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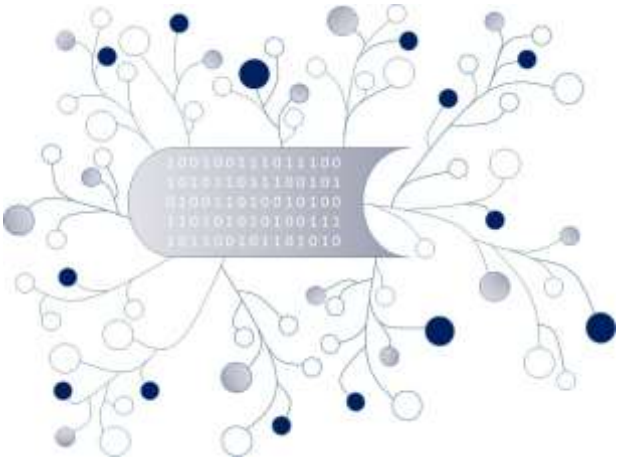

DigI-VET
Fostering Digitization and Industry 4.0 in vocational education
2018-1-DE02-KA202-005145

Learning Outcome Matrix

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UPB – Marc Beutner

Project Title	*DigI-VET*
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The DigI-VET learning outcome matrix (LOM)

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The purpose of these information and charts are to illustrate how outcomes align with teaching and learning methods and assessments in the DigI-VET approach.

The following general ***aims and objectives*** are focused with the LOM:

This Learning Outcome matrix is designed to inform about the development of the curriculum structure to integrate Digitisation and Industry 4.0 in VET-courses. Focusing on a learning outcomes approach facilitates the tailoring of the pedagogic induction resources. This provides the possibility to suit specific cultural and societal values and ensures that local issues and necessary topics are addressed within the DigI-VET approach.

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The ***topics*** addressed in the Digi-VET-measures for **Persons who are teachers and trainers or learners in the field of VET** are:

General part of DigI-VET measures

1. A Short overview of project objectives and aims to achieve
2. Introduction to the DigI-VET curriculum
3. The target group -
   Characteristics of the DigI-VET target group, their needs and expectations
4. Introduction to the e-learning platform

Subject related part of DigI-VET measures:

5. Definitions- of terms
6. Description of the history towards digitisations and industry 4.0
7. The need of digitisation in today´s world of work
8. Current status and future developments
9. Examples of Industry 4.0 Approaches using the Online Observatory
10. Best practices of integrating digitisation in VET-scenarios and courses

Important Aspects and Challenges for **Persons who are teachers and trainers or learners in the field of VET** are:

Important for teachers and trainer in VET are pedagogical approaches and the idea of being “facilitators of learning” and the different style of learning, the quality of the curriculum and their support especially concerning the use of the e-learning platform and the resources.

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A special challenge concerning the DigI-VET-Curriculum could may be the lack of time. Therefore, the main challenge will be the time commitment.

In addition to that, the main challenges are being authentic, the motivation of students, patience in the tutoring and mentoring processes and a stable technology.

It is important that the measures need to be concise, short, relevant and delivered face to face in a flexible way. The benefits of participating have to be emphasized and the opportunities for questions and networking should be raised. It is necessary to allocate appropriate time for the participamts´ needs.

Based on the results of the research at of the DigI-VET partners the following two LOMs could be derived

One is addressing teachers and trainers in information measures and one is addressing the learners in the classroom situations of such teachers and trainers:

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Learning Outcome Matrix (LOM) for persons who are teachers and trainers in the field of VET (DIGI-VET LOM1)

Outcome	Teaching and Learning Activities	Assessment
Having taken this course, participants (teachers/trainers) will be able to:	**The participants (teachers/trainers) will be taught to achieve this specific outcome through the following learning activities:**	**The participants (teachers/trainers) will be assessed on their achievement of this specific outcome through the following assessment tasks:**
understand the main aspects, fundamentals and modules of the DigI-VET measure and the aims of the project as well as the philosophy of DigI-VET.	The participants will get informed by a ppt presentation which provides an overview concerning the DigI-VET idea and the measure.	An oral feedback and a short evaluation questionnaire is main basis of assessing the right understanding of DigI-VET.
use and dynamise the DigI-VET e-learning platform and its functions and supporting elements.	The participants will go through a life demonstration. Therefore, the are forced to see and reflect the actions and also to do all actions themselves.	The assessment will be carried out in the DigI-VET online forum. There will be an easy and time-independent place to discuss, share impressions and get feedback of participants and trainers
organize and create engaging face-to-face sessions fitting to the curricular ideas of DigI-VET.	The participants will take part in a workshop to create their own lessons plan.	During the workshop there will be feedback sessions and oral support by the trainers.
understand key principals of the pedagogical approach of DigI-VET.	This understanding will be raised by discussion groups. These groups work in teams on their expectations and requirements of the UMW curriculum and the pedagogical approach. In presentations, main aspects can be combined and made available as a basis for intensive discussions.	The assessment will be carried out in a wall newspaper of each group on which main key principles are documented. This will be the basis for oral feedback.

