this individual essay.</p> <p>The responses provided by each trainee will be evaluated against the Learning Outcomes of this CU.</p>  |

## Tool C

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

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|---|--|
| <b>Competence Unit (CU)</b>   | CU 2 Learner Centred Didactics: Problem Based Learning, Critical Thinking  |
| <b>Assessment type</b>  | <b>Formative</b>   |
| <b>Assessment method/tool</b>   | Journaling   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>At the end of each workshop session, trainees are asked to write in one sheet:</p> <ul style="list-style-type: none"> <li>• The concepts addressed in the session,</li> <li>• What were the skills acquired during the session regarding those concepts;</li> <li>• What was the knowledge acquired during the session regarding those concepts;</li> <li>• How will they implement the acquired skills/knowledge in their own classes;</li> <li>• How will their acquired skills/knowledge on the concepts addressed in training improve the learning environment and foster a learner centred approach in class;</li> <li>• What will be the advantages for learners.</li> </ul> <p>At the end of the last workshop session, after writing about the session, each trainee must deliver their journals, dully identified, to the Trainer, who will then assess each journal to understand:</p> <ol style="list-style-type: none"> <li>a. The quality of the training provided (incl. training materials and methods used);</li> <li>b. The level of achievement of all CU's learning outcomes;</li> <li>c. The level of awareness trainees have on the importance of the learner centred approach to the quality of training and to learners' motivation to learn;</li> <li>d. The potential implementation of the learning outcomes by trainees in the context of their own classes.</li> </ol> <p>After completing his/her assessment of each journal, the Trainer must provide to the trainee the results of that assessment so that the trainee.</p> <p>This assessment tool thus, focuses on all learning outcomes of the CU:</p> <ul style="list-style-type: none"> <li>• Use LCD strategies in classroom to adapt the learning environment to learners' characteristics.</li> <li>• Create Problem-Based Learning (PBL) exercises for welding/STEM in accordance with the steps, resources and criteria needed for its implementation.</li> <li>• Select tools to foster Critical Thinking in learners, integrating them in the learning environment.</li> </ul> |

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|                | <ul style="list-style-type: none"> <li>Plan a Collaborative Learning environment following its three-steps process to improve learners' group dynamics.</li> <li>Use Collaborative Learning experiences to promote communication and cooperation between learners.</li> </ul>  |
| <b>Remarks</b> | <p>This assessment tool does not have a rate, as its results will allow the trainer to understand whether the learning outcomes of the CU were achieved by trainees and if trainees are willing to implement, in their own training, the skills and knowledge they acquired during the workshop sessions dedicated to this CU.</p> |

### Tool D

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

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|---|---|
| <b>Competence Unit (CU)</b>   | CU 2 Learner Centred Didactics: Problem Based Learning, Critical Thinking   |
| <b>Assessment type</b>  | <b>Formative</b>  |
| <b>Assessment method/tool</b>   | Matching Quiz   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This formative assessment tool focuses on the main concepts related to the matters addressed by this CU:</p> <ul style="list-style-type: none"> <li>- Learner centred didactics approach,</li> <li>- The use of Problem-Based Learning assignments in class,</li> <li>- Promotion of a collaborative learning and of a critical thinking in learners.</li> </ul> <p>As such, it aims to allow trainees to assess their own knowledge about those concepts and to understand what they need to further explore. This, assessment tool must be applied to trainees in the beginning of the third workshop session, as at that time all the above mentioned concepts were already addressed, and there is still time to adjust the contents of the following sessions to allow trainees to acquire knowledge about those concepts.</p> <p>This quiz must be done individually. Trainees are given two lists: one containing a given concept and the other containing its description or definition, which trainees must match correctly.</p> <p>The trainer has the solutions, i.e., correct match between words and descriptions.</p> <p><b>List of concepts</b></p> <ol style="list-style-type: none"> <li>Learner centred approach</li> <li>Individual Differences</li> <li>Problem-Based Learning assignments</li> <li>Collaborative learning</li> <li>Bloom's taxonomy</li> <li>Critical thinking</li> </ol> |

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|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                | <p><b>List of descriptions/definitions</b></p> <ol style="list-style-type: none"> <li>1. One of the principles of Learner-Centred Didactics approach which is connected to the diversity of individuals' strategies and capabilities to learn and to the standards in place to assess their learning progress.</li> <li>2. Is part of the learner centred approach strategies and can be fostered by trainers by promoting learners' equitable work, meaning dividing work amongst the members of the working groups to ensure equal thinking opportunities.</li> <li>3. Is part of the learning environment when joining the use of PBL assignments and collaborative learning.</li> <li>4. Allows learners to work in groups in a collaborative way to find a solution for a specific problem related to the matters addressed in class.</li> <li>5. Must be considered when selecting the tools that foster critical thinking.</li> <li>6. Related to learners' active involvement in the learning process, replying to the growing need to stimulate active learning and to encourage learners to be creative and critical thinkers, able to work collaboratively with others.</li> </ol> <p><b>Solutions</b></p> <table border="1" data-bbox="592 1070 1182 1276"> <tbody> <tr><td>a</td><td>6</td></tr> <tr><td>b</td><td>1</td></tr> <tr><td>c</td><td>4</td></tr> <tr><td>d</td><td>2</td></tr> <tr><td>e</td><td>5</td></tr> <tr><td>f</td><td>3</td></tr> </tbody> </table> | a | 6 | b | 1 | c | 4 | d | 2 | e | 5 | f | 3 |
| a              | 6   |   |   |   |   |   |   |   |   |   |   |   |   |
| b              | 1   |   |   |   |   |   |   |   |   |   |   |   |   |
| c              | 4   |   |   |   |   |   |   |   |   |   |   |   |   |
| d              | 2   |   |   |   |   |   |   |   |   |   |   |   |   |
| e              | 5   |   |   |   |   |   |   |   |   |   |   |   |   |
| f              | 3   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Remarks</b> | This assessment tool does not have a rate, as its results will allow the trainer to adapt the contents of the sessions, accordingly.  |   |   |   |   |   |   |   |   |   |   |   |   |

### Tool E

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

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|---|---|
| <b>Competence Unit (CU)</b>   | CU 2 Learner Centred Didactics: Problem Based Learning, Critical Thinking   |
| <b>Assessment type</b>  | <b>Summative</b>  |
| <b>Assessment method/tool</b>   | Multiple-Choice Question (MQC)  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This summative assessment tool aims to assess trainees' acquisition of all Learning Outcomes of this CU:</p> <ul style="list-style-type: none"> <li>• Use LCD strategies in classroom to adapt the learning environment to learners' characteristics.</li> <li>• Create Problem-Based Learning (PBL) exercises for welding/STEM in accordance with the steps, resources and criteria needed for its implementation.</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>Select tools to foster Critical Thinking in learners, integrating them in the learning environment.</li> <li>Plan a Collaborative Learning environment following its three-steps process to improve learners' group dynamics.</li> <li>Use Collaborative Learning experiences to promote communication and cooperation between learners.</li> </ul> <p>As such, it must be applied at the end of the last workshop session, providing trainees 45 minutes to 1 hours to complete. Each of the 10 questions has a score of 10%, and the total score must be of 80% to PASS.</p> <p>In <b>green</b>, the correct option in each question.</p> <p><b>Please select the best answer for each question with an X:</b></p> <p>1. The principles of the Learner Centred Approach are connected to four factors, crucial for setting learning environments adapted to learners' features:</p> <table border="1"> <tr> <td data-bbox="590 918 1300 1086"> <b>Option A.</b><br/>Cognitive and Meta-Cognitive<br/>Motivational and Affective,<br/>Social,<br/>Individual Differences. </td> <td data-bbox="1300 918 1402 1086"></td> </tr> <tr> <td data-bbox="590 1086 1300 1249"> <b>Option B.</b><br/>Cognitive and Meta-Cognitive,<br/>Motivational and Affective,<br/>Development and Social,<br/>Individual Differences </td> <td data-bbox="1300 1086 1402 1249">X</td> </tr> <tr> <td data-bbox="590 1249 1300 1415"> <b>Option C.</b><br/>Cognitive and Meta-Cognitive<br/>Affective<br/>Motivational<br/>Social </td> <td data-bbox="1300 1249 1402 1415"></td> </tr> </table> <p>2. The aim of the Learner Centred Approach:</p> <table border="1"> <tr> <td data-bbox="590 1482 1300 1617"> <b>Option A.</b><br/>Is to place the learner in the middle of the classroom when he/she is performing a task or work, so that everyone can see what he/she is are doing. </td> <td data-bbox="1300 1482 1402 1617"></td> </tr> <tr> <td data-bbox="590 1617 1300 1751"> <b>Option B.</b><br/>Is to focus on one learner to help him/her overcome challenges and difficulties, motivating him/her to be actively involved in his/her own learning process. </td> <td data-bbox="1300 1617 1402 1751"></td> </tr> <tr> <td data-bbox="590 1751 1300 1848"> <b>Option C.</b><br/>Is at the development of learners' skills considering their own personal features, challenges and achievements. </td> <td data-bbox="1300 1751 1402 1848">X</td> </tr> </table> <p>3. According to the Learning Centred approach, the Trainer:</p> <table border="1"> <tr> <td data-bbox="590 1915 1300 2011"> <b>Option A.</b><br/>Focuses on the learning process, guiding learners into solving problems and finding decisions. </td> <td data-bbox="1300 1915 1402 2011">X</td> </tr> </table> | <b>Option A.</b><br>Cognitive and Meta-Cognitive<br>Motivational and Affective,<br>Social,<br>Individual Differences. |  | <b>Option B.</b><br>Cognitive and Meta-Cognitive,<br>Motivational and Affective,<br>Development and Social,<br>Individual Differences | X | <b>Option C.</b><br>Cognitive and Meta-Cognitive<br>Affective<br>Motivational<br>Social |  | <b>Option A.</b><br>Is to place the learner in the middle of the classroom when he/she is performing a task or work, so that everyone can see what he/she is are doing. |  | <b>Option B.</b><br>Is to focus on one learner to help him/her overcome challenges and difficulties, motivating him/her to be actively involved in his/her own learning process. |  | <b>Option C.</b><br>Is at the development of learners' skills considering their own personal features, challenges and achievements. | X | <b>Option A.</b><br>Focuses on the learning process, guiding learners into solving problems and finding decisions. | X |
| <b>Option A.</b><br>Cognitive and Meta-Cognitive<br>Motivational and Affective,<br>Social,<br>Individual Differences.  |  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option B.</b><br>Cognitive and Meta-Cognitive,<br>Motivational and Affective,<br>Development and Social,<br>Individual Differences  | X  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option C.</b><br>Cognitive and Meta-Cognitive<br>Affective<br>Motivational<br>Social  |  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option A.</b><br>Is to place the learner in the middle of the classroom when he/she is performing a task or work, so that everyone can see what he/she is are doing.          |  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option B.</b><br>Is to focus on one learner to help him/her overcome challenges and difficulties, motivating him/her to be actively involved in his/her own learning process. |  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option C.</b><br>Is at the development of learners' skills considering their own personal features, challenges and achievements.  | X  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |
| <b>Option A.</b><br>Focuses on the learning process, guiding learners into solving problems and finding decisions.   | X  |   |  |   |   |   |  |   |  |  |  |   |   |  |   |

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|  | Option B.<br>Focuses on providing instructions to learners on what they should do to solve problems and to find solutions.   |   |
|  | Option C.<br>Focuses on learners' challenges and difficulties, solving them in the scope of a practical learning environment.  |   |
|  |  |   |
|  | <b>4. What is the main feature of a collaborative learning environment?</b>  |   |
|  | Option A.<br>It creates opportunities to the learner to explore topics related to the matters addressed in class to solve problems and find solutions.   |   |
|  | Option B.<br>It creates opportunity for the teacher to collaborate with the learner during class to solve a given problem and learn new concepts.  |   |
|  | <b>Option C.</b><br><b>It enhances learning by engaging learners into working together and sharing ideas and points of view to solve problems and learn new concepts.</b>  | X |
|  |  |   |
|  | <b>5. When planning a collaborative learning environment, the Trainer must:</b>  |   |
|  | <b>Option A.</b><br><b>Define a purpose linked to what skills and knowledge must be acquired by learners and how the learning environment must be prepared to promote the acquisition of those skills and knowledge.</b> | X |
|  | Option B.<br>Promote learners' competition amongst themselves as a way to foster their motivation to learn and participate in the learning activities.   |   |
|  | Option C.<br>Consider interactions between learners from the same group to understand which learner is the best in finding solutions to the problems at hand during a given task.  |   |
|  |  |   |
|  | <b>6. To ensure a proper collaborative learning environment, the trainer must structure a task at hand, by:</b>  |   |
|  | Option A.<br>Creating working groups and allowing learners to work in the task freely, focusing only in achieving results.   |   |
|  | Option B.<br>Support only the learner with more difficulties in participating in the task, so he/she is able to catch up with the others who have less difficulties.   |   |
|  | <b>Option C.</b><br><b>Clearly defining the learning outcomes to be achieved by learners at the end of the task.</b>   | X |



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|  | 7. What are the necessary steps to create a Problem-Based learning (PBL) assignment?   |   |
|  | Option A.<br>The Trainer provides a problem, to which follows its analysis by learners who then have to break the problem into components to be able to develop a plan to obtain the required information to solve the problem. At the end, the learners present the solution to their colleagues and to the teacher, who should develop materials based on those results. | X |
|  | Option B.<br>The Trainer provides to learners a problem to be solved and hints on its solution, to facilitate learners' search for information to solve it. At the end, the results must be presented by learners, fostering discussions with their colleagues.  |   |
|  | Option C.<br>The Trainer provides a problem to the learners with several option of solution, which they have to test until they achieve a given result. At the end, the results are presented to the trainer in paper, to be assessed.   |   |
|  | 8. What are the main advantages of the use of PBL assignments in classroom?  |   |
|  | Option A.<br>PBLs contribute to a friendly working environment, even though its impact is limited as they do not contribute to learners' acquisition of skills and knowledge connected to the materials addressed during class.  |   |
|  | Option B.<br>PBL assignments allow learners to apply the knowledge they already have to solve a problem, provide them opportunities to think about concepts and solve problems related to the matters addressed during class and improve learners' motivation and capacity to work with others.  | X |
|  | Option C.<br>PBL assignments are an opportunity for learners to focus only on what was taught by the Trainer during class, thus allowing them to transfer their knowledge on the matters directly to the PBL solution.   |   |
|  | 9. Promoting critical thinking on learners can be done, by:  |   |
|  | Option A.<br>Planning a collaborative working environment where learners can interact amongst themselves to explore new concepts, research for matters related to classes and understand what kind of information, and source, to consider, to solve a problem.  | X |
|  | Option B.<br>Allowing learners to critic and argue with the Trainer in an open learning environment in which they can refute the matters addressed in class, according to their preconceived ideas on those matters.   |   |

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|         | Option C.<br>Teaching learners on how to collect information on the matters addressed in class, having no regards to the source of that information, as this is not important. The important thing is that learners have access to that information, to formulate a conclusion on those matters. |   |
|         | 0. In order to select the tools to foster learners' critical thinking, trainers must consider the importance of:   |   |
|         | <b>Option A.</b><br>Allowing learners to question ideas and facts, and to analyse them in a rational way, searching for logical connections between them.  | X |
|         | Option B.<br>Allowing learners to focus on opinion-based information provided by others on the matters addressed during class, without the need to check the veracity of the information.  |   |
|         | Option C.<br>Focusing only on the use of digital tools, as learners are now more interested in technology.   |   |
| Remarks | This assessment counts for 60% of the learner's final grade.   |   |

## Useful LINKS/ATTACHMENTS

### Designing Multiple-Choice Questions

<https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/developing-assignments/assignment-design/designing-multiple-choice-questions>

## CU3

### Tool A

## ASSESSMENT Strategy: Debating topics

### A. BACKGROUND OF THE ASSESSMENT METHOD

Activities in the classroom that are designed to promote active involvement of students in the learning process instead of passive listening are defined as active learning activities. Examples of active learning activities include group exercises, problem-based learning, and short writing exercises. Active learning activities are effective tools to engage students and encourage learning in the traditional classroom lecture setting. Furthermore, active learning has been shown in different fields to increase critical thinking, improve self-reported student engagement, and deepen understanding of course material.

Debates, defined as "a formal discussion on a particular matter in a public meeting or legislative assembly, in which opposing arguments are put forward and which usually ends with a vote."

Debates can be used in core courses and in electives. They also are incorporated in core social and administrative sciences courses, for example ethics and social care. Different debate formats, live

or online, individual, or team-based, and different assessments of the utility of this active learning tool have been described in the literature.

