
Guidelines and Recommendations on e-learning in VET

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1. Introduction

We learn the most from practice, be it good or bad. That is why our intention was to investigate about VET and e-learning among practitioners and through real implementations. We value them most for their experience and willingness to share with others their ideas and comments. So we would like to thank all the teachers and educators who took part in the interviews and contributed to the description of case studies.

This paper is a part of “Guidelines and recommendations” workpackage of the project *Supporting vocational teachers with e-learning* (eVET2EDU). It explores the practice and usage of communication technologies in VET and as a result offers open e-learning course in 8 languages along with a series of workshops for educators.

The aim was to learn about the needs of VET teachers and provide recommendations towards the content of the e-learning course to be designed for them. For that reason the structured interviews with selected practitioners in 7 countries were conducted and analysed (November - December 2012). Overall we talked to 31 educators. Then the desk research on VET practices in e-learning and new media exploitation was run by all the partners to look for best examples and share them. The results of both tasks were collected in the statistical report *Data analysis report. Interviews* (see Appendix 2). All of the interviewees teach in blended classrooms.

We identified 9 areas of intervention that were especially indicated by the interviewees:

- Access to up-to-date and digital educational materials for VET- specific subjects
- Multimedia development (video, audio, animations)
- Effective communication and collaboration online
- Defining the role of the teacher in online courses

- Training practical VET skills for particular vocation
- Training soft skills required in VET sector (self-presentation, oral skills)
- Planning and assessing online activities
- Critical thinking and working with information
- Designing engaging online learning

These are the challenges for the teachers but also the opportunities for us as e-course designers. Consequently the paper is divided into two main sections. Section 2. explores the challenges while Section 3. focuses on solutions and examples of good practice referring to these 9 issues. It also refers briefly to the course content.

2. Mapping VET educators' needs towards e-learning

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).

Within eVET2Edu project we have analysed practices in partner countries and talked to various VET practitioners to identify 9 areas that are important for VET sector in relation to e-learning and require further development.

2.1 Access to up-to-date and digital educational materials for VET- specific subjects

Although it may seem hard to believe, **lack of modern textbooks and manuals** has been indicated as a real issue for teachers across Europe. Consequently e-books and electronic educational materials are also a scarce resource and therefore cannot be used and re-used effortlessly for teaching vocational subjects. Frequent updates of the data and materials gathered are also necessary due to rapid changes not only in technologies but also in interests and demands of the learners, and as such are also a challenge for the educators. As the industry and services change through the years, so must the educational materials. A teacher from the school in Zagreb specialising in leisure and tourism, indicates that learning materials evolves constantly while methodology tends to stay the same:

“I update the content in my presentations all the time – depending on the students, new developments etc. I don't change the methodology that much”.

Language can also be a barrier for both learners and educators as learning and teaching is mostly in national languages. Learning materials in foreign languages do not fit either the course profiles or learner capabilities. Covering vocational subjects in foreign languages is much different than

teaching vocational foreign language, where such materials can come in handy. A teacher from Norway emphasises that:

“it is also important to develop new learning materials in national languages, that target highly specialised target groups. It is very expensive to develop this type of material”.

Searching to find **relevant educational materials** is an extremely time-consuming but necessary activity for educators since learners, and especially adults, are less motivated to learn if the content is not directly connected to their profession. Learners demand domain-specific materials, as in the example of police force managers from Lithuania: some learners expected the training videos to be adapted to the domestic police life instead of the videos from other areas that were used due to high costs of production.

IDENTIFIED CHALLENGES

- Lack of modern textbook and manuals,
- Language barrier,
- Lack of digital materials,
- Time-consuming searching for relevant educational materials

From the teachers’ point of view, a crucial and challenging problem is **lack of digital materials**. During the interviews they focussed on this problem even when answering questions about other topics concerning their practice.

To find such materials, teachers search articles or videos that can enhance their classes, as well as evaluate the content and often learn foreign

languages to be able to access updated information for their learners’ benefit. Teachers are aware and proud of the competences they gain but they also speak openly about **the support and facilitation** they also expect. A teacher from Poland says that:

“One thing that could be changed is to offer more interactive elements such as online tests for learners. Educational publishers offer multimedia materials but for general, not vocational, subjects. Better educational offer with up-to-date digital materials for VET subjects would be great support.”

