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## **CMOOC IN E-LEARNING DESIGN FOR VET TEACHERS: MAPPING PROFESSIONAL COMPETENCES ONLINE**

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### **Introduction**

The article deals with the massive online course designed for VET teachers in e-learning pedagogies. The authors discuss the recommendations towards designing the cMOOC for VET practitioners and refer to the pilot cMOOC conducted in Croatia, Slovenia, Poland, Lithuania, Italy, Czech Republic, Spain and Norway from November 2013 till March 2014. More than 350 learners took part in the learning challenge, providing the authors with extensive feedback and evaluation of the content. The authors discuss the background for the designing of a particular course as well as initial results of the pilot MOOC realised in respective countries.

The transformation of VET across Europe is taking it momentum. In that context provision of open, massive educational offer for the professional trainers and teachers seemed a good direction. The partnership (<http://evet2edu.eu>) took the challenge to redesign the e-course towards VET-specific need, pilot it as cMOOC and transform it into an open course available for individuals and institutions.

### **Designing for VET e-learning: pedagogical framework**

The course focuses on e-learning design and e-moderation on a basic level. It takes 3 months and app. 60 hours to complete, that is equivalent to 3 ECTS. The community and interactions between its members are the focal point of the social learning. As collaboration was indicated as pivotal for VET teachers (Sanchez Vera, 2013) it was also the driver for designing the course. The learners were to support each others as practitioners experienced in teaching. It was assumed that they would need support in re-directing this experience into e-learning practices and into mastering online moderation and collaboration.

There are 3 main pedagogical pillars of the course that is authentic learning (Herrington et al. 2002) and reflection (Moon, 1999) together with a portfolio-based competence development (Constantino et al. 2009)

Authentic learning is reflected on two levels:

- Meta-level of the course which becomes a learning environment and a reference point for evaluation. The experience of participation on e-learning course while learning about designing e-learning is a strong authentic factor.
- Activities that reflect actual, authentic situations that can be planned and can occur online and require adequate response from the course participants.

Due to the wide scope of the course that is on the verge of pedagogy and technology authors decided to embed reflective practice into the course to deepen learning and drive off from the technological component. As a reflection is always related to the real experiences, in combination with the authentic activities it enables the learner to experience real-life situations and draw conclusions for the future actions. Short but regular reflective tasks accompany the learners along the course together with a formative feedback from the moderators.

The authors defined 9 competences that need to be mapped with evidence during the course. The selection of evidence is autonomous and each participant can focus on different modules or activities according to their understanding and interpretation of the competences proposed.

1. To contextualize e-learning competences in VET;
2. Digital competence, using ICT tools for teaching and learning in VET context;
3. Work collaboratively online synchronously and asynchronously (sharing ideas, communicating...);
4. Analyse competences in general and participant's own competences;
5. Critically adopting general e-learning principles and particular solutions in their context;
6. Design engaging e-tivities for individual or group work in accordance with the learning outcomes;
7. Create and manage (publish, select, re-use, share, and evaluate) audio-visual teaching /learning materials in accordance with the learning outcomes;
8. Facilitate, inspire and motivate participants in an e-learning environment in order to achieve the learning outcomes;
9. Metacognition (awareness and critical reflection on own teaching and learning competences).

## **Designing cMOOC for VET teachers: background**

Contemporary job profiles are too often rich in technologies that require advanced training. The employees need to be digitally literate so taking advantage of ICT in vocational trainings and education is necessary, especially in the perspective of lifelong learning. New media and e-learning correspond to enhancing creativity, innovation and entrepreneurship which are the

priorities and recommendations for VET development in most countries (Digital Strategy, European Commission, 2013). ICT should be used to boost access to training and to stimulate active learning as well as to develop new skills, as we can see in different proposals from the European Union, such as the “action programme in the field of lifelong learning” (2006) and the report “investing in skills for better socio-economic outcomes” (2012).

Nevertheless, European Quality assurance in vocational education and training points out the lack of teacher training, administrative system and support tutorials for students, quality design of courses, methodology used and evaluation designs (EQAVET, 2013). Therefore the hype of MOOCs widespread offer does not include VET-specific courses in languages other than English.