[Source: The use of debates as an active learning tool in a college of pharmacy healthcare delivery course](#)

## 2) What is the objective?

1. Make a complex assessment on a vocational skill where problem-based learning method, critical thinking, decision making, or ethics are to be taught.
2. Debates have been used effectively to stimulate interest, promote active class participation, and enhance presentation.

## 3) How to present and use it

# B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

| Competence Unit (CU)  | Gamification   |
|---|--|
| Assessment type   | Process based assessment   |
| Assessment method/tool  | Debate assessment  |
| <b>Operationalization</b><br><b>(what is being assessed and why, how to conduct it)</b> | <p>The method is recommended for <b>all learning outcomes in In a train the trainer program</b>, skills of complex decision making or the method of forming opinions can be assessed. Level of knowledge can be assessed too. Also, preparedness of applying different pedagogical methods to real situations can be assessed. At last, but not at least comprehensive thinking, empathy and rhetoric skills can also be assessed. Sometimes they are questions - mostly a choice between two options, sometimes they are thought provoking questions.</p> <p><b>Description</b></p> <p>Learners should be assigned to subgroups of 3-4 persons, and then given several debate topics.</p> <p>Few examples in a Train a trainer course:</p> <p>“Do we prefer frontal instruction to an alternative instruction (personalized group wise and frontal combined) in teaching a subject”</p> <p>or</p> <p>“Is Process or Product based assessment more favourable as a final examination of a certain subject”</p> <p>or</p> <p>“Simulators can be used only in the first grade to learn the basics in VET or they should be used heavily in further studies?”</p> <p>or</p> <p>“Teaching welding / painting /etc.. in a gamified way is a waste of time “</p> <p>The debate teams are asked to choose and rank up to five in order of preference for the topic and to indicate preference for the debate position, either arguing in favour of, “pro,” or against the topic, “con.”</p> |

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|                | <p>Teams are then assigned topics based either on their selected preferences or availability of topics. There supposed to be one debate per week following a traditional lecture. (The frequency can be altered as necessary)</p> <p>The entire debate session should last an average of 30 min each. Students may take a voluntary survey after each debate where they indicated which team they believed to have won the debate and whether the debates changed their minds about that issue.</p> <p><b>Debate assessment</b></p> <p>The incorporation and utility of student debates can be evaluated and assessed by team performance on the debates, individual student performance on examination questions based on the debates, and a pre- and post-debate student survey of their individual opinions about the controversial topic.</p> <p>An instructor should be graded each debate and assign a team grade. The instructor can assess the slide presentation and return it to the group with suggestions for revision if it does not address the issue adequately or does not meet the course objectives. Teams can also meet with the instructor while developing their presentation for guidance.</p> <p>The goal is to make sure the topic is adequately covered by the team. A team receives full credit if they include and present at least four points, has verifiable references for each point, and give a cogent concluding remark. The instructor formulates one multiple-choice question from each team's presentation that is included on either the mid-term or final exams in the course, depending on when the team debated, for a total of 26 questions on course exams.</p> |
| <b>Remarks</b> | <p>The system is originated from colleges and adopted to in healthcare. The tool is recommended to assess skills where there are no easy answers. These skills are well founded opinion making, decision making, thoughtfulness and empathy.</p>   |

### C. LINKS/ATTACHMENTS

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7102848/#bib11>

### Tool B

**ASSESSMENT Strategy: Game Based assessment**

### A. BACKGROUND OF THE ASSESSMENT METHOD

Game Based Assessment originally comes from the territory of recruitment.

Gamified assessments can vary from simple games examining your cognitive skills in an interactive format, to immersive job simulation experiences that analyse your personality traits. Some of the main types are:

1. **Interactive assessments.** These are traditional psychometric tests that have been made interactive. You will still have to solve very similar tasks – but in a different format. Instead of clicking on the answer, you might need to move it or circle it, for example
2. **Single assessment games.** Single game assessments address individual competencies, e.g. numerical skills, memory or logical reasoning. You will typically be asked to complete a set of very short, interactive tasks with a “game” layout, which may be part of a bigger story. They may not ask a typical question but provide you with very generic instructions. They use standard game tactics to measure your abilities and competencies.

On the other hand, Game Based assessment is an excellent and peaceful tool in the classroom and there are funny and useful ideas on the internet.

## 2) What is the objective?

1. Make a complex assessment on a vocational skill where problem-based learning method, critical thinking, decision making are to be taught.
2. The tool should be used in teams even online.
3. Find a useful and entertaining method to assess skills

## 3) How to present and use it

Design an escape room on a given subject.

## B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

| Competence Unit (CU)  | Gamification   |
|---|--|
| Assessment type   | Process based assessment - Game Based Assessment   |
| Assessment method/tool  | Problem solving and cooperation via an escape room.  |
| Operationalization<br>(what is being assessed and why, how to conduct it) | <p>This multipurpose assessment tool is freely useable on a wide range. Recommended for all learning outcomes especially for the following outcomes:</p> <ul style="list-style-type: none"> <li>• Gamification in education</li> <li>• Designing games based on Mechanics, Dynamics, and Emotions (MDE) framework</li> <li>• Toolbox of gamification: Mechanics – types of setups, roles, and rules</li> <li>• Apply VR and AR technologies in teaching, combining virtual and real game mechanics.</li> <li>• Integrate VR and/or AR technologies in game design to foster motivation and planning skills on learners.</li> </ul> <p>Example: You want to know if your learner(s) is aware of the available Augmented reality and Virtual Reality solutions and their cheapest still useful application in the classroom in their</p> |

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|                | <p>country. To assess that you design a virtual escape room with suitable clues.</p> <p>Also, you can assess the level of cooperation in case of teaching teachers who work in the same school.</p> <p>Students should be assigned to subgroups of 3-4 persons, and then they are given specific clues. Teams are tested with different instances of the same escape room and assessed by timing and gathering the clues. They can also be assessed by their communication and cooperation if the assessment is recorded or supervised by a teacher.</p> <p>The incorporation and utility of student escapes can be evaluated and assessed by team performance on the escapes, individual student performance on examination questions based on the clues, and a pre- and post-escape student survey of their individual opinions about the clues or the whole class topic.</p> <p>An instructor should grade each escape and assign a team grade. The instructor can assess individual performance during the escape.</p> <p>The goal is to make sure the topic is adequately covered by the team.</p> |
| <b>Remarks</b> | <p>When escape room is used in a classroom and the learners are in group, the following setup is recommended:</p> <p>Variation 1.</p> <p>Each group has one 17" screen laptop on a separate table in each corner of the classroom and beside the walls (assuming 10-12 learners altogether – it gives us 4 groups of 2-3 people)</p> <p>Variation 2.</p> <p>Each group member has his or her laptop. One group will have the same instance of the escape room. Another group will log in their own instance. They communicate on teams or zoom using earplugs and microphones.</p>  |

### C. LINKS/ATTACHMENTS

<https://www.youtube.com/watch?v=jjKkmRdQ8ac>

Topics covered in the video:

[0:00](#) - Introduction

[3:30](#) - Creating the "room," with items and a Bitmoji person (in Google Slides)

[6:04](#) - Creating "the lock" (in Google Forms)

[7:49](#) - Creating and finding "the clues" (in Google Docs or on the web)

[9:12](#) - Creating links to the clues (on the Google Slide)

[11:25](#) - Creating the "timer" (using an embedded YouTube video)

[12:50](#) - Creating the "view only" link

You can view and/or download your own copy of this sample escape room in two places:

1. On Teachers Pay Teachers: <https://www.teacherspayteachers.com/P...>
2. At this "Pay-What-You-Want" Gumroad link: <https://gum.co/UOzgi>

## Tool C

### ASSESSMENT Strategy: Process oriented guided learn inquiry - POGIL

#### A. BACKGROUND OF THE ASSESSMENT METHOD

##### 1) What is the method about (the background)?

Process Oriented Guided Inquiry Learning (POGIL) is both a philosophy and a strategy for teaching and learning.

To support learning environment, POGIL uses learning teams, guided inquiry activities to develop understanding, questions to promote critical and analytical thinking, problem solving, reporting, metacognition, and individual responsibility.

A POGIL learning activity engages students, promotes restructuring of information and knowledge, and helps students develop understanding by employing the learning cycle in guided inquiry activities. The learning cycle consists of three stages or phases: *exploration*, *concept invention* or *formation*, and *application*.

In the **exploration** phase of the learning cycle, students are given a model to examine or a set of tasks to follow that embody what is to be learned and lead to attaining the learning objectives. For activities designed with a **concept invention** in the second phase, the concept is not explicitly presented in the exploration phase. Effective guidance leads the exploration to conclusions and predictions based on the current understanding.

**Application** involves using the new knowledge in exercises, problems, and even research situations. Exercises give the learner the opportunity to build confidence in simple situations and familiar contexts. Problems require the learner to transfer the new knowledge to unfamiliar contexts, synthesize it with other knowledge, and use it in new and different ways to solve real-world problems. Research questions identify opportunities for the learner to extend learning by raising new issues, questions, or hypotheses.

For more information please find: "Instructor's Guide to Process Oriented Guided Inquiry Learning" David M. Hanson Stony Brook University — SUNY Stony Brook. NY 11794-3400 [David.Hanson@StonyBrook.edu](mailto:David.Hanson@StonyBrook.edu) and [www.pogil.org](http://www.pogil.org)

##### 2) What is the objective?

1. Promoting students' ability to learn in teams and to **assess themselves**.

##### 3) How to present and use it

###### A. Instructors Play Four Simultaneous Roles

1. As *leader*, the instructor creates the learning environment by developing and explaining the lesson, by determining the objectives (both the content objectives and the process skills

objectives), by defining the expected behaviours and criteria for success, and by establishing the organization

2. As *monitor/assessor*, the instructor circulates through the class to monitor and assess individual and team performance and to acquire information on student understanding, misconceptions, and difficulties in collaboration.

3. As *facilitator*, the instructor intervenes and asks timely critical-thinking questions to help teams understand why they may be having difficulty and what they need to do to improve and make progress.

4. As *evaluator*, the instructor provides closure to the lesson by asking team members to report answers, summarize the major points, and to explain the strategies, actions, and results of the team.

## B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

| Competence Unit (CU)  | Gamification  |
|---|---|
| Assessment type   | Self-assessment in POGIL structure  |
| Assessment method/tool  | Guided Self-Assessment in small groups  |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p><b><i>What is being assessed:</i></b><br/> <b><i>Four instructor skills – leader skills – monitoring/assessing skills – facilitator skills – evaluator skills.</i></b></p> <p>This assessment method could be used for several learning outcomes:</p> <ul style="list-style-type: none"> <li>• Develop assessment strategies using gamification to assess learners' achieved learning outcomes.</li> <li>• Integrate briefing and debriefing strategies to assess learners' performance based on the dynamics experienced in the game.</li> <li>• Generate support and manage competition situations during learning to promote problem-solving dynamics between learners.</li> </ul> <p><b><i>With this model one Learner of the ToT program will play the role of an instructor. He or she will be the one whose skills are being assessed. The others will support the instructor as "students".</i></b></p> <p><b><i>The instructor will give the team a problem that could be solved within 20-40 minutes.</i></b><br/> <b><i>Then another student will have the instructor's role and so on.</i></b></p> <p><i>The concept is described through a whole POGIL session</i></p> <p><b>1 The First Session: Introduction to the Workshop Sessions</b><br/>         Introduce the course structure. Emphasize that the purpose of the lectures and text is to provide information and model how to apply concepts in solving problems, and that the homework and</p> |



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|  | <p>workshops help develop essential skills in information processing, critical and analytical thinking, and problem solving.<br/><b>Example:</b> Students of the Weldone ToT course are seeking the possibilities of applying cheap Augmented Reality solutions to exploit their learners addiction to mobile phones.</p> <p><b>2. Introduction to Learning Teams</b><br/>This introduction is important in getting students to be committed to this approach and motivated to make it successful. Introduce the benefits, then organise students into teams of 3-4.<br/><b>Example:</b> The instructor lists some advantages of using AR in the classroom – using AR is fancy, makes things more interesting, keep the students high etc.<br/>Then he assigns four roles in each group: manager, spokesperson, recorder, and strategy analyst.</p> <p><b>3. Define specific objectives (there are two types):</b><br/>The <b>content</b> objective is to complete the workshop activity correctly and to understand the concepts and their application. (Example: The students receive valuable new information on AR solutions)<br/>The <b>process</b> objective is to have all members participating constructively, understanding the material, and demonstrating and developing skills in the areas of learning, thinking, problem solving, teamwork, communication, management, and assessment.</p> <p><b>4. Work</b><br/>Do the teamwork with the specific roles described above. (both teachers and students).<br/><b>Example:</b> Each team finds valuable information on Augmented Reality solutions that suitable for a classroom and discuss their benefits, pros and cons and form reports out of their discussion within the given timeframe.</p> <p><b>5. Closure</b><br/>As the teams finish working, ask the spokesperson to put the answer and method of solution for one of the problems on the board. When a few answers are on the board, ask the class for agreement and disagreement on each in turn. To resolve the disagreements, ask teams to help each other or ask the spokesperson to provide an explanation. Get students to do the explaining, avoid giving mini-lectures yourself. Allow five minutes or so near the end of the session for the teams to finalize the reports. You can hand out the take-home quizzes during this time.</p> <p><b>6. Self-Assessment</b><br/>First, run a reflection on Learning – ask the students a few questions you find below in Appendix 1.<br/><br/>Second, do a Self-Assessment on the performance on the team (see Appendix 2)</p> |
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|                |  |
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| <b>Remarks</b> |  |
|----------------|--|

## C. LINKS/ATTACHMENTS

### Appendix 1.

#### Questions for reflections on learning content

Summarize the academic objectives of today's session. Identify the content you were supposed to learn and how well you mastered it.

What was the "muddiest" or least clear point in today's session? In this week's lectures? In this week's reading assignment?

What was the most useful thing you learned during this session?

What questions remain uppermost in your mind as we end this session?

Identify the three most important concepts you learned today.

List five concepts that you found important today and explain what they mean to you.

List five things that you learned about \_\_\_\_\_ today.

In no more than three sentences, summarize what was learned about \_\_\_\_\_.

Why is the concept of \_\_\_\_\_ important in \_\_\_\_\_?

Identify a concept from today's activity that you have mastered. Identify one that you understand the least.

Write a "key question" which, if answered, would help your team better understand some aspect of today's activity. Find the answer to that question.

In your own words, summarize the meaning of \_\_\_\_\_ (or the relationship between \_\_\_\_\_ and \_\_\_\_\_, or how \_\_\_\_\_ can be applied).

Provide one example of how an equation encountered today must be manipulated or combined with another equation to solve problems or answer questions.

Explain how the concept of \_\_\_\_\_ helps us understand \_\_\_\_\_.

What discovery or insight about topic \_\_\_\_\_ did you make today?

Identify and illustrate how topic \_\_\_\_\_ can be used.

Explain why and how concept \_\_\_\_\_ is useful in solving problem \_\_\_\_\_.

Explain why topic \_\_\_\_\_ is important.

Show how you can do \_\_\_\_\_.

Write a methodology for doing \_\_\_\_\_.

What information do you need to determine \_\_\_\_\_.

How can you recognize \_\_\_\_\_?

What does it mean to say \_\_\_\_\_?

How can you identify \_\_\_\_\_?

Identify a memory aid for \_\_\_\_\_.

Identify an everyday example or analogy for \_\_\_\_\_.

## **Appendix 2**

Summarize the process objectives of the today's session, i.e. identify what you learned to do today and assess how well you learned to do it.

List two strengths (and why they are strengths) and two improvements (and how they can be implemented) in reference to your (or your team's) performance in today's session.

Cite two examples of how you carried out your team role today.

What insight have you gained as a result of your team's performance today?

What did you do to prepare for today's class? How might you prepare better next time?

What was your plan for improving performance today compared to the last session, and why was your plan successful or not successful?

Identify three ways in which you and other team members have modified or might modify study habits and strategies in order to improve performance on examinations.

Identify three good study habits and three poor study habits, and identify the advantages and disadvantages of each.

Did everyone in your team contribute to the activity today? If so, explain how. If not, identify what individuals need to do to ensure participation by all in the next session.

Did everyone in your team understand the material covered in the activity today? If so, explain how your team ensured that everyone understood. If not, identify what your team needs to do to ensure that everyone in the team understands the material in the next session.

Midway through a session have a designated team member report and identify team strengths, needed improvements, and insights or discoveries about the subject matter or about team dynamics.

For each member of your team, identify a strength (and why it is a strength) and an improvement (and how it can be implemented) that helps your team understand the subject material (or apply concepts in solving problems, or meet some other specific workshop objectives).

Identify three things that your team might do to work more effectively and efficiently.