There is still room for the teachers - content developers but also publishers and companies to provide content for education that fits the needs of the contemporary vocational school.

2.2 Multimedia development (video, audio, animations)

The interviewed teachers stressed **insufficient quality** of digital resources, such as videos, and **lack of direct relation to the subject** or domain of teaching. 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 (1) improvement of teacher skills for design and development of the resources and (2) providing support for selection, evaluation and maintenance of the resources and infrastructure.

IDENTIFIED CHALLENGES

- insufficient quality of multimedia,
- lack of direct relation to the subject

Since lack of resources is an obstacle for teachers, most of them **create their own digital materials** themselves, using whatever means available. For instance teachers from Croatia use PowerPoint presentations to create digital handbooks. Although text editing or finding videos is time consuming, it is also relatively easy.

Describing and evaluating his e-course a teacher from Slovenia declared that: “the main challenge was joint planning and preparing digital materials: animations and multimedia” but most of them admit that **“home made” animations and videos were not of sufficient quality**.

A teacher from Lithuania describing the process of creation of the course for 600 police force managers claims

"The video-recordings of lectures were low quality because of the non-professional webcam used. [...] Teacher prepared the course program and hired an external expert whose lectures and presentations were recorded and re-used".

Although aware of the relatively low-quality materials, teachers do feel proud of their work, and still find the resources valuable and effective. A teacher from Zadar (Croatia) used his private camera to record resources about technology for ship engine production during his visit to a shipyard. He published the videos on his private YouTube channel and distributed it among his students via Facebook. With his creative approach he reached the goal ('making instruction more interesting and in line with technological trends') but when asked about possible changes in his e-learning experience he added spontaneously:

"It would be very helpful if the Ministry of Education could provide some kind of financial support for establishment of the web site for marine engine specialists on which the focal point would be the creation of a site for sharing e-learning materials between maritime schools."

Also when interviewed about the tools they wish to master, teachers focused on tools for multimedia development, such as video lectures: (Adobe Connect, Panopt) to edit, convert and adapt the video recording to VLE, photos and graphics. They were interested in how to work with them and how to make the course material more attractive. Additionally they were interested in tools for online assessment, not limited to questionnaires only.

2.3 Effective communication and collaboration online

There have been 2 needs identified at this level: (1) encouraging collaboration between VET sector teachers, (2) improving communication with students and 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 (1) other teachers, educators and professionals (2) learners.

IDENTIFIED CHALLENGES

- encouraging collaboration between VET teachers,
- improving communication with students,
- establishing collaborative teaching tasks.

A teacher from the Czech Republic tries to maximize the use of an e-learning platform going beyond publishing and receiving resources. He uses Moodle platform not only as a repository of templates, lectures or links, but also to agree with a learner on an individual study plan.

Similar need was expressed by many interviewees who understand that publishing materials is not enough. Collaboration was also the key for achieving results for Szymon Konkol (see 3.1), who launched the initiative of creating learning portal for confectionary and bakery together with his learners.

A teacher from Lithuania claimed that from her experience online collaboration depends on the group. In her opinion there is little likelihood that a group of teachers from various schools would collaborate efficiently while internal collaboration seems more effective.

However the teachers also expressed their concerns about online communication, which in fact proves their expertise and awareness regarding e-learning. A teacher from Lithuania claims that

communicating via technologies cannot replace live communication: a videoconference is not the same as F2F session not because of the quality of broadcast but because psychological distance reflects in fear to ask questions or be otherwise active. Learners also complain about lack of sense of belonging to a group.

2.4 Defining the role of teacher in an online course

The EQAVET - ECVET - EQF Joint Seminar of 2011 report, "Assuring the quality of VET qualifications", mentions the relevance of "exploring stakeholder concerns and needs with regard to the changes needed in mindsets related to learning philosophies and the roles and practice of teacher" who in fact are considered learning facilitators. There are **four main roles** elicited from the interviews as teachers agreed generally on the changes in their profession to:

Courses focused on individual's work:

- **coordinator and manager** eg. of the e-courses or online projects;
- **content developer**: from uploading pre-designed materials to developing multimedia and designing whole courses online.