Although the MOOC hype is on its ubiquity is rather ostensible, at least in Europe. The dominance of English as a main learning language makes the offer rather exclusive (Liyanagunawardena 2013) and courses in other languages are scarce (Scoreboard, 2014). The statistics show that the number of people taking up MOOCs is largely limited to the countries where English is either mother tongue or is perceived as second-language. Ability to learn in a foreign language is crucial and different then ability to read or communicate on the basic level which makes language a huge barrier in accessing MOOCs.

Provision of a cross-European MOOC for educators is a challenge. Differences in access to ICT, IT skills and online practices on vocational schools' level are significant and vary from country to country (Wastiau, P. 2013). In order to learn about specific challenges exploratory study was conducted with 31 practitioners from 7 countries interviewed (November – December 2012) along with a desk research on VET practices in e-learning and new media exploitation. As a result 6 areas of intervention were identified that are important for VET sector in relation to e-learning and require further development (Szymczyk et al, 2013, Sanchez-Vera et al, 2013):

1. access to up-to-date and digital educational materials for VET- specific subjects;
2. effective communication and collaboration online;
3. planning and assessing online activities, designing engaging online learning;
4. training practical VET skills for particular vocation;
5. critical thinking and working with information;
6. multimedia development (video, audio, animations).

The challenges were therefore tackled in the activities and materials of the course. Those areas where addressed directly in the e-course design as modules, resources, activities and reflective practice.

### ***Content-design challenges***

Although in general education content may no longer be the king, the lack of state-of-the-art textbooks and handbooks has been indicated as a real issue for VET teachers across Europe

(Sanchez Vera, 2013). Access to up-to-date and digital educational materials for VET- specific subjects. Consequently e-books and electronic educational materials in local languages and specific for VET subjects are also a scarce resource. Teachers complained about outdated handbooks that are not following the recent developments in the industries but also noted on the lack of digital resources relevant to the profession. The relevance is absolutely necessary since learners are less motivated to learn if the content is not directly connected to their profession and in their own language. Policies regarding authorship and licensing and quality assurance of the content need to be adopted on the large scale. The flexibility and high quality of VET sector indicated in Bruges Communication (2010) depends, among other things, on the quality of the learning and teaching resources. That requires both improvement of teacher skills for design and development of the resources and providing support for selection, evaluation and maintenance of the resources and infrastructure. Since lack of resources is an obstacle for teachers, most of them create their own digital materials themselves, using whatever means available and being aware of the insufficient quality of the results.

### ***Technology-related challenges***

Multimedia development (video, audio, animations) (6) is a challenge related to content development however focuses rather on the media than a message. Teachers of vocational subjects are competent enough to create digital handbooks and resources themselves, and in fact they actually do: they search and evaluate websites, select materials, share links to prepare for their classes. As they work alone, usually without any support from neither colleagues nor students, it is also arduous and challenging. But the lack of resources can be actually a trigger for action.

Teachers are generally aware that inclusion of multimedia increases attractiveness and effectiveness of learning. Diverse content is always helpful for learners with different learning preferences. However many teachers are not aware of the opportunities of open/free software for content development, partly because of lack of information, examples and technical support. The latter is particularly important e.g. for organising online meetings, recording and publishing audio and video which should support achieving unique learning goals.

Web 2.0 applications can support sharing and re-using of VET resources since they enable easy creation and remix of content by all users. However, intellectual property rights have to be taken into account and use of open licences is suggested as the most flexible and appropriate for sharing educational content by educators.

### ***Learning design challenges***

The challenge of an effective communication and collaboration online involves encouraging collaboration between VET sector teachers and improving communication with students as well as establishing collaborative teaching tasks to enhance resource-based learning. EQAVET Work Programme (2013-2015) promotes cooperation as especially relevant for vocational education and our interviewees substantiate this policy – the majority preferred to learn and

work in a collaborative way. Although their confidence and skills vary, they are generally positive about benefits of online cooperation with other teachers, educators and professionals as well as with their students. We learnt that it is necessary to provide the teachers with support for developing methodologies for collaborative learning and improved communication using ICT.