Identify two areas of needed improvement and develop a plan to strengthen your team's performance.

Which team member contributed the most? What can be done to better equalize the contributions from each team member?

What problems do your team members have in working together? What might your team do to eliminate these problems?

Use the team strength indicator form on the following page. 42 Instructor's Guide to Process-Oriented Guided-Inquiry Learning

### How Strong Is Your Team?

For each item, score your team's performance as:

- 1 = not very good
- 2 = needs significant improvement
- 3 = needs some improvement
- 4 = adequate
- 5 = stellar

| Item  | Score | Justification | Plan         |
|---|-------|---------------|--------------|
| Everyone came prepared.                                   |       |               |              |
| Everyone participated fully.                              |       |               |              |
| We encouraged and helped each other.                      |       |               |              |
| Everyone asked questions when they didn't understand.     |       |               |              |
| Everyone gave clear explanations to each other.           |       |               |              |
| Everyone contributed ideas.                               |       |               |              |
| We listened to each other.                                |       |               |              |
| Each person contributed to our success; no one dominated. |       |               |              |
| Everyone understood the material.                         |       |               |              |
| We completed the assigned work.                           |       |               |              |
|   |       |               | <b>Total</b> |

## Tool D

### ASSESSMENT Strategy: Using Rubrics

#### A. BACKGROUND OF THE ASSESSMENT METHOD

It is important to assess students' learning not only through their outputs or products but also the processes which the students underwent to arrive at these products or outputs.

WHAT WE MEAN "PERFORMANCE-BASED"?

Assessing method in which a teacher observes and makes a judgment about the student's demonstration of a skill or competency in creating a product, constructing a response, or making a presentation. The emphasis is on student's **ability** to perform tasks by producing their own work with their knowledge and skills.

**Examples:** singing, playing a piano, performing gymnastics, or completed paper, creating an artefact.

#### Process-oriented learning competencies

Information about outcomes is important. To improve outcomes, we need to know about student experience along the way.

Assessment can help us understand which students learn best under what conditions which such knowledge comes the capacity to improve the whole of their learning.

Process-oriented assessment is with the actual assessment concerned task performance rather than the output or product of the activity.

#### 2) What is the objective?

To improve outcomes, we need to know about student experience along the way.

Assessment can help us understand which students learn best under what conditions which such knowledge comes the capacity to improve the whole of their learning.

Process-oriented assessment is with the actual assessment concerned **task performance** rather than the output or product of the activity.

#### 3) How to present and use it

##### Define Learning competencies

Competencies are defined as groups or clusters of skills and abilities needed for a particular task.

- The objectives focus on which exemplify "best particular task- on the behaviour practice" for the task.
- Such behavior may range from a "beginner" via "novice" level up to the level of "expert".

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|                        |  |
|------------------------|--|
| Competence Unit (CU)   | Gamification   |
| Assessment type        | Process oriented assessment  |
| Assessment method/tool | USING rubrics  |
|                        | What is being assessed: Any types of soft skills.<br>In Gamificaiton: Motivating skills, communication skills. |

|                                  |   |
|----------------------------------|---|
| <p><b>Operationalisation</b></p> | <p>Probably, rubrics are most suitable in “How to tell them” part in the Gamification curriculum.</p> <p>The learning outcomes this tool is recommended for:</p> <ul style="list-style-type: none"> <li>• Identify the potentialities and limitations of gamification to exploit its benefits in accordance with different learning contexts.</li> <li>• Apply game design principles to foster skills’ development running the whole game design cycle (from idea to redesign).</li> <li>• Integrate briefing and debriefing strategies to assess learners’ performance based on the dynamics experienced in the game.</li> <li>• Generate support and manage competition situations during learning to promote problem-solving dynamics between learners.</li> </ul> <p><b>How can a teacher assess students' authentic task?</b></p> <p>Use a rubric</p> <p>Rubric is a scoring scale used to assess student performance. It is a coherent set of criteria for students' work that includes descriptions of levels of performance quality on the criteria. Typically, rubrics are used in scoring or grading written assignments or oral presentations; however, they may be used to score any form of student performance.<br/>(See the figure 1 below )</p> <p><b>ANALYTIC RUBRICS VERSUS HOLISTIC RUBRICS</b></p> <p><b>HOLISTIC RUBRICS</b></p> <ul style="list-style-type: none"> <li>• Provides comprehensive descriptions of each level of performance.</li> <li>• Useful for quick and general assessment and feedback.</li> <li>• Descriptions may be organized in columns or rows.</li> </ul> <p>Figure 2 shows the example of a holistic rubrics</p> <p><b>ADVANTAGES OF HOLISTIC RUBRICS</b></p> <ul style="list-style-type: none"> <li>• Scoring is faster than with analytic rubrics.</li> <li>• Requires less time to achieve inter-rater reliability.</li> <li>• Good for summative assessment.</li> </ul> <p><b>DISADVANTAGES OF HOLISTIC RUBRICS</b></p> <ul style="list-style-type: none"> <li>• Single overall score does not communicate information about what to do to improve.</li> <li>• Not good for formative assessment.</li> </ul> <p><b>ANALYTIC RUBRICS</b></p> |
|----------------------------------|---|

|                |  |
|----------------|--|
|                | <p>Breaks out criteria for distinguishing between levels of performance on each criterion.<br/>Useful for detailed assessment and feedback.<br/>Descriptions are organized in a matrix.<br/><i>See Figure 3 for an example of analytic rubrics</i></p> <p><b>Example</b><br/><b>Task:</b> Recite a Poem by Edgar Allan Poe, “The Raven”<br/><b>Objectives:</b> To enable the students to recite a poem entitled “The Raven” by Edgar Allan Poe. Specifically:</p> <ol style="list-style-type: none"> <li>1. Recite the poem without referring to notes;</li> <li>2. Use appropriate hand and body gestures in delivering the piece;</li> <li>3. Maintain eye contact with the audience while reciting the poem;</li> <li>4. Create ambiance of the poem through appropriate rising and falling intonation;</li> <li>5. Pronounce the words clearly and with proper diction.</li> </ol> <p><b>Design a task for assessment</b></p> <p>Recommended aspects when designing a task for assessment</p> <ul style="list-style-type: none"> <li>• Identify an activity that would highlight the competencies to be evaluated.</li> <li>• Identify an activity that would entail the same sets of competencies.</li> <li>• Find a task that would be interesting and enjoyable for the participants</li> </ul> <p><b>Another example</b></p> <p><b>Topic:</b> Understanding biological diversity in elementary class<br/><b>Possible Task Design</b></p> <ul style="list-style-type: none"> <li>• Bring the students to the pond or creek</li> <li>• Ask them to find all living organisms near the pond or creek</li> <li>• Bring them to school playground to find as many living organisms they can find</li> </ul> <p>Observe how the students will develop a system for finding such organisms, classifying the organisms, and concluding the differences in biological diversity of the two sites.</p> |
| <b>Remarks</b> |  |

## C. LINKS/ATTACHMENTS

## Appendix 1.

### figures

| Recitation Rubric   |    |  |   |  |
|---|----|--|---|--|
| Criteria  |    | 1  | 2   | 3  |
| Number of Appropriate Hand Gestures                       | x1 | 1-4                                      | 5-9                                       | 10-12  |
| Appropriate Facial Expression                             | X1 | Lots of inappropriate facial expression  | Few inappropriate facial expression       | No apparent inappropriate facial expression                      |
| Voice Inflection  | X2 | Monotone voice used                      | Can vary voice inflection with difficulty | Can easily vary voice inflection                                 |
| Incorporate proper ambiance through feelings in the voice | X3 | Recitation contains very little feelings | Recitation has some feelings              | Recitation fully captures ambiance through feelings in the voice |

**1.** Figure



| Exceeds Expectations  | Meets Expectations  | Fails to Meet Expectations  |
|---|---|---|
| <ul style="list-style-type: none"> <li>All directions are in the imperative form.</li> <li>90% of the directions were correct.</li> <li>More than 6 directions are used</li> <li>Grammatical errors are minor and don't impede comprehensibility.</li> <li>Includes more than 4 or more physical references with descriptions.</li> </ul> | <ul style="list-style-type: none"> <li>Most (80%) of the directions are in the imperative form.</li> <li>At least 75% of the directions were correct.</li> <li>Includes at least 4 but fewer than 6 directions.</li> <li>Some grammatical errors but they don't impede comprehensibility.</li> <li>Includes 2-3 physical references with descriptions.</li> </ul> | <ul style="list-style-type: none"> <li>Uses fewer than 4 directions.</li> <li>More than half of the directions are incorrect in form.</li> <li>Less than 75% of the directions were correct.</li> <li>Grammatical errors impede comprehensibility.</li> <li>Used fewer than 2 physical references with descriptions.</li> </ul> |

2. Figure

| Factual Information  | Vocabulary   | Correctness of Language  | Fluency   |
|--|--|--|---|
| 3<br>It contained more than 5 facts about the student.     | 3<br>Student used a wide variety of vocabulary words to describe self (more than in the lesson). | 3<br>Less than 10% of words contain pronunciation errors; two or fewer grammar mistakes; 0-1 incorrect word choices.                 | 3<br>Introduction was told with expression, not flat; good L2 intonation pattern; confident in speech.                              |
| 2<br>The student gave between 3-5 facts about him/herself. | 2<br>Student used the necessary vocabulary and basic vocabulary was used correctly.              | 2<br>Between 11% and 30% of words have pronunciation errors; between 3 and 6 grammar errors; between 2 and 4 incorrect word choices. | 2<br>Some expression in speech though mechanical in places; a few pauses but they didn't detract from comprehensibility.            |
| 1<br>The student gave less than 3 facts about him/herself. | 1<br>The introduction used words incorrectly and used only basic words—replicated the lesson.    | 1<br>More than 30% of words have pronunciation errors; more than 6 grammar errors; more than 4 incorrect word choices.               | 1<br>Very flat presentation; little L2 intonation pattern; many pauses, hesitations, and restarts that made it difficult to follow. |

3. Figure

## Breakfast in Bed: Analytic Rubric

|                     | Beginning<br>1  | Developing<br>2  | Accomplished<br>3   | Exemplary<br>4  | Score |
|---------------------|---|--|---|---|-------|
| <b>Food</b>         | Most food is colder or warmer than it should be, is under- or over-seasoned, or is under- or overcooked.    | Some food is colder or warmer than it should be, is under- or over-seasoned, or is under- or overcooked.                         | All food is at the correct temperature, adequately seasoned, and cooked to the eater's preference.    | All food is perfectly cooked and seasoned to the eater's preference. Additional condiments are offered.                 |       |
| <b>Presentation</b> | More than one item (tray, napkin, or silverware) are dirty or missing.                                      | Tray, napkin or silverware may be dirty or missing.  | Food is served on a clean tray, with napkin and silverware. Some decorative additions may be present. | Food is served on a clean tray, with napkin and silverware. Several decorative touches are added.                       |       |
| <b>Comfort</b>      | Wake-up is abrupt, little to no help with seating, and the recipient is rushed and crowded during the meal. | Wake-up is somewhat abrupt, recipient may struggle with seat adjustment, or there may be some rushing or crowding during eating. | Recipient is woken gently, assisted in seat adjustment, and given reasonable time and space to eat.   | Recipient is woken gently and lovingly, assisted until seating is just right, and given abundant time and space to eat. |       |

## Breakfast in Bed: Holistic Rubric

| Score | Description  |
|-------|--|
| 4     | All food is perfectly cooked, presentation surpasses expectations, and recipient is kept exceptionally comfortable throughout the meal.          |
| 3     | Food is cooked correctly, the meal is presented in a clean and well-organized manner, and the recipient is kept comfortable throughout the meal. |
| 2     | Some food is cooked poorly, some aspects of presentation are sloppy or unclear, or the recipient is uncomfortable at times.                      |
| 1     | Most of the food is cooked poorly, the presentation is sloppy or unclear, and the recipient is uncomfortable most of the time.                   |

## Tool E

### ASSESSMENT Strategy: Assessment of complex demonstration tasks

#### A. BACKGROUND OF THE ASSESSMENT METHOD

##### 1) What is the method about (the background)?

**WorldSkills** organizes the world championships of vocational skills and is held every two years in different parts of the world. Assessment methods used in the competition has process oriented and product-oriented parts.

WorldSkills has a unique system for designing assessment methods that provides fairness and comparability and distill and embrace a whole vocational skill in one product or process within four days.

To achieve these goals the competition developed a marking system with simple rules to follow.

1: Define a Test Project that can represent the skill. (it is a process, a product or both)

2: Define at least 5 Distinct Aspects

3: Use scores (called marks). The sum of the maximum available marks is 100.

4. Each aspect should not exceed 20 marks.

5. Break down and define sub aspects for each aspect called Criteria

6. A criterion should not exceed 1 Mark

7. Each Criteria should be defined as Measurable or Judgeable.

8. The Aspects should regard outcomes and processes.

##### 2) What is the objective?

Teaching trainers to make a complex assessment on teaching a vocational skill where process and product based processes are interconnected and interdependent.

##### 3) How to present and use it

Invent a test project, make the whole system and describe the aspects for the learners. (See appendix: WSC2017\_TP00\_US\_EN.pdf) in this example, the test project is an object (a papercraft model car)

The test project could be other skills – how to plan a workshop, how to cook a fine dining menu, or how to take care of a patient.

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

| Competence Unit (CU)  | Gamification   |
|---|--|
| Assessment type   | Assessment of demonstration tasks (formative)  |
| Assessment method/tool  | Test Project based method (WorldSkills Assessment)   |
| Operationalization<br>(what is being assessed and why, how to conduct it) | <p>This assessment method is recommended for a complex assessment – a final exam or a testing comprehensive skills.</p> <p>The following learning outcomes may be covered with this assessment tools:</p> <ul style="list-style-type: none"> <li>Plan and implement gamification in welding/STEM training activities to promote learners' learning through iteration.</li> <li>Integrate VR and/or AR technologies in game design to foster motivation and planning skills on learners.</li> </ul> |

|                |   |
|----------------|---|
|                | <ul style="list-style-type: none"> <li>• Develop assessment strategies using gamification to assess learners' achieved learning outcomes.</li> <li>• Integrate briefing and debriefing strategies to assess learners' performance based on the dynamics experienced in the game.</li> <li>• Apply VR and AR technologies in teaching, combining virtual and real game mechanics.</li> <li>• Generate support and manage competition situations during learning to promote problem-solving dynamics between learners.</li> </ul> <p>Design a test project with the following criteria, where the project:</p> <ul style="list-style-type: none"> <li>• timing should fit in the chosen timeframe</li> <li>• should be comprehensive</li> <li>• has measurable and judgeable criteria</li> <li>• can be broken into criteria and sub-criteria described above</li> </ul> <p>Make the markings according to the following rules:</p> <ol style="list-style-type: none"> <li>1: Define a Test Project that can represent the skill. (it is a process, a product or both)</li> <li>2: Define at least 5 Distinct Aspects</li> <li>3: Use sores (called marks). The sum of the maximum available marks is 100.</li> <li>4. Each aspect should not exceed 20 marks.</li> <li>5. Break down and define sub aspects for each aspect called Criteria</li> <li>6. A criterion should not exceed 1 Mark</li> <li>7. Each Criteria should be defined as Measurable or Judgeable.</li> <li>8. The Aspects should regard outcomes and processes.</li> </ol> <p>Test the assessment tool with a control group<br/>         Finally, Make the necessary modifications based on the test.</p> |
| <b>Remarks</b> | Please see the project description and the marking scheme in the attached files.  |

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## C. LINKS/ATTACHMENTS

### Appendix 1.

An educational Test Project proposal in the file "WSC2017\_TP00\_US\_EN.pdf"

### Appendix 2

An educational Test Project marking scheme in the file "WSC2017\_TP00\_US\_EN.xlsx"

**CU4**
**Tool A**
**PRODUCT-ORIENTED PERFORMANCE BASED ASSESSMENT**

*Case study: Acquired skills to recognise and avoid risks when use the internet for collecting data*