Courses focused on learners interactions:

- **facilitator** of the learning process,
- **motivator** and leader of both learners and other teachers,
- **content developer**: related to the tasks from uploading pre-designed materials to developing multimedia and designing whole courses online.

2.5 Training practical VET skills for particular vocation

VET sector is large and multifarious, because of which the implementation of e-learning for different subject is difficult, especially for the practical part of instruction. All professions require practical training. However for some, such as those ICT-related, blended mode of teaching is usually the most frequently applied. Teachers claim that it is not possible for practical training to be done online and remotely. A teacher from Lithuania sums that up:

"VET is closely related with practical skills and e-learning is more for theory. We could transfer about 60 percent of theory and about 40 percent of practical skills training to e-learning courses. For example, a hairdresser will have to learn to cut hair and veterinary care specialists need to learn to clean horses' stalls in reality, not during the videoconference. However, we can use it for interaction between peers and reflection. Students need to touch everything."

However she also notices that:

"Perhaps it is possible to teach complex practical skills by e-learning for at least some professions, such as business manager. But for services such as hairdressing, beauticians or health care it is not possible today".

It is not only the practical skills training nearly impossible to transfer online but also assessment and evaluation. Online tests are mixed with practical exams, which is described by a teacher from Slovenia with an example of a training course on injections for e-Health programme. Assessment system consists of an online test covering theory and practical examination. Online test was a prerequisite for practical testing.

Various vocational subject require various skills, some of which can be mastered online. A Spanish teacher of hospitality and tourism described experiments in which the learners needed to create a route on the map and use different web 2.0 tools (such as YouTube), as well as to record videos and explain the route. Before the experiment, evaluation test had a significant percentage in the final mark and it was implemented as a final face-to-face exam. After implementation of ICT in the subject, the weight related to collaborative online tasks increased a lot (90% in on-line tasks). The meeting with the teacher during the final F2F exam is not to verify the knowledge but only to check the authorship of the work.

IDENTIFIED CHALLENGES

- practical skills training nearly impossible to transfer online, evaluate and assess.
- online tests are mixed with practical exams

2.6 Training soft skills required in VET sector

During interviews, teachers focused most on practical skills and knowledge in a specific VET-domain and **did not concentrate that much on soft skills**. However some indicate them as important: a business administration and mathematics teacher from Italy says that the main objective of her last project was to transfer capacity of management skills into e-learning environment. A teacher from the Czech Republic admitted that during the e-learning course students also improve their digital competence - especially working with spreadsheets, graphs, team work (group task), presentation skills. A teacher from Slovenia pointed out another issue: VET subjects can be related to knowledge from other subjects.

„Students have to acquire as many competences as possible during the learning processes and it is very important that they are able to work with computers, connect knowledge that they get in other subjects and with use of ICT“.

2.7 Planning and assessing online activities

Almost all teachers interviewed confirmed that they have been and would be able to make a plan for an e-learning session. Furthermore, many of them talked about their experience with pedagogical issues while planning an e-learning course. On the other hand, some teachers stated that they were not able to develop a plan, and declared that they may need support.

Nonetheless, in some responses we can recognise **the idea that planing is a difficult task**. This question led many teachers to comment spontaneously on the support needed or technical assistance required in terms of pedagogical planning.

2.8 Critical thinking information processing

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 multidimensional 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“.

2.9 Designing engaging online learning

A teacher from Lithuania talked about using multimedia and activities in order to increase the attractiveness of a very theoretical course. Although at the beginning she was very skeptical about using technologies in her course, with the help of IT specialists she created an interesting course for students. She said that:

“it is very important to develop the course in a way that attracts student attention and engages them to learn. I have a lot of ideas how to make my course more interesting and with the help of IT specialists my ideas are realised in my course without spending a lot of efforts and time on that. I am lucky to have good IT assistance in developing my online course. I'm always looking for ideas around me and keep changing my course. I am creative.”