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adopt the learning content to the needs of graduates	The adoption process will be learned in short case studies which will be analysed and combined with practical experiences. These experiences will be integrated in creating own learning contents and necessary didactical material by the participants.	The assessment of the adopting process will be done in two way, creating an own short learning content and the necessary didactical material by the learners and a group discussion with feedback on these created contents.
know about learning theory and facilitating learning processes as well as implement it in their face-to-face sessions.	The participants can achieve these knowledge aspects via self directed learning with the support of the trainers. They also get role awareness via a roleplay in which they have to act as a learning facilitator.	The assessment will take place in the direct communication situation and can be carried out in discussion forums as well to get direct feedback.
recognise different perspectives on digitization and the different ideas of defining digitization and digitalisation.	The participants are discussion different points of view and take part in a pro-contra discussion.	The assessment of getting to know their own problems with learning can be carried out best in an oral way in a discussion process.
know about the history of digitization and industry 4.0 and take this knowledge into account in their face-to-face sessions.	The participants can achieve these knowledge aspects via self directed learning with the support of the trainers and their systematic coaching.	The assessment will take place in the direct communication situation and can be carried out in discussion forums as well to get direct feedback.
understand the need of digitisation in today's world of work	The participants discuss a presentation about group processes and roles in learning groups. They create an own working team and set roles to design a flipchart presentation themselves to highlight the key aspect	The assessment will be via creating an own team to achieve an aim is the basis for feedback on group rules, communication, roles and effectiveness.

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are aware of the current status and future developments in industry 4.0 and digitization approaches	The participants go through different approaches and create own poster overviews.	Direct communicative feedback and short overview descriptions allow to assess the awareness.
work on dealing with the examples of Industry 4.0 approaches provided by the DigI-VET Online Observatory.	The participants go through the online observatory and share insights and ideas on the showcases.	In a pro-contra discussion the participants compare the insights provided by the DigI-VET Online Observatory with own experiences and rate the situations.
discuss the expectations and best practises of the integration of digitization and industry 4.0 in VET teaching and learning..	The participants discuss these points in a discussion group.	Direct communicative feedback processes allow to assess the awareness of expectations and benefits.

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Learning Outcome Matrix (LOM) for persons who are learners in the field of VET (DIGI-VET LOM2)

Outcome	Teaching and Learning Activities	Assessment
Having taken this induction/course, learners will be able to:	**The learners will be taught to achieve this specific outcome through the following learning activities:**	**The learner will be assessed on their achievement of this specific outcome through the following assessment tasks:**
recognise different perspectives on digitization	The learners are discussion different points of view and take part in a pro-contra discussion.	The assessment of getting to know their own problems with learning can be carried out best in an oral way in a discussion process.
explain and compare the terms digitization and digitalisation.	The learners write down and compare definitions of industry 4.0 and digitization.	The written text can be taken an assessment and oral feedback can provide insight in the way how the learners understood the definitions and if they are able to do the comparison.
know about the history of digitization	The learners can achieve these knowledge aspects via information material and a structured discussion.	The assessment will take place in direct communication and immediate feedback.
know about the history of industry 4.0	The learners can achieve these knowledge aspects via information material and a structured discussion.	The assessment will take place in direct communication and immediate feedback.
Describe todays need of digitisation	The learners provide examples of the world of work and use the online observatory to get	The assessment via feedback on the texts or audio files and lead to a deepening discussion.

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	deeper insights. They create a text or an audio file with the descriptions of such situations.	
compare the examples of Industry 4.0 approaches provided by the DigI-VET Online Observatory.	The learners go through the online observatory and share insights and ideas on the showcases. They fill in a comparison matrix.	The filled-in matrices of the learners can be used as a wall-newspaper to communicate about the comparisons and assess the used criteria for the work and an oral discussion provides feedback on the level of understanding.

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