**B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL**

|   |  |
|---|--|
| <b>Competence Unit (CU)</b>   | <b>Digital Competence and using digital resources</b>  |
| <b>Assessment type</b>  | <b>Summative assessment</b>  |
| <b>Assessment method/tool</b>   | <b>Product-oriented performance assessment</b>   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p><b>Description of the method</b></p> <p>Product-oriented performance assessment is the way in which the person carrying out the evaluation process focuses on the final product. The other two aspects, related to the performance of the implementation of the product development process and the intrinsic performance of that production process are considered irrelevant for evaluation.</p> <p>The assessment therefore covers the existence of the product and its characteristics. Speaking of characteristics, the evaluation will also take into account the conformity of these characteristics with the references established prior to the development of the product. In the case of a training process, the product is the existence of some competencies and the conformity of these competencies with what was pursued once the training process began.</p> <p>Complexity. The evaluation should be within the limits of the trainees' abilities</p> <p>Repetition. The project should be attractive to trainees, in order to be desired for application and self-application by the trainees.</p> <p>Creativity. It should encourage trainees to exercise their creativity and divergent thinking when approach the topic</p> <p>Goal-based. The project is designed to achieve a learning goal: to give competence to the trainees. ...</p> <p><b>The objectives of the assessment method</b></p> <p>Three distinct objectives can be defined for the actual assessment method, and they are:</p> <ul style="list-style-type: none"> <li>• Highlighting the fact that the trainee / learner is informed and understands what skills related to the recognizing and avoiding of virtual risks he must have after the implementation of the training process.</li> <li>• Highlighting the existence of competencies of recognizing and avoiding risks when access virtual environments at the level of the trainee / learner.</li> <li>• Checking that the new skills created are in line with what was wanted through the training process, which is safety use of virtual environments</li> </ul> |

|         |   |
|---------|---|
|         | <p>The product, which is the new learning competencies, can be considered as being specific to three levels of performances: Beginner, Qualified, and Expert level</p> <p><b>Operation</b></p> <p>The evaluation will be done by inviting the trainees to comment on the risks related to their browsing on the internet for a specific topic. The comments will be divided in two parts: harmful viruses' action and returning of fake information. The trainer will take notes on the most important statements of the trainees, individually. The trainer will give the opportunity to the workgroups of 5 to organise internal discussions on the risks and to present statements of the group. The trainer will compare the individual statements with the groups' statements and conclude on the competences acquired by the trainees.</p> <p>1. Theme: evaluating the competence related to the dealing with the risks when accessing the internet searching for information;</p> <p>2. Conditions prior to the evaluation:</p> <p>a. designing the structure and the contents for a workshop containing a micro lesson, an exercise, an analysis and conclusions.</p> <p>b. delivering of the micro lesson to the participants; the contents should be focused on the two types of risks: harmful viruses and fake information</p> <p>c. dividing the number of the learners in groups of 5</p> <p>d. starting of the exercise: searching different topics on the internet; analysing the returned information; analysing the threats related to the search; potential solutions to avoid fake information and viruses; concluding on the results of analysis.</p> <p>3. Implementation of the assessment</p> <p>3.1 Actions:</p> <ul style="list-style-type: none"> <li>- using any type of browser, open the internet, as the most available digital resource of information, and search for „welding of aluminium“;</li> <li>- each trainee is invited to comment the action from the risks point of view</li> <li>- the groups are invited to organise intrinsic discussions for 3 minutes; statements (regarding the risks related to the browsing) of the groups will be required</li> </ul> <p>3.2 Competence to be evaluated from the received answers: capability to understand that risks exist during the action of browsing and after receiving the returned information.</p> |
| Remarks | The summative assessment will verify:   |



|  |   |
|--|---|
|  | <p>Level 1 (Beginner):</p> <p>Is the trainee aware on the existent risks (at least two: existence of harmful viruses and high probability to have fake information returned by the browsing)?</p> <p>Is the trainee able to understand the risks?</p> <p>Level 2 (Skilled level):</p> <p>Is the trainee able to recognise the two types of discussed risks?</p> <p>Is the trainee able to understand the potential effects of the discussed risks?</p> <p>Level 3 (Expert level):</p> <p>Is the trainee able to consider and apply measures in order to avoid the specific risks?</p> <p>Is the trainee able to apply specific tools and processes in order to remove the effects of the already manifested infection with viruses and/or fake information?</p> |
|--|---|

### C. LINKS/ATTACHMENTS

Video files related to threats when browsing for information can be viewed at:

<https://www.youtube.com/watch?v=uquRzrcwA18>

<https://www.youtube.com/watch?v=Dk-ZqQ-bfy4>

<https://www.youtube.com/watch?v=SbqC2k4vbXY>

## Tool B

### PRODUCT-ORIENTED PERFORMANCE BASED ASSESSMENT

*Case study: Acquired skills to use a simulator when setting the teaching class*

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| Competence Unit (CU)  | Gamification  |
| Assessment type   | Summative assessment  |
| Assessment method/tool  | Product-oriented performance assessment   |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p><b>Description of the method</b></p> <p>Product-oriented performance assessment is the way in which the person carrying out the evaluation process focuses on the final product. The other two aspects, related to the performance of the implementation of the product development process and the intrinsic performance of that production process are considered irrelevant for evaluation.</p> <p>The assessment therefore covers the existence of the product and its characteristics. Speaking of characteristics, the evaluation will also take into account the conformity of these characteristics with the references established prior to the development of the product.</p> <p>In the case of a training process, the product is the existence of some competencies and the conformity of these competencies with what was pursued once the training process began.</p> |

|  |  |
|--|--|
|  | <p>Complexity. The evaluation should be within the limits of the trainees' abilities</p> <p>Repetition. The project should be attractive to trainees, in order to be desired for application and self-application by the trainees.</p> <p>Creativity. It should encourage trainees to exercise their creativity and divergent thinking when approach the topic</p> <p>Goal-based. The project is designed to achieve a learning goal: to give competence to the trainees.</p> <p><b>The objectives of the assessment method</b></p> <p>Three distinct objectives can be defined for the actual assessment method, and they are:</p> <ul style="list-style-type: none"> <li>• Highlighting the fact that the trainee / learner is informed and understands on how to use a simulator when prepares the teaching process.</li> <li>• Highlighting the existence of competencies of using a simulator for teaching at the level of the trainee / learner.</li> <li>• Checking that the obtained skills of using a simulator in a teaching process are in line with what was wanted through the training process</li> </ul> <p>The product, which is the new learning competencies, can be considered as being specific to three levels of performances: Beginner, Qualified, and Expert level.</p> <p><b>Operation</b></p> <p>The evaluation is related to the capability of the trainer to introduce the simulator, as digital tool, within the teaching and the assessment activities, in a class. The welding simulators are digital tools offering scenarios of welding, with different processes and different kind of joints. A simulator can be introduced several times in a class if the subject to be taught is related to welding technology. The trainer will be verified if knows how to implement the simulator in specific moments of the teaching activity</p> <ol style="list-style-type: none"> <li>1. Theme: evaluating the competence related to the implementation of a welding simulator in the preparation of a class with specific topic in the welding domain;</li> <li>2. Conditions prior to the evaluation:             <ol style="list-style-type: none"> <li>a. designing the structure and the contents for a workshop containing a micro lesson, an exercise, an analysis and conclusions.</li> <li>b. delivering of the micro lesson to the participants; the contents should be focused on the using of a welding simulator as a tool for the training on specific aspects of the welding domain</li> <li>c. dividing the number of the trainees in groups of 5</li> <li>d. starting of the exercise: identify in the information to be taught the elements that can be better presented by using a simulator dedicated to welding; elaborate short scenario with the information to be taught and how to involve the simulator; analysing the new</li> </ol> </li> </ol> |
|--|--|



|                |   |
|----------------|---|
|                | <p>system of training (which includes the simulator); concluding on the results of analysis.</p> <p>3. Implementation of the assessment</p> <p>3.1 Actions:</p> <ul style="list-style-type: none"> <li>- using any subject (from the welding domain) to be taught and any type of welding simulator that can be used, design a class in which specific elements are taught by using the simulator;</li> <li>- each trainee is invited to comment the action of involving the simulator from the advantages and disadvantages (technical and economical) points of view</li> <li>- the groups are invited to organise internal discussions on how to teach using the simulator, for 3 minutes; statements (regarding the involvement of the simulator within the class structure) of the groups will be required</li> </ul> <p>3.2 Competence to be evaluated from the received answers: capability to understand the use of a simulator as a digital tool; capability to understand that several topics from a subject to be taught can be taught by using a simulator; capability to understand the benefits of using a simulator in the class implementation.</p> |
| <b>Remarks</b> | <p>The summative assessment will verify:</p> <p>Level 1 (Beginner):</p> <p>Is the trainee aware on the potential of using a welding simulator in a class structure?</p> <p>Is the trainee able to understand the benefits of using a simulator?</p> <p>Level 2 (Skilled level):</p> <p>Is the trainee able to recognise different type of simulators and what types of subjects they address?</p> <p>Is the trainee able to understand how to involve a simulator within a class structure?</p> <p>Level 3 (Expert level):</p> <p>Is the trainee able to create scenarios of subject's teaching in which the simulator to be introduced?</p> <p>Is the trainee able to elaborate scenarios for the simulator, as parts of the class?</p>  |

### C. LINKS/ATTACHMENTS

Video files related to the use of a welding simulator can be viewed at:

<https://www.youtube.com/watch?v=wYRymhZrFmk>

<https://www.youtube.com/watch?v=LvOAcn5g-bU>

[https://www.youtube.com/watch?v=g-ihBKOes\\_Y](https://www.youtube.com/watch?v=g-ihBKOes_Y)

## Tool C

### ESSAY STRATEGY

*Case study: Choosing the appropriate digital tool for teaching a specific information*

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| Competence Unit (CU)  | Digital Competence and using digital resources  |
| Assessment type   | Summative assessment  |
| Assessment method/tool  | Essay   |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p><b>Description of the method</b></p> <p>The Essay strategy of assessment provides exhaustive information about the learning level of a trainee. The trainee is invited to present, generally in written mode, but can be done by speaking, as well, about a trained topic. The assessment task should clearly specify the conditions of the essay: how large the presentation should be, the level of detailing, the available time ...</p> <p><b>The objectives of the assessment method</b></p> <ol style="list-style-type: none"> <li>1. Encouraging the trainees to freely present what they learned about the use of existent digital tools dedicated to teaching and learning processes to manage training strategies and assess learners' performances.</li> <li>2. Preparing the trainees to deal with specific conditions of using specific digital tools dedicated to teaching and learning.</li> </ol> <p><b>Operation</b></p> <p>An Essay is a presentation with declared level of detailing, in which the trainees present what they already learned about a topic: history, characteristics, processes, phenomena, ...</p> <ol style="list-style-type: none"> <li>1. Theme: Choosing the appropriate digital tool for teaching a specific information</li> <li>2. Conditions prior to the evaluation:             <ol style="list-style-type: none"> <li>a. designing and delivering of a micro lesson to the learners / trainees; the contents should be focused on how to choose between the available digital tools</li> <li>c. each trainee receives a subject from a specific trained topic, and the conditions for the presentation of the essay</li> <li>d. the trainer analyses the essay and concludes on the level of learning proved by each trainee.</li> </ol> </li> <li>3. Implementation of the assessment             <ol style="list-style-type: none"> <li>3.1 Actions:                 <ul style="list-style-type: none"> <li>- each trainee will receive the task; the task is explained</li> <li>- each trainee will receive the conditions;</li> <li>- the trainees are invited to present their essays in the specified time</li> <li>- the essays are read by the trainer and scores are provided</li> </ul> </li> </ol> </li> </ol> |

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|                | 3.2 Competence to be evaluated from the received answers related to: level of understanding of the tasks; level of understanding of the technical situation; level of knowledge regarding the digital tools from which to choose; level of technical knowledge and expertise related to the topics to be taught; the choice; the justification. |
| <b>Remarks</b> | The information to be taught and the 5 digital tools that are the subjects of the task should be part of the previous micro-lesson. All members of the group should return answers to the questions, in order to be able to score them individually.  |

### C. LINKS/ATTACHMENTS

Video files related to the main digital tools to be used in teaching can be viewed at:

<https://www.aber.ac.uk/en/media/departmental/skillshub/HOWTOWRITEYOUR-ESSAY.pdf>

<https://www.scribbr.com/category/academic-essay/>

<https://www.scribbr.com/academic-essay/introduction/>

### Tool D

*Case study: Selecting the most appropriate digital tool for a teaching and training session*

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

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| <b>Competence Unit (CU)</b>   | <b>Digital Competence and using digital resources</b>   |
| <b>Assessment type</b>  | <b>Summative assessment</b>   |
| <b>Assessment method/tool</b>   | <b>Matching Quiz</b>  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p><b>Description of the method</b></p> <p>This type of assessment could show to the trainers and to the trainees how much the trainees have learned. Could provide to the trainees the chance for more learning to take place, by reinforcing educational materials or by asking trainees to use or think about what they have learned in a new way.</p> <p>The trainees will receive a questionnaire with a specific number of multiple-choice questions.</p> <p><b>The objectives of the assessment method</b></p> <p>The questionnaire and the assessment itself should be designed taking care of the learning activities and the competences and should cover all educational materials.</p> <ol style="list-style-type: none"> <li>1. Improve the ability to self-assess, in order to optimize the teaching and training work.</li> <li>2. Improve the courage and ability to identify options and to choose among options.</li> </ol> <p><b>Operation</b></p> |

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|  | <p>When designing a new assessment or revising an old one, “the most important component is to be sure there is a match between the objectives of the unit/course/lesson being assessed, the teaching / learning activities used, and the assessment tool.</p> <p>1. Theme: Selecting the most appropriate digital tool and digital environment for a teaching / training session in a specific topic<br/>The method can be used to assess if the trainees know how to find the most appropriate digital tool and the digital environment to teach a specific topic.</p> <p>2. Conditions prior to the evaluation:</p> <ol style="list-style-type: none"> <li>identification of the available digital tools and the digital environment types that can be used to teach a specific information.</li> <li>dividing the amount of information to be taught in several modules or more, depending on the total amount of information.</li> <li>defining specific performance criteria as reference for the assessment</li> <li>starting the teaching and after each module prepare the self-assessment</li> <li>assuring that all trainees have access to appropriate digital tools for the assessment implementation (Computer, phone, applications, etc.)</li> </ol> <p>3. Implementation of the assessment</p> <ul style="list-style-type: none"> <li>- Trainer delivers the first amount of information using 1-2 digital tools;</li> <li>- Trainer creates an interactive questionnaire, having enough questions to cover almost all topics presented during the learning activity. The questions should have at least 4 answers each, and it is important to be decided if one answer, only, or many answers are correct. The questions and the answers could have text, images or formulas only, or mix of these;</li> <li>- Each question will receive a maximum number of points for the correct answers.</li> <li>- A minimum limit of points for passing the assessment should be set in the beginning and presented to the trainees before the assessment session;</li> <li>- A discussion on the results and comments on the correct answers will be done with the trainees. Each trainee is encouraged to make comments on the tools and to choose according to the best performance it might have.</li> </ul> <p>The chosen tool could be differently accepted by other trainee, so centring the teaching on students is possible to find the best way to teach the information in order for it to be accepted by all students. The acceptance will differ, but it will exist for all students.</p> |
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| Remarks | The assessment could be transformed in a formative, as well, if necessary. |
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### C. LINKS/ATTACHMENTS

<https://blog.gutenberg-technology.com/en/assessment-matching-questions>

<http://www.hunter.cuny.edu/academicassessment/repository/files/Matching%20Assessment%20to%20Learning%20Outcomes.pdf>

<https://etrp.wmo.int/mod/book/tool/print/index.php?id=11327>

### Tool E

#### DEBRIEFING STRATEGY: Successive Transformation Model (STM)

*Case study: How to best use a LMS?*

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| Competence Unit (CU)  | Digital Competence and using digital resources  |
| Assessment type   | Debriefing strategy   |
| Assessment method/tool  | Successive Transformation Model (STM)   |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p><b>Description of the method</b></p> <p>Successive Transformation Model (STM) results from particularization of CPI's Crisis Development Model (CPM) that is used in medical domain, to follow evolution of a treatment and the succession of the crisis.</p> <p>STM consists of the identification and evaluation of a series of recognizable knowledge levels that a student may go through during learning of a module of information. The trainer compares each knowledge level with corresponding reference levels and decides on apply supplementary intervention, if necessary. The number of the reference levels is set by the trainer according to the volume of information to be learned.</p> <p><b>The objectives of the assessment method</b></p> <ol style="list-style-type: none"> <li>1. Assure better control of the learning process related to the use of digital resources for online and offline information.</li> <li>2. Improves the responsibility of the learner, who knows that continuous surveillance is applied.</li> </ol> <p><b>Operation</b></p> <p>The application of STM consists of a combining the learning process with the assessment process. The learning is divided in volumes that can be individually accepted by the trainer and, after each such kind of volume of information, assessment on the evolution of learning is applied. The number of the volumes depends on the amount of information to be learned. The assessment sessions should be the same, using the same questions. Generally, the questions are related to the evolution of</p> |