That component is inevitably connected to the planning and assessing of learning. VET teachers struggle to maximise the use of widespread e-learning platforms to go beyond publishing resources and apply more active online methods for blended learning mode. VLE access for 11 grade level: 61% EU, Norway 100%, Slovenia 87%, Spain 82% Czech 56%, Poland 44%, Italy 33%, Lithuania 29% (<https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KK-31-13-401-EN-N.pdf>) That requires designing for authentic learning and ability to plan such online activities that would also enable assessment compliant with formal requirements of the specific VET curricula. That calls for the teachers' support in pedagogical design as enhancing theory-driven online course with interactive tasks increases effectiveness and motivation (Sanchez-Vera 2013). The variety of tools available (data bases, collaborative documents, easy broadcasts and videoconferencing) as well as the interconnection between them (collaboration tools) and the monitoring possibilities can help teachers with the hard task of planning and assessing online activities and make difficult assessment modalities more accessible for teachers – and students.

Active learning that engages the learner's attention is believed to be motivating and effective. E-learning can enhance the learning experience when it stimulates interactions and actual creation of knowledge by the learners. All cases where active participation of the learners is emphasised are worth noticing. When learners manage their own learning and set up their learning goals, they become more independent as well as more aware of their competences.

Development of critical thinking is a must when teaching is meant as support for finding the solution rather than providing the answers. Most teachers interviewed talked about their experiences and activities in which students have had to go further and use different skills. Learners need to work with information from different resources and develop, as a result, a product that is useful and necessary in their future work environments. Teachers talked about the importance of learning in VET sector that should be close to the reality. It is a necessity today to help students learn how to manage information, so teachers have to know how to promote and develop these strategies in their students. Each teacher is free to select his/her own methods. They can vary from those simple but effective e.g. learners creating and giving a presentation on a given subject, evaluate information, process it and build further on it (an example from a Croatian teacher), to the complex and multi-dimensional methods, such as that in a Spanish school where learners create professional websites for companies. The teacher explained that „the beginning is difficult, but students must work with information from different sources and that process is very rewarding. In the end students get a very useful product“. Going online immediately immerses us in a flood of data. With the information so easily accessible the traditional transmissive model of teaching becomes redundant. However the issue of quality of information, as well as usability, needs to be explored by learners who

need to know how to manoeuvre independently through online resources. One of the possibilities to practice critical thinking, evaluation and purposeful search for information is webquest.

## **Designing cMOOC for VET teachers: design and moderation**

In order to verify the design of the cMOOC the piloting was conducted in 8 countries with overall 300 users registered from Norway, Spain, Poland, Croatia, Slovenia, Lithuania, Czech Republic and Italy. The openness of the course was temporary restricted for the piloting to the VET teachers of professional subjects.

The course consisted of 10 modules, each containing activities and localised resources. The driving concept was design of e-tivities (Salmon, 2008) for VET and its constant development with:

- content (OERs and licensing, evaluation of OERs, developing short educational videos and infographics, users generated content);
- pedagogy (activity-driven design, e-tivities, facilitation and scaffolding, moderation strategies, motivation and support for learners, online collaboration, using web-conferencing for competence development);
- technology (open source and free solutions, Moodle, collaboration tools, mobile devices for video making, web-conferencing).

The majority of the course structure and content was cross-national. However some localised features were also present: the local facilitation and feedback was given by the local facilitators and the certification was issued separately in each country for the piloting. Also the source materials, examples and case studies were localised to reflect the actual situation of the participant's country. Such an approach ensured more flexibility (one course, one handbook) but also make the product targeted (variety of examples).

There was also a debate about the course environment (Moodle enhanced with dispersed applications) and its impact on the collaboration and innovative learning design. The important issue to be discussed is whether the provision of a dispersed learning environment and social networking is a part and parcel of a collaborative learning. For this particular community social networking has often been an ethical dilemma whether engagement with students should or shouldn't take place (e.g. via popular social software). Security of data means not only system security but also creating a comfort zone for learning, exchanging opinions, taking challenges and making mistakes. Adding to the fact that the level of media competence was extremely diversified the decision about semi0centralised learning environment was justified.

The initial evaluation results show that the overall drop-out rate was around 1/3 which in fact reflects the general trend in that respect. Many claims that with the drop-outs rates high and the completion rate of the MOOC participants rather low (e.g. Brinton et al., 2013) the effectiveness of that open form of teaching is questionable. However for many VET teachers it

is a great opportunity to become a part of a learning community online, as the course provided time and space for active engagement and practice. It is also the opportunity to become a lifelong learner in an authentic environment as a result applies the skills to the educational context of the school.

## **References**

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