Another Lithuanian teacher agrees that **communication and collaboration online are very important**, but these activities should match objectives of the course. Students are not satisfied if they have to participate in online discussions feeling that the only aim of the activity is mere posting of messages in the forum.

3. Recommendations for developing VET-specific e-learning courses

3.1 Access to up-to-date, digital educational materials for VET subjects

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.

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 actually trigger the success!

SUCCESS FACTORS

- idea, enthusiasm and passion,
- creative use of free or/and open tools,
- collaboration between learners and teacher on content development,
- open sharing of resources, respecting IPR.

Many years ago Szymon Konkol, a teacher of confectionery and bakery from Poland, when sorting out his study notes decided to include his learners' materials deriving from their portfolios which they prepared according to professional examination criteria. His learners became active editors and authors of educational resources instead of being only

passive recipients of content. After some time different schools joined the process and as a result an online handbook for vocational education was created, a handbook that is dynamic and evolving over time according to the needs of each new generation adapting it. Finally, an online professional portal was created with e-learning materials, videos and tests in the national language, based on free and/or open software. The digital handbook can be downloaded for free, including the mobile device version. In addition to being a passionate teacher, Konkol became a mentor, evaluator and coordinator rather than simply the author of resources. Website: <http://mistrzbranz.pl/e-learning/>

REFERENCE TO THE COURSE

Module 5	Design and development of educational resources Free and/or open tools, implementation of the materials online
Module 6	Use and re-use of educational resources , IPR and licences, evaluation
Module 8	Online group work, Strategies for designer and moderator, tools

3.2 Interactive media development

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. The example of using FLOSS is described in 3.1.

SUCCESS FACTORS

- providing online communication and broadcast for dispersed users,
- using open/free software

Croatian project E-medica is a great example for using interactive media in teaching. Videoconferencing is used by experts, doctors and professors for distance lectures for students in secondary medical schools (e.g. lecture on AIDS by a renowned American expert). Additionally, students can communicate with the lecturer and each other, ask questions and discuss issues.

Videoconferences are also used to enable online participation in live surgeries and virtual visits to operating theaters for the learners from remote cities, where the best and biggest hospitals and experts are not available. Additionally, secondary medical education does not normally include participation in surgeries, so the project provides the learners with multiple benefits for their education they would not otherwise be able to have.

REFERENCE TO THE COURSE

Module 3	Discussion during moderated videoconference
Module 5	Design and development of educational resources, Free and/or open tools, implementation of materials online
Module 8	Group work during videoconference

3.3 Effective communication and collaboration online

The requirements set out above in the interviews show that it is necessary to provide the teachers with support for developing methodologies for collaborative learning and improved communication using ICT. A great example of using modern communication technologies in VET comes from the Norwegian Move-IT project (2009-2011) targeted at the quality professionals from industry and enterprises all over Romania. LMS was used to distribute the learning materials, provide assessment and follow up through emails and forum.

SUCCESS FACTORS

- purposeful use of various communication channels,
- receiving and giving online feedback

Synchronous channels, video streaming as well as videoconferences, were integrated into the course to make it more interactive. The teacher's task was to use LMS to interact with the learners (feedback, organization of live meetings) and correct the students' home work, as well as to organize video and chat meetings during the courses.

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REFERENCE TO THE COURSE

Module 3 & 8	Exploring videoconference for communication and group work
Module 8	Participating in group work Developing skills for online group work
Module 9	Developing strategies and skills for online moderation
Through the course	Exploring various communication channels of LMS

3.4 Defining the role of the teacher in an online course

Online environment is different in terms of actions and behaviours and as such it poses new challenges to educators. Lithuanian „e-Mentoring“ course is an example of a **self-directed course** for learners who take it individually, at their own pace. The course focuses on the so-called 3M actors – Mentors, Mentees and Managers. The aim of the course is to provide theoretical knowledge and practical examples for 3M actors – to prepare them for the mentoring process. The course is prepared in Moodle (LMS) and is open for learners and teachers from VET, higher education or adult education sector. There are four learning sessions divided into reading, questions/answers session, video and success stories. The results are available on <http://3m.e-mentoring.eu/>.