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|  | <p>learning and to the method of learning, but questions related to the learned information could be, also asked.</p> <p>1. Theme: Learning on how to best use an LMS (assessment: the evolution of the learning process and of the amount of learned information, when the topics of training is related on how to use an LMS).</p> <p>2. Conditions prior to the evaluation:</p> <p>a. Prepare the total information to be learned in specific amounts that can be considered independent:</p> <ul style="list-style-type: none"> <li>• What is an LMS; why to use an LMS, pros and cons</li> <li>• Description of the general structure of an LMS</li> <li>• LMS' component related to learning</li> <li>• LMS' component related to assessment</li> <li>• Method to apply an LMS in training</li> </ul> <p>b. Prepare the questions to ask – examples:</p> <ul style="list-style-type: none"> <li>- „Was the information clear enough to understand it?“;</li> <li>- „ Did the learning method used help you to accept the information taught?“;</li> <li>- „Do you think that you are doing something wrong?“</li> <li>- „If you were a trainer, how would you teach the information?“</li> </ul> <p>Questions related to the learned information, applicable in the case study:</p> <ul style="list-style-type: none"> <li>- „What would be the benefits of using LMS in your case?“</li> <li>- „What is the best part of the learning component, according to your considerations?“</li> <li>- „What information would you teach by using an LMS?“</li> </ul> <p>3. Apply assessment integrated into the teaching session</p> <p>The main steps of the implementation of STM are:</p> <p>1. Control of the first level</p> <p>1.1 Give appropriate time to the student to learn (using any learning method it wants) a specific amount of information.</p> <p>1.2 Prepare 1-3 specific questions with very short answers and send the questions to be answered.</p> <p>1.3 Receive answers and conclude on the difference between the effective level and the reference level.</p> <p>1.4 Take no measure and leave the student to continue the learning process</p> <p>2. Control of the second level</p> <p>2.1 Give appropriate time to the student to learn the second amount of information.</p> <p>2.2 Ask again the same 1-3 specific questions</p> <p>2.3 Receive answers and conclude on the difference between the effective level and the reference level.</p> <p>2.4 If the difference is maintained or increases then take measures:</p> |
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|                | 2.4.1 Stop the learning process and provide the first amount of information in different manner, going to the most basic information from the entire amount<br>2.4.2 Ask the 1-3 specific question again<br>2.4.3 If the learning level is improved then provide the first amount of information in different manner; if not then change the method of providing the information.<br>3. Repeat the method for the next levels<br>4. Evaluate what the student is doing wrong and orient it to correct its manner of learning<br>5. Define a particular model of learning for the student and show what is it doing wrong<br>6. Apply the personalized method of learning for the next amount of information to be learned. |
| <b>Remarks</b> | STM debriefing strategy is a tool that helps the student to reveal the best method of learning a specific information, and to evaluate the evolution / involution of the learning process. It can offer information on the learned information, but the main task is to give a good opportunity to the student to discover the best way to learn.  |

### C. LINKS/ATTACHMENTS

<https://www.crisisprevention.com/Blog/CPI-Crisis-Development-Model-Opportunity>  
<https://www.uclahealth.org/hr/workfiles/TempStaff/CPIFinalwithPrecipAssaultBeh.pdf>  
[https://prezi.com/twgjoy2nq\\_6h/cpi-crisis-development-model/?fallback=1](https://prezi.com/twgjoy2nq_6h/cpi-crisis-development-model/?fallback=1)

## CUS

### Tool A

#### ONLINE QUIZZES

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | <b>New Media Didactics: The use of social media, micro-learning</b>   |
| <b>Assessment type</b>  | <b>Formative assessment</b>   |
| <b>Assessment method/tool</b>   | <b>Online quizzes – Fill In the Blank / Testmoz</b>   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>At the end of each workshop, learners solve online quizzes.<br/>           Example 1: Online quiz Fill in the Blank<br/>           The goal is to get feedback on the progress of each individual learner and the level of quality of the workshop.</p> <p><b>Learning outcome that is covered by this method:</b></p> <ul style="list-style-type: none"> <li>Select data, information and content on social media to integrate them in training activities as part of learners' routines</li> </ul> |

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|                       | <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. Design questions.</li> <li>2. Access the digital tool Testmoz: <a href="https://testmoz.com/">https://testmoz.com/</a></li> <li>3. By selecting the Make a Test field, teachers and users begin to build the Test.</li> <li>4. Enter and format questions.<br/>The question is added by clicking on Add new question.<br/>In the place marked with Type, it is necessary to select Fill in the blank, and the text of the question is formatted in the same way as the text Multiple Response. The same goes for assigning a point value. The places to be filled in can be marked with a line, questionnaires or other sign as desired. The answers are formed so that in the answer field all correct answers are written in capital letters, and incorrect ones in lower case. By selecting the Case sensitive grading option, the tool will take into account the answers regardless of the initial letter.<br/>Each answer is written in a separate field.<br/>When formatting is complete, the question needs to be saved to format the next one, so Save and Add New Question is selected.</li> <li>5. Completion of test design<br/>After all the questions have been formatted and saved, on the next page it is possible to change the text of the questions and points and delete or add questions.<br/>When the test formatting is complete, then you need to select Update and update everything. After the update, the test needs to be put to Publish and then it is ready to be solved. Learners need to be provided with technical requirements and share the test URL and password with them.</li> </ol> |
| <p><b>Remarks</b></p> | <p>The teacher can enter four types of questions in the quiz: True / False, multiple choice with one correct answer, multiple choice with multiple correct answers and filling in the blanks. It is possible to embed audio and video in the questions. In the free version the test can have up to 50 questions. It is possible to set an access password that learners must enter before joining the quiz, include a random sequence of questions and display the results, mark true and false answered questions and display the correct answer at the end of the quiz. The question can be marked as a non-scoring question, and it is also possible to define the number of points for each question. For answers, there is the possibility of random selection.</p>   |



## C. LINKS/ATTACHMENTS

### Attachment 1: Fill in the blank Questions Template / Question development matrix

| Question number | Learning outcomes to be assessed  | Key content area being directly assessed  | Is this topic appropriate for a question requiring understanding  | Question suggestions and ideas (can be informal at this stage, but should be specific)   |
|-----------------|---|---|---|--|
| Example         | Explain the didactic potential of social media (on a concrete example) as a good or bad environment for micro-learning. | A key definition of social media capabilities (in a case study) for micro-learning. | The application of micro-learning on social media requires learners to understand the interaction of social media and micro-learning and their potential. | <p>1. What are the advantages and disadvantages of Facebook as a social medium for micro learning.?</p> <p>2. What are the advantages and disadvantages of Twitter as a social medium for micro learning.?</p> <p>3. What are the advantages and disadvantages of WhatsApp as a social medium for micro learning.?</p> |

### Attachment 2: Digital tools for the quiz

| Digital tool   | Short description   |
|--|---|
| <b>Edmodo</b><br><a href="https://www.edmodo.com">https://www.edmodo.com</a> | <p>For evaluation through Edmodo, teachers can prepare a classic test (quiz) and problem or project tasks. Each test created can be copied and used for multiple grades. When creating a test, you can determine the duration of the test, whether the learner will be presented with the results at the end, the conclusion of the test after the expiration of time and the ability to ask questions to each learner in a different order. With each task it is possible to add an attachment (text, video clip, image, audio clip). The Edmodo test offers a choice of six types of questions: True/ False, multiple choice, short answers, gap filling, fill in the blanks and multiple answers. For each question, the teacher can enter the estimated number of points. For all types of tasks except short answers, the learner can get a result</p> |

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|  | <p>immediately after the test if the teacher so provided in the test settings. Only in the type of question "short answers" the learner receives feedback only after the teacher reviews and marks the accuracy of the answer and the learner is awarded the required number of points. In the tasks of filling in the blanks, it is necessary to give the learner exact instructions on what letters (upper / lower / first uppercase...) they should write because the wrong letter means the whole wrong answer.</p> <p>Edmodo allows you to track learner progress. The teacher sees each test that the learner has taken and the result of that test for the selected learner. If a particular test is selected, it can be reviewed how the learner solved each task. Edmodo also offers statistics for the entire class for each test.</p>   |
| <p><b>Moodle</b><br/><a href="https://moodle.org">https://moodle.org</a></p> | <p>Test is an activity of the Moodle system that allows the design of tests to test the knowledge of certain teaching content with different types of questions, and among them are:</p> <ul style="list-style-type: none"> <li>- multiple choice answers</li> <li>- true / false</li> <li>- matching answers</li> <li>- short answer</li> <li>- numerical question</li> <li>- essay</li> <li>- a simple arithmetic question</li> <li>- select missing words</li> <li>- fill in the blanks</li> <li>- description.</li> </ul> <p>The test in the Moodle system can be used to test learners' knowledge and achievements, for short tests of knowledge related to teaching content covered in class, for practice and repetition after each unit or unit and immediately before the real test and self-assessment of learners.</p> <p>Pupils receive feedback, results and grades immediately after the answers have been submitted or after the test has been completed and closed, depending on the settings made by the teacher.</p> |

## Tool B

### ONLINE QUIZZES

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| Competence Unit (CU)  | New Media Didactics: The use of social media, micro-learning  |
| Assessment type   | Formative assessment  |
| Assessment method/tool  | Online quizzes - Multiple-Choice Questions / Testmoz  |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p>At the end of each workshop, learners solve online quizzes.<br/>           Example 1: Online quiz Multiple-Choice Questions<br/>           The goal is to get feedback on the progress of each individual learner and the level of quality of the workshop.</p> <p><b>Learning outcomes that are covered by this method:</b></p> <ul style="list-style-type: none"> <li>▪ Apply integrated interactive systems based on combination of social media and micro learning for modernisation of the teaching process</li> <li>▪ Use micro-learning content and assignments on social media to assess learning</li> </ul> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. Design questions according to the Multiple Choice Questions Template / Question development matrix (Attachment 1).</li> <li>2. Access the digital tool Testmoz: <a href="https://testmoz.com/">https://testmoz.com/</a></li> <li>3. By selecting the Make a Test field, teachers and users begin to build the Test.</li> <li>4. Enter and format questions.<br/>           The question is added by clicking Add New Question.<br/>           In the place marked with Type, it is necessary to select Multiple choice, ie the question of multiple choice with one correct answer.<br/>           The multiple choice question with multiple correct answers is shaped by selecting Type - Multiple Response.<br/>           When formatting is complete, the question needs to be saved to format the next one, so Save and Add New Question is selected.</li> <li>5. Completion of test design<br/>           After all the questions have been formatted and saved, on the next page it is possible to change the text of the questions and points and delete or add questions.<br/>           When the test formatting is complete, then you need to select Update and update everything. After the update, the test needs to be put to Publish and then it is ready to be solved. Learners need to be provided with technical requirements and share the test URL and password with them.</li> </ol> |

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| <b>Remarks</b> | <p>The teacher can enter four types of questions in the quiz: True / False, multiple choice with one correct answer, multiple choice with multiple correct answers and filling in the blanks. It is possible to embed audio and video in the questions. In the free version the test can have up to 50 questions. It is possible to set an access password that learners must enter before joining the quiz, include a random sequence of questions and display the results, mark true and false answered questions and display the correct answer at the end of the quiz. The question can be marked as a non-scoring question, and it is also possible to define the number of points for each question. For answers, there is the possibility of random selection.</p> |
|----------------|---|

### C. LINKS/ATTACHMENTS

#### Attachment 1: Multiple Choice Questions Template / Question development matrix

| Question number | Learning outcomes to be assessed  | Key content area being directly assessed  | Is this topic appropriate for a question requiring understanding  | Question suggestions and ideas (can be informal at this stage, but should be specific)   |
|-----------------|---|---|---|--|
| Example         | Explain the didactic potential of social media (on a concrete example) as a good or bad environment for micro-learning. | A key definition of social media capabilities (in a case study) for micro-learning. | The application of micro-learning on social media requires learners to understand the interaction of social media and micro-learning and their potential. | <p>1. What are the advantages and disadvantages of Facebook as a social medium for micro learning.?</p> <p>2. What are the advantages and disadvantages of Twitter as a social medium for micro learning.?</p> <p>3. What are the advantages and disadvantages of WhatsApp as a social medium for micro learning.?</p> |

#### Attachment 2: Digital tools for the quiz

| Digital tool   | Short description   |
|--|---|
| <b>Edmodo</b><br><a href="https://www.edmodo.com">https://www.edmodo.com</a> | <p>For evaluation through Edmodo, teachers can prepare a classic test (quiz) and problem or project tasks. Each test created can be copied and used for multiple grades. When creating a test, you can determine the duration of the test, whether the learner will be presented with the results at the end,</p> |

|   |  |
|---|--|
|   | <p>the conclusion of the test after the expiration of time and the ability to ask questions to each learner in a different order. With each task it is possible to add an attachment (text, video clip, image, audio clip). The Edmodo test offers a choice of six types of questions: True/ False, multiple choice, short answers, gap filling, fill in the blanks and multiple answers. For each question, the teacher can enter the estimated number of points. For all types of tasks except short answers, the learner can get a result immediately after the test if the teacher so provided in the test settings. Only in the type of question "short answers" the learner receives feedback only after the teacher reviews and marks the accuracy of the answer and the learner is awarded the required number of points. In the tasks of filling in the blanks, it is necessary to give the learner exact instructions on what letters (upper / lower / first uppercase...) they should write because the wrong letter means the whole wrong answer.</p> <p>Edmodo allows you to track learner progress. The teacher sees each test that the learner has taken and the result of that test for the selected learner. If a particular test is selected, it can be reviewed how the learner solved each task. Edmodo also offers statistics for the entire class for each test.</p> |
| <p><b>Socrative</b><br/><a href="https://socrative.com">https://socrative.com</a></p> | <p>With a free user account, it is possible to start one public quiz room, which is limited to a maximum of 50 learners. Types of tasks are asking multiple questions, both True / False, which are automatically graded with feedback and open-ended questions that are answered by entering answers. You can download the report with the results to your computer, email or Google Drive. The report can be downloaded at the whole class level in Excel format document, for each learner in PDF format or report for each question in PDF format. Review of learner responses is possible in real time. When answering in real time, there are two possibilities:</p> <p>Open navigation - learners can answer questions in any order and change answers before teaching. The teacher monitors the progress on the live scoreboard.</p> <p>Teacher paced - the teacher manages the questions and monitors the answers as the learner gives them. He can skip a question or come back to a question again, if necessary.</p>   |

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| <b>Quizizz</b><br><a href="https://quizizz.com/">https://quizizz.com/</a>            | <p>Digital tool for creating quizzes in which single and multiple-choice questions can be asked, and it is possible to set a different solving time for each task. It is also possible to set a limited time until learners have to solve the quiz.</p> <p>Upon completion, the teacher has access to detailed statistics in Excel - by class, by learner and by question.</p> <p>It is possible to create your own quiz, share it with others or use someone else's or just take a few questions from another quiz. The insertion of images and mathematical symbols is allowed, and for more complex expressions it is recommended to use images of these expressions written in another program</p> |
| <b>Kahoot!</b><br><a href="https://kahoot.it">https://kahoot.it</a>                  | <p>Kahoot! is a free learner-response tool for administering quizzes, facilitating discussions, and collecting survey data. It is a game-based classroom response system played in real time. Questions are projected on a shared screen, while players answer the questions with their smartphone, tablet, or computer; creating a social, fun and game-like environment. Kahoot allows for the design of multiple-choice quizzes as well as polls and surveys that populate on-the-spot data; the quiz questions and polls stimulate quick instructional decisions as well as whole-class discussion.</p>  |
| <b>Hot Potatoes</b><br><a href="https://hotpot.uvic.ca/">https://hotpot.uvic.ca/</a> | <p>Hot Potatoes - JQuiz - Quiz program</p> <p>The program creates a quiz with questions of four types:</p> <ul style="list-style-type: none"> <li>- multiple choice answers where the learner must choose the correct one</li> <li>- multiple choice answers where the learner must select all correct (multi-select)</li> <li>- short-answer questions,</li> <li>- mixed questions (hybrid) - a combination of questions with short and one correct answer</li> </ul> <p>It is possible to ask for feedback for the learner</p>   |
| <b>Moodle</b><br><a href="https://moodle.org">https://moodle.org</a>                 | <p>Test is an activity of the Moodle system that allows the design of tests to test the knowledge of certain teaching content with different types of questions, and among them are:</p> <ul style="list-style-type: none"> <li>- multiple choice answers</li> <li>- true / false</li> <li>- matching answers</li> <li>- short answer</li> <li>- numerical question</li> </ul>   |

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|  | <ul style="list-style-type: none"> <li>- essay</li> <li>- a simple arithmetic question</li> <li>- select missing words</li> <li>- fill in the blanks</li> <li>- description.</li> </ul> <p>The test in the Moodle system can be used to test learners' knowledge and achievements, for short tests of knowledge related to teaching content covered in class, for practice and repetition after each unit or unit and immediately before the real test and self-assessment of learners.</p> <p>Pupils receive feedback, results and grades immediately after the answers have been submitted or after the test has been completed and closed, depending on the settings made by the teacher.</p> |
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### Tool C

#### ONLINE QUIZZES

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | <b>New Media Didactics: The use of social media, micro-learning</b>   |
| <b>Assessment type</b>  | <b>Formative assessment</b>   |
| <b>Assessment method/tool</b>   | <b>Online quizzes – True or False / Testmoz</b>   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>At the end of each workshop, learners solve online quizzes.<br/>           Example 1: Online quiz Multiple-Choice Questions<br/>           The goal is to get feedback on the progress of each individual learner and the level of quality of the workshop.</p> <p><b>Learning outcome that is covered by this method:</b></p> <ul style="list-style-type: none"> <li>▪ Design STEM micro-learning contents integrating them into social media platforms to improve the learning process</li> </ul> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. Design questions.</li> <li>2. Access the digital tool Testmoz: <a href="https://testmoz.com/">https://testmoz.com/</a></li> <li>3. By selecting the Make a Test field, teachers and users begin to build the Test.</li> <li>4. Enter and format questions.<br/>           The question is added by clicking on Add new question.<br/>           In the place marked with Type, it is necessary to select True or False, and the text of the question is formatted in the same way as the text Multiple Response. The same goes for assigning a point value. True or False is entered in the answer fields.</li> </ol> |

|                |   |
|----------------|---|
|                | <p>When formatting is complete, the question needs to be saved to format the next one, so Save and Add New Question is selected.</p> <p>5. Completion of test design</p> <p>After all the questions have been formatted and saved, on the next page it is possible to change the text of the questions and points and delete or add questions.</p> <p>When the test formatting is complete, then you need to select Update and update everything. After the update, the test needs to be put to Publish and then it is ready to be solved. Learners need to be provided with technical requirements and share the test URL and password with them.</p>  |
| <b>Remarks</b> | <p>The teacher can enter four types of questions in the quiz: True / False, multiple choice with one correct answer, multiple choice with multiple correct answers and filling in the blanks. It is possible to embed audio and video in the questions. In the free version the test can have up to 50 questions. It is possible to set an access password that learners must enter before joining the quiz, include a random sequence of questions and display the results, mark true and false answered questions and display the correct answer at the end of the quiz. The question can be marked as a non-scoring question, and it is also possible to define the number of points for each question. For answers, there is the possibility of random selection.</p> |

### C. LINKS/ATTACHMENTS

#### Attachment 1: True or False Questions Template / Question development matrix

| Question number | Learning outcomes to be assessed  | Key content area being directly assessed  | Is this topic appropriate for a question requiring understanding  | Question suggestions and ideas (can be informal at this stage, but should be specific)  |
|-----------------|---|---|---|---|
| Example         | Explain the didactic potential of social media (on a concrete example) as a good or bad environment for micro-learning. | A key definition of social media capabilities (in a case study) for micro-learning. | The application of micro-learning on social media requires learners to understand the interaction of social media and micro-learning and their potential. | 1. What are the advantages and disadvantages of Facebook as a social medium for micro learning.?<br><br>2. What are the advantages and disadvantages of Twitter as a social medium for micro learning.?<br><br>3. What are the advantages and |



|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  |  | disadvantages of WhatsApp as a social medium for micro learning.? |
|--|--|--|--|---|

**Attachment 2: Digital tools for the quiz**

| Digital tool  | Short description  |
|---|--|
| <b>Edmodo</b><br><a href="https://www.edmodo.com">https://www.edmodo.com</a>  | <p>For evaluation through Edmodo, teachers can prepare a classic test (quiz) and problem or project tasks. Each test created can be copied and used for multiple grades. When creating a test, you can determine the duration of the test, whether the learner will be presented with the results at the end, the conclusion of the test after the expiration of time and the ability to ask questions to each learner in a different order. With each task it is possible to add an attachment (text, video clip, image, audio clip). The Edmodo test offers a choice of six types of questions: True/ False, multiple choice, short answers, gap filling, fill in the blanks and multiple answers. For each question, the teacher can enter the estimated number of points. For all types of tasks except short answers, the learner can get a result immediately after the test if the teacher so provided in the test settings. Only in the type of question "short answers" the learner receives feedback only after the teacher reviews and marks the accuracy of the answer and the learner is awarded the required number of points. In the tasks of filling in the blanks, it is necessary to give the learner exact instructions on what letters (upper / lower / first uppercase...) they should write because the wrong letter means the whole wrong answer. Edmodo allows you to track learner progress. The teacher sees each test that the learner has taken and the result of that test for the selected learner. If a particular test is selected, it can be reviewed how the learner solved each task. Edmodo also offers statistics for the entire class for each test.</p> |
| <b>Socrative</b><br><a href="https://socrative.com">https://socrative.com</a> | <p>With a free user account, it is possible to start one public quiz room, which is limited to a maximum of 50 learners. Types of tasks are asking multiple questions, both True / False, which are automatically graded with feedback and open-ended questions that are answered by entering answers. You can download the report with the results to your computer, email or</p>   |

|  |  |
|--|--|
|  | <p>Google Drive. The report can be downloaded at the whole class level in Excel format document, for each learner in PDF format or report for each question in PDF format. Review of learner responses is possible in real time. When answering in real time, there are two possibilities:</p> <p>Open navigation - learners can answer questions in any order and change answers before teaching. The teacher monitors the progress on the live scoreboard.</p> <p>Teacher paced - the teacher manages the questions and monitors the answers as the learner gives them. He can skip a question or come back to a question again, if necessary.</p>   |
| <b>Moodle</b><br><a href="https://moodle.org">https://moodle.org</a> | <p>Test is an activity of the Moodle system that allows the design of tests to test the knowledge of certain teaching content with different types of questions, and among them are:</p> <ul style="list-style-type: none"> <li>- multiple choice answers</li> <li>- true / false</li> <li>- matching answers</li> <li>- short answer</li> <li>- numerical question</li> <li>- essay</li> <li>- a simple arithmetic question</li> <li>- select missing words</li> <li>- fill in the blanks</li> <li>- description.</li> </ul> <p>The test in the Moodle system can be used to test learners' knowledge and achievements, for short tests of knowledge related to teaching content covered in class, for practice and repetition after each unit or unit and immediately before the real test and self-assessment of learners.</p> <p>Pupils receive feedback, results and grades immediately after the answers have been submitted or after the test has been completed and closed, depending on the settings made by the teacher.</p> |

#### Tool D

### POWERPOINT PRESENTATION

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|                        |  |
|------------------------|--|
| Competence Unit (CU)   | New Media Didactics: The use of social media, micro-learning |
| Assessment type        | Summative assessment   |
| Assessment method/tool | Alternate method / PowerPoint                                |

|   |  |
|---|--|
| <p><b>Operationalisation</b><br/><b>(what is being assessed and why, how to conduct it)</b></p> | <p>The topic that will be covered for the final assessment is the Preparation of teaching hour (workshops) using the WELDONE methodology applied in the exercises for the CU course.</p> <p><b>Learning outcomes that are covered by this method:</b></p> <ul style="list-style-type: none"> <li>▪ Apply integrated interactive systems based on combination of social media and micro learning for modernisation of the teaching process</li> <li>▪ Ensure a high level of communication and cooperation on social media for good interaction during the teaching process</li> <li>▪ Select data, information and content on social media to integrate them in training activities as part of learners' routines</li> <li>▪ Design STEM micro-learning contents integrating them into social media platforms to improve the learning process</li> <li>▪ Use micro-learning content and assignments on social media to assess learning</li> <li>▪ Exchange knowledge and experience on subject area and teaching practice in virtual environment for personal development and growth</li> </ul> <p>The steps are as follows:</p> <p>First step:<br/>Design a lesson according to the model of the workshop variant with a micro lesson.</p> <p>Second step:<br/>Design a micro lesson</p> <p>Third step:<br/>Post a micro lesson on the selected social network, explain the selection, the installation process and how the communication process takes place in all forms before teaching hour (workshops)</p> <p>Fourth step:<br/>Present the procedure for opening a teaching hour (workshop)</p> <p>Step 5:<br/>Conceptualize Work time.</p> <p>Step 6:<br/>Create Debriefing: Learner self-assessment during debriefing - the art of plus-delta</p> <p>Step 7:</p> |
|---|--|

|                |   |
|----------------|---|
|                | Using the PowerPoint tool, create a video with comments on all the previous points.   |
| <b>Remarks</b> | <p>The summative assessment will verify:</p> <ul style="list-style-type: none"> <li>- Ability for safe and critical use of information and communication technology for work on social media, in personal and social life and in communication.</li> <li>- Ability to analyse needs and goals, create curricula, develop resources and micro-teaching activities, implementation through learning on social media (self-learning, collaborative learning, support and management), for formative and summative evaluation of the micro-learning process.</li> <li>- The level of all eight key competencies (according to the EQF) of teachers will be assessed.</li> </ul> |

### C. LINKS/ATTACHMENTS

You can see the creation of the PowerPoint presentation video on YouTube, and one of the links is:

<https://www.youtube.com/watch?v=D8JV3w4TOVw>

### Tool E

#### Paper: Short Answer Type Test

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | <b>New Media Didactics: The use of social media, micro-learning</b>   |
| <b>Assessment type</b>  | <b>Formative assessment</b>   |
| <b>Assessment method/tool</b>   | <b>Paper: Short Answer Type Test</b>  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p><b>Learning outcome that is covered by this method:</b></p> <ul style="list-style-type: none"> <li>▪ Exchange knowledge and experience on subject area and teaching practice in virtual environment for personal development and growth</li> </ul> <p>How to design a good Short Answer Question?</p> <ul style="list-style-type: none"> <li>- Design short answer items which are appropriate assessment of the learning objective</li> <li>- Make sure the content of the short answer question measures knowledge appropriate to the desired learning goal</li> <li>- Express the questions with clear wordings and language which are appropriate to the learner population</li> <li>- Ensure there is only one clearly correct answer in each question</li> <li>- Ensure that the item clearly specifies how the question should be answered (e.g., Learner should answer it briefly and concisely using a single word or short phrase? Is the question given a specific number of blanks for learners to answer?)</li> </ul> |

|         |  |
|---------|--|
|         | <ul style="list-style-type: none"> <li>- Consider whether the positioning of the item blank promote efficient scoring</li> <li>- Write the instructions clearly so as to specify the desired knowledge and specificity of response</li> <li>- Set the questions explicitly and precisely.</li> <li>- Direct questions are better than those which require completing the sentences.</li> <li>- For numerical answers, let the learners know if they will receive marks for showing partial work (process based) or only the results (product based), also indicated the importance of the units.</li> <li>- Let the learners know what your marking style is like, is bullet point format acceptable, or does it have to be an essay format?</li> <li>- Prepare a structured marking sheet; allocate marks or part-marks for acceptable answer(s).</li> <li>- Be prepared to accept other equally acceptable answers, some of which you may not have predicted.</li> </ul> |
| Remarks |  |

## CU6

### Tool A

#### ART BASED ASSESSMENT

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |  |
|---|--|
| Competence Unit (CU)  | Personal, social and learning to learn competence  |
| Assessment type   | Summative  |
| Assessment method/tool  | Art based assessment: My lyrics  |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | <p>The aim of this assessment tool is to help learners to reflect on their learning and their feelings about the learning through a more entertaining, funny and creative way.</p> <p>Through the specific tool the following learning outcomes will be assessed:</p> <ul style="list-style-type: none"> <li>• Self – awareness</li> <li>• Effective Communication</li> <li>• Constructive Team working</li> </ul> <p>Why to use it? Benefits for participants and trainers:</p> <ul style="list-style-type: none"> <li>• Encourage multiple ways of expression.</li> <li>• Encourage participants to share their feelings.</li> <li>• Express complex ideas.</li> </ul> |

|                |  |
|----------------|--|
|                | <ul style="list-style-type: none"> <li>• Self-assessment through creative ways.</li> <li>• Lay the ground for more in-depth discussion.</li> </ul> <p><u>STEP 1</u></p> <p>In pairs, the learners discuss with each other about how they feel about the course and reflect on what they think they have accomplished. Do they think they have gained self-awareness? Do they feel that they are now more able to work in teams and efficiently communicate with each other? Is it something that they would like to change or something that they feel it should have been done in a different way? They exchange points of views and they talk about pros and cons and how they feel about themselves after the course.</p> <p><u>STEP 2</u></p> <p>After the discussion, they remain in pairs but this time they are asked individually to write down lyrics from a song that represents their thoughts and feelings about the course. They can use their phones to search for songs and lyrics.</p> <p><u>STEP 3</u></p> <p>After everyone has finished, they show their pair the lyrics and they try to mix together and incorporate their lyrics in order to create a new song.</p> |
| <b>Remarks</b> | <p>This assessment tool can offer diverse information for the learner that can be gained by a high degree of interaction and provides the teacher/trainer with a well-rounded picture of the impact of the course for participants. Specifically, the teacher/trainer can assess:</p> <ul style="list-style-type: none"> <li>• how the learning procedure is going</li> <li>• how participants are feeling</li> <li>• what might need to change</li> </ul> <p>The learners should be free to search and pick whatever lyrics they want to and they can create combinations. Nevertheless, it is important that they should focus on the assessment of the learning process and knowledge and skills acquired.</p>  |

## Tool B

### ART BASED ASSESSMENT

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |  |
|---|--|
| <b>Competence Unit (CU)</b>   | Personal, social and learning to learn competence  |
| <b>Assessment type</b>  | Formative  |
| <b>Assessment method/tool</b>   | Art based assessment: Assessment collage   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This tool aims at helping participants to reflect on what they have accomplished in a more creative way. It can offer diverse information for the learner that can be gained by a high degree of interaction and provides the teacher/trainer with a well-rounded picture of the impact of the course for participants. As a way of exploring concepts and ideas, it can also be a good alternative to be used for learners with a higher degree of special needs who cannot be tested by traditional test methods.</p> <p>By this tool the following will be assessed:</p> <ul style="list-style-type: none"> <li>• Knowledge gained regarding The three dimensions of Personal, Social and Learning Competence, as well as the main elements that included in this specific concept</li> <li>• Reflect and use diverse ways and methods to increase self-awareness and manage self-limiting beliefs</li> <li>• Listen actively to gain an insight into one's needs and strengths</li> </ul> <p><b>objectives</b></p> <ul style="list-style-type: none"> <li>• Encourage multiple ways of expression.</li> <li>• Encourage participants to share their feelings.</li> <li>• Express complex ideas.</li> <li>• Self-assessment through creative ways.</li> <li>• Lay the ground for more in-depth discussion.</li> </ul> <p><u>1<sup>st</sup> step:</u><br/>The group is divided into pairs and each pair is given pages of magazines or newspapers (or both).</p> <p><u>2<sup>nd</sup> step:</u><br/>The participants are asked to reflect for 10 minutes on the knowledge and skills they have gained during the training as well as what they would like to develop more. They discuss it with their partners.</p> <p><u>3<sup>rd</sup> step:</u><br/>Each pair cuts images/words/sentences from the</p> |

|                |   |
|----------------|---|
|                | <p>magazines/newspapers that demonstrate the knowledge and skills they have gained during the training regarding the Personal, Social and Learning to learn competence and creates a collage. They can also draw or write on it.</p> <p><u>4<sup>th</sup> step:</u><br/>Each pair presents its collage to the whole group. They explain what they have created and what their thoughts and feelings are and they try to connect each result to the three dimensions of the personal, social and learning to learn. For example, do they feel they have gained team working skills? They connect it to the social dimension.</p> <p><u>5<sup>th</sup> step:</u><br/>After everyone has presented, all the collages are put together and a larger one is created, composed by the individual collages, that represents the whole group.</p> |
| <b>Remarks</b> | The learners should be free to express themselves in any way they want to, but it is important that they should focus on the assessment of the learning process and knowledge and skills acquired. The teacher/trainer can be provided with a well-rounded picture of the impact of the course for participants.  |