SUCCESS FACTORS

- design specific for independent or facilitated learning,
- providing support for teachers on design and moderation

Conversely, a Slovenian case focuses on a facilitated course. “The learning company” is a course in which students establish a business, write an offer, publish a catalogue and simulate the vending chain with their classmates. Students in this project learn to use Internet browsers, email, spreadsheets, word processors etc. while participating in group work. The teacher acts only as an observer, providing guidance for certain activities and maintaining the activity of students.

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REFERENCE TO THE COURSE

Module 9	Developing strategies and skills for online moderation
Module 10	Competences of the moderator

3.5 Training practical VET skills for particular vocation

Although many VET-related skills cannot be mastered online, e-learning and ICT can play an important supportive role to enhancing the traditional face-to-face VET instruction. A Croatian technical secondary school uses an LMS course in order to provide their students with as practical a knowledge as possible of working on a CNC machine prior to their actual practical courses. The school acts as a regional centre for a group of technical schools as the only one with the necessary equipment, and is where students from other technical schools in the region take their practical courses.

SUCCESS FACTORS

- design for practical skill development
- providing support for distance learners

In order to prepare the remote students better, an online course was developed with the relevant theoretical materials, as well as video clips and explanations of operations on the CNC machine, so the students can get acquainted with the process and learn about

it before getting the chance to work on the machine itself for the first time. This provides not only better (deeper) learning, but also a safer working environment, an often crucial fact in VET.

REFERENCE TO THE COURSE

Module 2	Competences in VET
Module 4	Designing e-learning activities
Module 5	Developing e-learning resources in VET

3.6 Training soft skills required in VET sector

Although the teachers didn't mention them during interviews, social interactions and mastering soft skills were widely present in most of the case studies analysed by the eVET2Edu team. They are important for VET learners, and for some professions mandatory (such as self-presentation for tourism and hospitality). In one of the Spanish schools a project „Tell me about your artwork” requires learners to play a role of a guide. The task is to explain a work of art to an imaginary group of 20 people of different age, education and interests in only a 5-minute speech. They record this description in an audio format, upload it to Youtube and broadcast for further evaluation. In this activity students not only learn about art and culture, but they also learn to select and evaluate data and use software for presentational purposes.

Additionally, a teacher of tourism in a higher vocational school highly values presentation skills of learners. The first class is always dedicated to forming groups around certain topics. During each lesson 15 minutes are dedicated to short presentations of selected topics by individual students in front of the class. The speeches are recorded. Initially only audio recording were made, but later the

students decided to use cameras and record videos. The recordings are a base for reflection about their individual skills. The best videos are now re-used by students in a way the teacher did not even plan - they live their own online life as video handbooks, supportive or reference materials.

SUCCESS FACTORS

- embedded in regular classes,
- opportunity for reflection,
- selection of formats or tools by the learners

The Polish example concerns F2F teaches face-to-face, while the Spanish example is rooted in digital classes, but both lead to similar results: enhancing presentation and communication skills, overcoming the fear of speaking to the audience or enhancing self-presentation skills.

Soft skills such as entrepreneurship or ability to work in a group are essential in many professions and should be trained and developed in VET. In a unique Czech project "Competencies for Life" participants focus on soft skills/ competences for the labour market. Teachers receive 390 activities for the development of six key competences. The set can be used for VET teachers.

Feedback from teachers regarding relevant soft skills in education is very positive. A teacher of secondary school in Czech Republic says:

"Our students will definitely need basic knowledge in addition to the skills and habits, sometimes collectively called competences. Furthermore, the world is rapidly changing and information is increasing on daily basis, while soft skills remain the same. Competences appear in the current school reform in the Framework educational programs (RVP - Rámcové vzdělávací programy). However only if we can imagine really specific situations in which we apply such competences (or whatever you call them), can we begin to develop them in our students. I think that the methods used to induce these situations are the main benefit of the Competencies for Life project."