### Tool C

#### INTERVIEW

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |  |
|---|--|
| <b>Competence Unit (CU)</b>   | Personal, social and learning to learn competence  |
| <b>Assessment type</b>  | Formative  |
| <b>Assessment method/tool</b>   | Interview: Group Interview   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>The interview could be defined as a brief structured discussion between the learner and the teacher or a group of learners and a teacher (Clark &amp; Moss, 2010). Today, it is considered one of the most important methods widely used in various scientific fields to explore learner's thinking and assess learning (Dunphy, 2010).</p> <p>The interview process as opposed to the open discussion requires organization, planning and specific purpose. Based on this, the teacher/trainer should design the questions, the order in which they will be presented to the group, the management of possible reactions of the individuals and the environment in which the</p> |



|                |  |
|----------------|--|
|                | <p>interview will take place (Clark &amp; Moss, 2010). Closed ended questions activate the memory more than the thinking and judgment of the learner and they are capable of only one correct answer. Instead, open-ended questions are open to many kinds of answers.</p> <p>In any case, the trainer/teacher should be flexible and it is important that the interview takes place in a calm environment, in a friendly atmosphere that inspires confidence, security and willingness to speak.</p> <p>The interview as an assessment tool can be used individually or with small groups. It is important that it takes place in a calm environment, in a friendly atmosphere that inspires confidence, security and willingness to speak. Open ended questions will preferably be used so that the learners can answer based on their complete knowledge, feeling, and understanding.</p> <p><b>objectives</b></p> <ul style="list-style-type: none"> <li>• Reflection on the learners' feelings about the learning process</li> <li>• Assessment of the acquired theoretical and factual knowledge</li> <li>• Realisation of the skills enhanced</li> <li>• Expression of doubts and need for more information</li> </ul> <p>The teacher/trainer gives the learners the questions that are listed below. Everyone needs to think and shortly write anonymously the answers in different post-it. After everyone has finished, the facilitator asks them to put the post-it on a board or a wall. The teacher/trainer reads aloud all the answers or some of them. A conversation follows.</p> <p><b>Open ended questions for reflection:</b></p> <ul style="list-style-type: none"> <li>• What skills/knowledge did you gain during the session(s)?</li> <li>• Are there new skills you can learn?</li> <li>• If you could go back in time, what would you do differently during the sessions?</li> <li>• On a scale from 1 to 10, where do you think you are standing right now regarding the skills and knowledge you were expected to gain in this unit?</li> </ul> |
| <b>Remarks</b> | <p>This procedure can also be done individually with the learners, one by one, but it will be more time consuming and the dynamics of the team will not be easily seen.</p>  |

## Tool D

### QUIZ

#### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | Personal, social and learning to learn competence   |
| <b>Assessment type</b>  | Summative   |
| <b>Assessment method/tool</b>   | Quiz: Matching quiz   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>Tests and quizzes are often a preferred method for a teacher/trainer because of the fact that they are fast, easy, efficient, and can cover a lot of content (Suskie, 2009). It can be an extremely powerful method, easily to be used in a variety of situations aiming to provide opportunities for reflection, assessment and feedback about the knowledge gained.</p> <p>The knowledge of the three dimensions of Personal, Social and Learning Competence, as well as the main elements that included in this specific concept will be assessed with this tool.</p> <p><b>objectives</b></p> <ul style="list-style-type: none"> <li>• Assess learners' knowledge of the subject</li> <li>• Evaluate learning progress and outcomes</li> <li>• Evaluate the quality of work done</li> <li>• Improve Knowledge Retention</li> </ul> <p>This quiz should be done individually. Each learner is given two lists including words and they should match the words of the one list with the appropriate words of the other list. One word can be matched with more than one words of the other list.</p> <p>The teacher/learner can assess the knowledge gained by the learners.</p> <p>A list of key words is provided, along with a list of other words. The learner should "match" the words that correspond to each other.</p> |
| <b>Remarks</b>  | This can also be used as a self-assessment tool   |

#### C. LINKS/ATTACHMENTS

|               |                   |
|---------------|-------------------|
| Personal area | Digital           |
| Social area   | Self-regulation   |
| Learning area | Problem solving   |
|               | flexibility       |
|               | empathy           |
|               | Critical thinking |
|               | communication     |
|               | Entrepreneurship  |
|               | Resilience        |
|               | Managing learning |

### Tool E

## WRITING/ESSAY

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | Personal, social and learning to learn competence   |
| <b>Assessment type</b>  | Summative   |
| <b>Assessment method/tool</b>   | Writing an essay  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>An essay assessment is an assessment method that allows the learner to prepare and write down in his/her own words an extended text regarding a theme following a question presented. This method can reveal much information about the learners' progress and the learning process as it requires them to apply what they have learned in the context of the learning unit and so the teacher/trainer can see what has worked properly during the training and what needs to be changed.</p> <p>It is important that the question(s) given to the learner is clear, specific and connected to a specific objective or a learning outcome. Learners will be able to express freely their feelings and opinions about a specific issue and negotiate.</p> <p><b>objectives</b></p> <ul style="list-style-type: none"> <li>Assess learners' knowledge of the three dimensions' competence - Personal, Social and Learning Competence- and its importance as far as lifelong learning is considered.</li> <li>Evaluate the learners' ability to come up with new ideas</li> <li>Work more on learners' critical thinking</li> <li>Evaluate the quality of work done</li> </ul> <p>This method is to be used individually. Learners are provided with the topic of the essay written in a simple and clear language. The</p> |

|         |   |
|---------|---|
|         | <p>structure of the essay should be framed in a way that the learner will be guided about what he/she should include</p> <p><u>Introduction</u><br/>The learners introduce the topic, briefly summarize the points they will make in the paragraphs that follow and state their thesis.</p> <p><u>Body paragraphs (two to three)</u><br/>The learners support their thesis statement with facts and arguments.</p> <p><u>Conclusion</u><br/>The learners summarize the points they made and bring their argument to its logical conclusion.</p> <p>The learners should individually write a sort text (approx. 400-600 words) about the following topic:</p> <p>“Nowadays, key competences have gained an increasingly attendance. Why is personal, social and learning to learn competence considered to be important for lifelong learning?”</p> <p>After everyone has finished, whoever wants to can read aloud their essay.</p> |
| Remarks |   |

## CU7

### Tool A

## B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| Competence Unit (CU)  | CU7 - Entrepreneurship  |
| Assessment type   | Summative   |
| Assessment method/tool  | Art   |
| Operationalisation<br>(what is being assessed and why, how to conduct it) | Can the students demonstrate the learned concepts beautifully? Provocatively? Creatively? In a funny or silly way? Can they force a conversation about their learning just by creating something? Role play or drama can recreate real life situations with DOs and DON'Ts in a situation that either the trainer or the trainees choose to simulate. |

|                | <p>Ask students to show/prove they achieved one of the skills in list A through one of the art options in list B:</p> <p>List A – Skills pertaining to this CU and extracted from its competence matrix:</p> <ul style="list-style-type: none"><li>• Design pedagogical improvement strategies aligned with the WELDONE way for teaching STEM topics based on a clear understanding of its strengths/advantages and weaknesses/disadvantages, to improve learning results</li><li>• Discuss the need for investing time in embedding entrepreneurship key competence development in the subjects, inspiring relevant stakeholders, to get the support needed to implement the WELDONE way</li><li>• Weigh the risks and benefits of embedding entrepreneurship key competence development strategies in training, reflecting on failures (own and other people’s) and identifying their causes</li><li>• Define priorities in uncertain circumstances, with partial or ambiguous information deciding when it is not worth continuing with an idea</li><li>• Develop a vision and a strategy to embed entrepreneurship key competence development in teaching practices</li></ul> <p>List B – Art forms through which students can demonstrate their understanding and domain of at least one of the learning outcomes in list A:</p> <ul style="list-style-type: none"><li>• Collage</li><li>• Roleplay</li><li>• Short film</li><li>• Living sculpture</li><li>• Comics</li></ul> <p>... the sky is the limit!</p> <p>Rules:</p> <ol style="list-style-type: none"><li>1. The participation of all group elements must be clear</li><li>2. Agree on a time limit for the demonstrations – it will depend on the size of the group of students, on the art form chosen and on the time available</li><li>3. Students should work on their presentation outside the classroom time</li><li>4. A short explanation for the choices made by students during the development of their works should be provided in the end</li></ol> <table><tr><th colspan="4">ART EVALUATION</th></tr><tr><td></td><td>Criteria for the assessment of the presentations</td><td>Yes</td><td>No</td></tr></table> | ART EVALUATION |    |  |  |  | Criteria for the assessment of the presentations | Yes | No |
|----------------|--|----------------|----|--|--|--|--|-----|----|
| ART EVALUATION |  |                |    |  |  |  |  |     |    |
|                | Criteria for the assessment of the presentations   | Yes            | No |  |  |  |  |     |    |

|                |  |  |  |  |
|----------------|--|--|--|--|
|                | A  | Is there a clear entrepreneurship concept behind the presentation? |  |  |
|                | B  | Did all students in the group participate?                         |  |  |
|                | C  | Was the reasoning behind each component/element choice explained?  |  |  |
|                | D  | Did it provoke discussion among the wider group?                   |  |  |
|                | E  | Does it demonstrate at least one learning outcome from list A?     |  |  |
|                | F  | Did people have fun?   |  |  |
| <b>Remarks</b> | <p>Students need to comply with all the above criteria to PASS this evaluation.</p> <p>This evaluation tool will count for 25% of the final grade.</p> <p>For students to perform, they need to get a grasp of the concepts, ideas and abilities entailed in the CU. The discussions raised during the work development will also promote the confrontation and consolidation of learnings done in the CU. Their ability to then transform their understanding into an art form and communicate it to an audience will activate their cognitive skills, as well.</p> |  |  |  |

### Tool B

#### B. ASSESSMENT TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | CU7 - Entrepreneurship  |
| <b>Assessment type</b>  | Formative and summative   |
| <b>Assessment method/tool</b>   | Ditch the numbers   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>We will use a closed <b>Facebook group</b> to keep this online learning journal. If you already have one, use it.</p> <p>As it is important to include everyone, make sure every student is able to post – do they have a Facebook account? If not, do they have the possibility to use another account to participate in this journal? Do they have a computer? Do they have internet? Does the education institution provide this? These conditions seem to be quite basic, but reality shows that sometimes these are conditions that are not met yet for everyone.</p> <p>It is also required to obtain a written permission from the students to use their photos.</p> <p>The <b>goal</b> of this online “journal” is to create an online debate forum linked with the course and follow the issues and discussions</p> |

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|  | <p>raised, allowing the sharing of perspectives, questions, resources, doubts, ideas, feelings about a topic, obstacles, learning experiences, etc.</p> <p>In this way, the teacher/trainer can use it to check what are the topics that need reinforcement, what misconceptions there might be, what is the level of understanding of students on a specific topic, who is in need of support, and also to provide that support, resources, guidance and even answers.</p> <p>In this case, the journal will also be used as an additional element to evaluate a student, based on the understanding and interest expressed both in the posts and comments this student publishes. In this sense, the list of <b>rules</b> starts here:</p> <ol style="list-style-type: none"> <li>1. Each student has to publish at least twice during the Entrepreneurship course and has to comment the posts with their own opinion for at least five other colleagues'/trainer's posts.</li> <li>2. RESPECT is golden.</li> <li>3. Appropriate language is a must, and no abuse will be tolerated.</li> <li>4. Plagiarism is not acceptable.</li> <li>5. No politic, religious or sexual content posts will be accepted.</li> <li>6. Constructive feedback is encouraged – even when one has a different view.</li> <li>7. Don't post copyrighted images – unsplash.com is a good source for free images, for instance.</li> </ol> <p>The teacher/trainer will have to monitor posts and comments and provide feedback.</p> <p><b>Start</b> by creating the blog/Facebook group or other online supported journal and invite all students to join. This should be done as soon as possible once you have the workshop participants confirmed. This should be a requirement for participants to do the course.</p> <p><b>Initiate the journal</b> by posting about the learning outcomes set for the course/class. You can also create a survey where each of the learning outcomes is presented and students have to rate them according to what they feel they already know or are able to do. In this way, you will be able to discover the characteristics of the trainees you will have in the class and this will give you an indication on what to focus, or on which resources to choose from the set of resources available, and also what are the learning</p> |
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|                | <p>outcomes that perhaps don't require such a big effort because students say they are already familiar/proficient.<br/>         Of course, for the teacher to use this diagnosis tool, the sooner this is done after the registration of students, the better!</p> <p>The day before the course starts, publish this question: "Do you think you are an entrepreneurial teacher/trainer? Why?"<br/>         After you have worked the topic of what an entrepreneurial teacher/trainer is, go back to this post and its comments and discuss it.</p> <p>Other posts can be about what was the students' approach to the exercises presented in the workshop or what they liked or disliked, what went well and what could be improved.</p> |
| <b>Remarks</b> | <p>If we want to use this tool to evaluate the students, this assessment method can count for 10% of the final grade. We can use the following criteria:</p> <ol style="list-style-type: none"> <li>1. The student complies with the minimum number of posts and comments (4%)</li> <li>2. The relevance of the student's posts and comments (4%)</li> <li>3. The student complies with the rules (2%)</li> </ol>   |

### Tool C

## B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |  |
|---|--|
| <b>Competence Unit (CU)</b>   | CU7 - Entrepreneurship   |
| <b>Assessment type</b>  | Summative  |
| <b>Assessment method/tool</b>   | Process-Oriented Projects  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>➤ This assessment tool is to be applied when using the exercise "The 6 guiding principles for teachers"</p> <p>This assessment method will be used to assess the following learning outcomes:</p> <ul style="list-style-type: none"> <li>- Define what makes a teacher an entrepreneurial one, recalling practical entrepreneurial teaching experiences to prove the efficacy of renewed practices</li> <li>- Design pedagogical improvement strategies aligned with the WELDONE way for teaching STEM topics based on a clear understanding of its strengths/advantages and weaknesses/disadvantages, to improve learning results</li> <li>- Weigh the risks and benefits of embedding entrepreneurship key competence development strategies in training, reflecting on failures (own and other people's) and identifying their causes</li> </ul> |



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|  | <ul style="list-style-type: none"> <li>- Define priorities in uncertain circumstances, with partial or ambiguous information deciding when it is not worth continuing with an idea</li> <li>- Set long, medium and short-term goals to embed entrepreneurship key competence development in own training/teaching activity</li> </ul> <p>It is important to assess trainees' learning not for their outputs or products but for the processes which the trainees underwent in order to arrive at these products or outputs.</p> <p>Role of the teacher/trainer:</p> <ol style="list-style-type: none"> <li>1. Observe carefully each student performance in the process.<br/>Tip: please notice that you only have 1h30 to do so</li> <li>2. encourage trainees to mobilise and critically assess their prior knowledge, both on content and process. By asking the question: "Which of the six guiding principles do you already include in your teaching?", the teacher stimulates trainees to ask themselves questions about how they implement entrepreneurship education in their classrooms, to pronounce ideas, discover assumptions, the theory delivered in the mini lesson.<br/>Tip: the trainer will evaluate criteria A and B of the table below</li> <li>3. ask participants to reflect on their teaching practices and on new ways to tackle all the guiding principles and the goals to get there.<br/>Tip: the trainer will use criteria C, D, E, F, K, L, M, O, P of the table below to evaluate</li> <li>4. lead them to set long, medium and short-term goals to embed entrepreneurship key competence development in own training/teaching activity.<br/>Tip: the trainer will evaluate criteria C, D, G, K, L, M, O, P of the table below</li> <li>5. lead them to discuss about the risks and benefits of embedding entrepreneurship key competence development strategies in training<br/>Tip: the trainer will evaluate criteria C, D, G, J, L, M, O, P of the table below</li> <li>6. Assess the presentations<br/>Tip: the trainer will evaluate criteria H, I, L, N of the table below</li> </ol> |
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|                          | <p>7. facilitate the discussion after the presentations.<br/>Tip: the trainer will evaluate criteria C, D, H, I, L of the table below</p> <p>The process-oriented teaching includes skills for social learning, like being able and willing to observe and learn from other people's actions, to ask others for advice and information, to understand (information from) other people's point of view, to relate one's own position to that of others, and to work productively together.</p> <p>Use the grid below for the process evaluation.</p>   |  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
|--------------------------|---|--|-----|-----------------------------|--|--|--------------------------|--|---|-----|----|---|---|---|--|--|---|---|---|--|--|---|---|----------------------------|--|--|---|---|-------------------------------|--|--|---|---|---|--|--|---|---|--|--|--|---|---|--|--|--|---|---|---|--|--|---|---|--|--|--|---|---|--|--|--|
| Remarks                  | <p>You can use the following criteria to assess the trainees during the development of the activity or adapt them to the learning outcomes you want your learners to obtain with the activity.</p> <table><tr><th></th><th></th><th colspan="3">PROCESS-ORIENTED EVALUATION</th></tr><tr><th>Score<br/>(total<br/>=100)</th><th></th><th>Criteria for assessment during the<br/>development of the activity</th><th>Yes</th><th>No</th></tr><tr><td>8</td><td>A</td><td>Mobilisation and evaluation of their<br/>prior knowledge</td><td></td><td></td></tr><tr><td>8</td><td>B</td><td>Contribution with at least one<br/>example of a guiding principle<br/>included in their teaching practice</td><td></td><td></td></tr><tr><td>5</td><td>C</td><td>Engagement in the activity</td><td></td><td></td></tr><tr><td>6</td><td>D</td><td>Openness to colleagues' ideas</td><td></td><td></td></tr><tr><td>5</td><td>E</td><td>Consult the theoretical information of<br/>the mini lesson</td><td></td><td></td></tr><tr><td>8</td><td>F</td><td>Contribution with one idea or strategy<br/>to tackle with at least one of the 6<br/>guiding principles</td><td></td><td></td></tr><tr><td>8</td><td>G</td><td>Contribution to the set of goals to<br/>embed entrepreneurship key<br/>competence development in own<br/>training/teaching activity</td><td></td><td></td></tr><tr><td>5</td><td>H</td><td>Clear explanation of all the<br/>contributions given</td><td></td><td></td></tr><tr><td>6</td><td>I</td><td>Application of entrepreneurship<br/>concepts in a proper manner</td><td></td><td></td></tr><tr><td>8</td><td>J</td><td>Weigh the risks and benefits of<br/>embedding entrepreneurship key<br/>competence development strategies<br/>in training, reflecting on failures (own</td><td></td><td></td></tr></table> |  |     | PROCESS-ORIENTED EVALUATION |  |  | Score<br>(total<br>=100) |  | Criteria for assessment during the<br>development of the activity | Yes | No | 8 | A | Mobilisation and evaluation of their<br>prior knowledge |  |  | 8 | B | Contribution with at least one<br>example of a guiding principle<br>included in their teaching practice |  |  | 5 | C | Engagement in the activity |  |  | 6 | D | Openness to colleagues' ideas |  |  | 5 | E | Consult the theoretical information of<br>the mini lesson |  |  | 8 | F | Contribution with one idea or strategy<br>to tackle with at least one of the 6<br>guiding principles |  |  | 8 | G | Contribution to the set of goals to<br>embed entrepreneurship key<br>competence development in own<br>training/teaching activity |  |  | 5 | H | Clear explanation of all the<br>contributions given |  |  | 6 | I | Application of entrepreneurship<br>concepts in a proper manner |  |  | 8 | J | Weigh the risks and benefits of<br>embedding entrepreneurship key<br>competence development strategies<br>in training, reflecting on failures (own |  |  |
|                          |   | PROCESS-ORIENTED EVALUATION  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| Score<br>(total<br>=100) |   | Criteria for assessment during the<br>development of the activity  | Yes | No                          |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 8                        | A   | Mobilisation and evaluation of their<br>prior knowledge  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 8                        | B   | Contribution with at least one<br>example of a guiding principle<br>included in their teaching practice  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 5                        | C   | Engagement in the activity   |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 6                        | D   | Openness to colleagues' ideas  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 5                        | E   | Consult the theoretical information of<br>the mini lesson  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 8                        | F   | Contribution with one idea or strategy<br>to tackle with at least one of the 6<br>guiding principles   |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 8                        | G   | Contribution to the set of goals to<br>embed entrepreneurship key<br>competence development in own<br>training/teaching activity                   |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 5                        | H   | Clear explanation of all the<br>contributions given  |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 6                        | I   | Application of entrepreneurship<br>concepts in a proper manner   |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |
| 8                        | J   | Weigh the risks and benefits of<br>embedding entrepreneurship key<br>competence development strategies<br>in training, reflecting on failures (own |     |                             |  |  |                          |  |   |     |    |   |   |   |  |  |   |   |   |  |  |   |   |                            |  |  |   |   |                               |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |   |   |   |  |  |   |   |  |  |  |   |   |  |  |  |

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|   |   | and other people's) and identifying their causes  |  |  |
| 8   | K | Define priorities in uncertain circumstances, with partial or ambiguous information deciding when it is not worth continuing with an idea |  |  |
| 5   | L | Creativity in the process development   |  |  |
| 5   | M | Ability to make decision  |  |  |
| 5   | N | Ability to "sell" their idea  |  |  |
| 5   | O | Teamwork ability  |  |  |
| 5   | P | Search for information or ask feedback to colleagues or trainer   |  |  |
| <p>If we want to use this tool to evaluate the students, this assessment method can count for 20% of the final grade. We can use the following criteria:</p> <ol style="list-style-type: none"> <li>1. <b>Mandatory</b> - The student complies with the all the criteria in red boxes</li> <li>2. Minimum score = 75</li> </ol> |   |   |  |  |

### C. LINKS/ATTACHMENTS

Towards process-oriented teaching for self-directed lifelong learning: a multidimensional perspective:

[https://sisu.ut.ee/sites/default/files/opikasitus/files/bolhuis\\_2003\\_towards\\_processoriented\\_teaching\\_for\\_selfdirected\\_lifelong\\_learning\\_0.pdf](https://sisu.ut.ee/sites/default/files/opikasitus/files/bolhuis_2003_towards_processoriented_teaching_for_selfdirected_lifelong_learning_0.pdf)

### Tool D

### B. ASSESSMENT METHODS/TOOLS IN THE WORKSHOP MODEL

|   |   |
|---|---|
| <b>Competence Unit (CU)</b>   | CU7 - Entrepreneurship  |
| <b>Assessment type</b>  | Summative   |
| <b>Assessment method/tool</b>   | Product Oriented Project  |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <ul style="list-style-type: none"> <li>➤ This assessment tool is to be applied when using the exercise "Planning an EntreComp Vision Implementation" to evaluate the Plan developed by trainees</li> <li>➤ It encompasses a grid with the criteria to evaluate the plan. It will count for 20% of the final grade of the Competence Unit.</li> <li>➤ Only the final product, the Action Plan to embed Entrepreneurship key competence in trainers' organisation/practice, will be evaluated.</li> </ul> <p>This assessment tool will be used to evaluate the following learning outcomes:</p> |

|         | <ul style="list-style-type: none"><li>- Define what makes a teacher an entrepreneurial one, recalling practical entrepreneurial teaching experiences to prove the efficacy of renewed practices</li><li>- Develop a vision and a strategy to embed entrepreneurship key competence development in teaching practices</li><li>- Prepare an action plan to get the resources needed to turn ideas into action, selecting the material, non-material and digital resources needed</li></ul>   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|---------|--|-----|-----------------------------|--|--|--|-----|----|---|-----------------------------|--|--|---|---|--|--|---|---|--|--|---|---|--|--|---|--------------------------------|--|--|---|-------------------------------------|--|--|---|--|--|--|---|---|--|--|---|---|--|--|---|--|--|--|---|--|--|--|---|--|--|--|
| Remarks | <p>In the end of the activity, you will evaluate the learners according to the information presented in the final product, supported by the following table:</p> <table><tr><th></th><th colspan="2">PRODUCT-ORIENTED EVALUATION</th></tr><tr><th></th><th>Criteria for assessment during the development of the activity</th><th>YES</th><th>NO</th></tr><tr><td>B</td><td>Is the vision well defined?</td><td></td><td></td></tr><tr><td>C</td><td>Have the process objectives been defined?</td><td></td><td></td></tr><tr><td>D</td><td>Have the behavioural objectives been defined?</td><td></td><td></td></tr><tr><td>E</td><td>Have the community-level outcome objectives been defined?</td><td></td><td></td></tr><tr><td>F</td><td>Are the objectives measurable?</td><td></td><td></td></tr><tr><td>G</td><td>Have concrete actions been defined?</td><td></td><td></td></tr><tr><td>H</td><td>In the detailed action steps, is it clear how these steps will be taken?</td><td></td><td></td></tr><tr><td>I</td><td>In the detailed action steps, is it clear when these steps will be taken?</td><td></td><td></td></tr><tr><td>J</td><td>Is the timeline clearly defined (when, how long)?</td><td></td><td></td></tr><tr><td>K</td><td>Have the actors of change (who) been identified?</td><td></td><td></td></tr><tr><td>L</td><td>Have the resources needed been identified?</td><td></td><td></td></tr><tr><td>M</td><td>Is there a clear communication strategy?</td><td></td><td></td></tr></table> <p>Evaluation score: a minimum of 9 yes</p> <p>➤ This evaluation will count for 20% of the final grade of the Competence Unit.</p> |     | PRODUCT-ORIENTED EVALUATION |  |  | Criteria for assessment during the development of the activity | YES | NO | B | Is the vision well defined? |  |  | C | Have the process objectives been defined? |  |  | D | Have the behavioural objectives been defined? |  |  | E | Have the community-level outcome objectives been defined? |  |  | F | Are the objectives measurable? |  |  | G | Have concrete actions been defined? |  |  | H | In the detailed action steps, is it clear how these steps will be taken? |  |  | I | In the detailed action steps, is it clear when these steps will be taken? |  |  | J | Is the timeline clearly defined (when, how long)? |  |  | K | Have the actors of change (who) been identified? |  |  | L | Have the resources needed been identified? |  |  | M | Is there a clear communication strategy? |  |  |
|         | PRODUCT-ORIENTED EVALUATION  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
|         | Criteria for assessment during the development of the activity   | YES | NO                          |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| B       | Is the vision well defined?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| C       | Have the process objectives been defined?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| D       | Have the behavioural objectives been defined?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| E       | Have the community-level outcome objectives been defined?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| F       | Are the objectives measurable?   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| G       | Have concrete actions been defined?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| H       | In the detailed action steps, is it clear how these steps will be taken?   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| I       | In the detailed action steps, is it clear when these steps will be taken?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| J       | Is the timeline clearly defined (when, how long)?  |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| K       | Have the actors of change (who) been identified?   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| L       | Have the resources needed been identified?   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |
| M       | Is there a clear communication strategy?   |     |                             |  |  |  |     |    |   |                             |  |  |   |   |  |  |   |   |  |  |   |   |  |  |   |                                |  |  |   |                                     |  |  |   |  |  |  |   |   |  |  |   |   |  |  |   |  |  |  |   |  |  |  |   |  |  |  |

### C. LINKS/ATTACHMENTS

[https://au.corwin.com/sites/default/files/upm-assets/74495\\_book\\_item\\_74495.pdf](https://au.corwin.com/sites/default/files/upm-assets/74495_book_item_74495.pdf)

## Tool E

### B. ASSESSMENT TOOLS IN THE WORKSHOP MODEL

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| <b>Competence Unit (CU)</b>   | CU7 - Entrepreneurship   |
| <b>Assessment type</b>  | Summative  |
| <b>Assessment method/tool</b>   | Quiz   |
| <b>Operationalisation<br/>(what is being assessed and why, how to conduct it)</b> | <p>This tool encompasses a quiz that constitutes an exam at the end of the Entrepreneurship workshop. It will count for 25% of the final grade of the Competence Unit.</p> <p>This single choice exam can be available in an online or paper version.</p> <p>Correct answers are marked in green.</p> <p><b>1. What is a key competence?</b></p> <p><b>A.</b> A key competence is one that is key for lifelong learning targeting adults.</p> <p><b>B.</b> A key competence is one that is essential for a fulfilling life, both personal and professional, and it can be developed in a lifelong learning perspective.</p> <p><b>C.</b> A key competence is one that is crucial for professional development and it is developed through formal learning.</p> <p><b>2. What is the Entrepreneurship key competence, according to the European Parliament and the Council of the European Union?</b></p> <p><b>A.</b> It is the capacity to act upon opportunities and ideas, and to transform them into value (social, cultural, or financial) for others.</p> <p><b>B.</b> It is one of the resources economists categorise as integral to production, the other three being land/natural resources, labour, and capital.</p> <p><b>C.</b> It is the ability to create and strengthen connections between people and within society, helping individuals connect to the world.</p> <p><b>3. Which of the following does not refer to the EntreComp Framework?</b></p> <p><b>A.</b> It is a comprehensive, flexible and multi-purpose reference framework designed to help you understand what is meant by entrepreneurship as a key competence for lifelong learning and to be able to use this in your work.</p> <p><b>B.</b> It is made up of 4 competence areas, each containing 5 competences.</p> <p><b>C.</b> It recognises the opportunity to be entrepreneurial in any situation: from school curriculum to innovating in the workplace, from community initiatives to applied learning at university.</p> |

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|  | <p>In the EntreComp framework, entrepreneurship competence is both an individual and collective capacity.</p> <p><b>4. What are the five competences included in the competence area “Ideas &amp; Opportunities”?</b></p> <p><b>A.</b> Self-awareness &amp; self-efficacy, Motivation and perseverance, Mobilising resources, Financial and economical literacy, Mobilizing others</p> <p><b>B.</b> Taking the initiative, Planning &amp; management, Coping with ambiguity, uncertainty &amp; risk, Working with others, Learning through experience</p> <p><b>C.</b> Spotting opportunities, Creativity, Vision, Valuing ideas, Ethical and sustainable thinking</p> <p><b>5. What are the five competences included in the competence area “Resources”?</b></p> <p><b>A.</b> Self-awareness &amp; self-efficacy, Motivation and perseverance, Mobilising resources, Financial and economical literacy, Mobilizing others</p> <p><b>B.</b> Taking the initiative, Planning &amp; management, Coping with ambiguity, uncertainty &amp; risk, Working with others, Learning through experience</p> <p><b>C.</b> Spotting opportunities, Creativity, Vision, Valuing ideas, Ethical and sustainable thinking</p> <p><b>6. What are the five competences included in the competence area “Into action”?</b></p> <p><b>A.</b> Self-awareness &amp; self-efficacy, Motivation and perseverance, Mobilising resources, Financial and economical literacy, Mobilising others</p> <p><b>B.</b> Taking the initiative, Planning &amp; management, Coping with ambiguity, uncertainty &amp; risk, Working with others, Learning through experience</p> <p><b>C.</b> Spotting opportunities, Creativity, Vision, Valuing ideas, Ethical and sustainable thinking</p> <p><b>7. What is a competence-oriented approach?</b></p> <p><b>A.</b> It is the same as knowledge-based teaching and learning, but using different teaching tools</p> <p><b>B.</b> It is an approach that allows to develop one competence at a time.</p> <p><b>C.</b> Teaching and learning approach that aims at developing key competences</p> <p><b>8. Why is the Entrepreneurship key competence so relevant?</b></p> |
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|  | <p><b>A.</b> Because it will promote the increase of new businesses in Europe.</p> <p><b>B.</b> Because it translates the sense of initiative, which is so important in modern societies.</p> <p><b>C.</b> Because it is a vital competence within the labour market and for people in their daily lives, even for those who are not classed as 'entrepreneurs' in the sense of creating new business opportunities.</p> <p><b>9. What is an entrepreneurial teacher?</b></p> <p><b>A.</b> An entrepreneurial teacher is someone who complies with all rules, provides the knowledge the students need and avoids mistakes in the classroom.</p> <p><b>B.</b> An entrepreneurial teacher is someone who is inspirational, open-minded and confident, flexible and responsible — but also, when needed, a rule-breaker.</p> <p><b>C.</b> An entrepreneurial teacher is someone who has its own business, besides being a teacher.</p> <p><b>10. 'Creativity' and 'innovation' are sometimes thought of as discrete skills (alongside risk-taking) within entrepreneurship competence.</b><br/>True<br/>False</p> <p><b>11. Learning outcomes from across different levels of the progression model may be relevant for the same learning activity.</b><br/>True<br/>False</p> <p><b>12. Entrepreneurship skills refer more to the ability to work as an individual, rather than collaboratively in teams.</b><br/>True<br/>False</p> <p><b>13. A learner is not expected to develop all the competences to a specific level.</b><br/>True<br/>False</p> <p><b>14. A competence-oriented approach puts learners at the centre and asks for their active participation.</b><br/>True<br/>False</p> |
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|                | <p><b>15. In experiential learning, it is crucial that teachers have all the answers, to support learners in their learning journey.</b><br/>True<br/>False</p> <p><b>16. Using real-life situations is not considered an active method of engaging learners.</b><br/>True<br/>False</p> <p><b>17. To improve the quality of entrepreneurial learning we need to make explicit what is expected of trainees.</b><br/>True<br/>False</p> <p><b>18. Value creating pedagogy is when trainers support their trainees learning by applying their competences to create something of value to at least one external stakeholder.</b><br/>True<br/>False</p> <p><b>19. Entrepreneurial learning is best promoted when students have regular opportunities to interact with the world outside the classroom.</b><br/>True<br/>False</p> <p><b>20. The entrepreneurship competence can help people from all socioeconomic backgrounds to think outside the box and nurture unconventional talents and skills. It creates opportunities, ensures social justice, instils confidence and stimulates the economy.</b><br/>True<br/>False</p> |
| <b>Remarks</b> | <p>Each question is worth 5%.<br/>This evaluation tool will count for 25% of the final grade.<br/>Students must have at least 15 of the 20 answers correct to PASS.</p>   |



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Co-funded by the  
Erasmus+ Programme  
of the European Union



This project has been co-funded with support from the European Commission.  
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