REFERENCE TO THE COURSE

Module 2	Competences in VET
Module 1, 3, 8	online presentation via profile, forum, whiteboard, videoconference
Module 8	Online collaboration
Module 9	Moderating discussions, applying strategies
Horizontally	Giving feedback and evaluating Enhancing general language and communication competences

3.7 Planning and assessing online activities

The use of ICT tools and Web 2.0 tools in the organization and development of an online course is definitively associated to a kind of multiplying of the amount of activities for assessing, correcting and planning with ICT.

Nonetheless, the immense 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.

For example in the case of IEDA (Andalusian Institute of Distance Education in Spain) teachers have changed their use of face-to-face exams (in their words: before inclusion of e-learning tools, 40% of exams were face-to-face exams and 35% classroom tasks. After the implementation of web 2.0 tools, 90% of assessment is done online and only 10% of exams are taken face-to-face). Additionally, they have included much more online activities as a part of the day-to-day routine of the course: e.g. one of the teachers uses Google maps to have the students create a route on the map and use 2.0 tools such as YouTube to make videos and explain the route.

SUCCESS FACTOR

- embedding into broader practice and curriculum

Intermediate tests are taken on the schools' e-learning platform called eCampus in Slovenia. The teachers prepare tests and set deadlines for solving tests. The final testing is always done conventionally (written or oral exam). The challenge in this kind of teaching is

that technology and teaching methods are constantly changing. The teachers try to quickly respond to novelties in these fields and continually enrich their services with innovation and development. For example, they began including elements of computer games in the e-learning materials, since they know that skills can also be acquired through games and the learning is more interesting. Adults also love to play computer games. Additionally, they incorporated a system that will check how much time the students used the e-materials.

REFERENCE TO THE COURSE

Horizontally	Experimenting with various online assessment examples (tests, scales, VLE statistics)
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3.8 Critical thinking and working with information

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.

SUCCESS FACTORS

- practical tasks,
- role play and game element,
- group work and motivation,
- relevance to actual professions

It consists of 6 elements: introduction, task (the formal description of what the students will produce in the WebQuest - the most difficult and creative part of developing a WebQuest), process (the steps the students should take to accomplish the task), resources (the resources the students should use - providing these helps focus the exercise on processing information rather than just identifying it),

evaluation (the way in which the students' performance will be evaluated), and conclusion (reflection and discussion of possible extensions).

The Czech "Spomocnik WebQuest" supports teachers with methodology as the database of webquests consists of more than 90 examples aimed at VET sector. For instance one of the Spomocnik WebQuest is dedicated to the tools supporting the learning of science subjects such as maths, physics, chemistry etc. (<http://www.samarihb.cz/webquest/index.html>). Students form groups in which each

member has a specific role (adviser, IT specialist, manager). They have specific tasks for which they need to collaborate using web tools and in the end present the results. The learners are requested to focus on their prospective professions, such as senior consultant, IT specialist or a speaker / manager and act according to their job profiles and responsibilities.

REFERENCE TO THE COURSE

Module 6	Searching for and evaluating online resources
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3.9 Designing engaging online learning

SUCCESS FACTORS

- ownership of learning by the learners,
- user-generated content,
- clear framework and scaffolding for the learners.

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 emphasized 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.

REFERENCE TO THE COURSE

Module 4	Designing online activities
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4. eVet2edu course designing and moderating e-learning for VET

The e-learning course "Designing and moderating e-learning for VET" is developed on the basis of the 7 editions of pedagogical e-course for educators. It has been re-designed to fit the context and purposes of VET, and localised for 7 countries (PL, CR, CZ, LT, SL, ES, IT, NO) and in English.

The main characteristics of the course:

- **local facilitation** and feedback in 8 languages, including multicultural cross-national course in EN;
- **certification** by the leading institutions in each country;
- **social learning** and we-learning: interactions, peer learning and mentoring as well as group work;
- **active learning**: tasks and assignments with minimum reading and maximum doing, based on the concept of e-tivities and situated learning;
- **outcome-based learning**: presentation of the results and creating online competence map for course participants;
- **authentic learning**: activities embedded in real situations and practice of designers and moderators;
- **openness**: open licence allows downloading and adaptation of the course by institutions and individuals, tools and resources proposed and used are free and/or open.

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Appendixes:

1. Executive summary
2. Data analysis report. Interviews
3. Data analysis report. Best practices



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