

# **E-learning strategies for VET teachers based on active cooperation with labour market operators**

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## **Abstract**

*This paper describes an innovative e-learning strategy to train teachers on issues related on competence-based education. It is rooted on the European policies on Vocational Education and Training (VET), which point out that nowadays the national educational policies should be more responsive to labour market requirements than in the past, and should effectively contribute to excellence and equity in lifelong learning. To achieve these objectives, the European policies stress the need of innovative learning methods, high labour market relevance, and pathways to further education and training. In particular, the Bruges Communiqué encourages the cooperation between schools and enterprises as one of the key measures to enhance the labour market relevance of VET.*

*In this paper, we report on the experience of online courses for VET teachers - organized in the framework of an European funded project – which have involved both teachers and labour market operators, who have collaboratively designed and developed Open Educational Resources aimed at integrating the learning curricula with the needs of the labour market. Results have raised interesting insights on the creation, processing and management of knowledge during the project.*

**Keywords:** E-learning, Lifelong learning, Knowledge Management, Vocational Education and Training

## **1. Introduction**

The European economic and financial crisis has emphasized the need for flexible, high quality education and training systems, which respond to the changing requirements of the labour market of today and tomorrow. Specifically, Vocational Education and Training (VET) provision should integrate the new labor market needs, which in the long term requires a better understanding of emerging sectors and skills, and of changes to existing occupations (European Commission, 2010).

According to the Council of European Union (2009) the next generation of European VET systems should be more attractive, relevant, innovative, accessible and flexible than in the past, and should contribute to excellence and equity in lifelong learning. To this aim, Member States are currently engaged in pursuing short-term priorities (2011-2014), designed to encourage students to stay in VET until they are qualified. Furthermore, the Member States encourage the creation of “knowledge partnerships” between VET providers, innovative companies, cultural operators and academic institutions. In fact, these partnerships can facilitate the introduction of learning methods based on experience and testing the adaptation of curricula.

The importance of the labour market for the lifelong VET systems, with a focus on the improved employability of graduates and “knowledge partnerships”, is also central to the Bruges Communiqué (European Commission, 2010).

Specifically, the Bruges Communiqué outlines various mechanisms through which the labour market relevance of VET could be enhanced; amongst them, it emphasizes the importance of cooperation between VET institutions and enterprises in order to *improve teachers' knowledge of work practices, on the one hand, and trainers' general pedagogical skills and competences, on the other*. However, in order to provide a better match between the labour market needs and the development of knowledge, skills and competences throughout the VET paths, the cooperation should be extended to other actors; in particular, the Bruges Communiqué encourages partnerships including stakeholders active in skills anticipation such as representatives of professional sectors and enterprises, social partners, relevant civil society organisations, research organizations, national policy makers and education and training providers.

Through this enhanced partnerships, it is possible to promote effective Knowledge Management mechanisms that cross the border between the educational system and the enterprises, and afford the challenges of the changing labour market. European policies also depict the role of each actor in the new Knowledge Management mechanisms:

- the employers, social partners, representative of professional sectors clearly define the competences and qualifications they need, in the short and the long term, within as well as across sectors;
- the education and training teachers and professionals, together with academics and researchers, elaborate new pathways to further education and training, innovate the learning methods and the VET curricula to be outcome-oriented, and adapt VET content, infrastructure and methods regularly in order to keep pace with shifts to new production technologies and work organization;
- Policy makers guarantee all the boundary conditions to foster the necessary changes, e.g. by providing high-quality infrastructure and facilities.

In this paper we present some results of online courses for VET teachers in Europe which have actively involved both teachers and companies' representatives. The courses have been activated in the framework of an European funded projects named Sloop2 desc (Sharing Learning Objects in an Open Perspective to Develop European Skills and Competences), which has been funded under the Lifelong Learning programme (Leonardo Da Vinci sub-programme).

This programme attested on its debut in 2006 that small and medium-sized enterprises play an important role in the European economy and consequently called for greater involvement in training initiatives (Council of European Union, 2006). The involvement of enterprises has been further encouraged by the Italian National Agency for the Leonardo da Vinci programme (Institute for the Development of Vocational Training and Labour, Italy), which has indicated it as one of the two Italian priorities of the programme in 2009.

One of the pillars of the Sloop2desc project is that it has involved representatives of the labour market as partners in a project aimed at VET teachers and their unique role: making the teachers aware of the needs of the enterprises. The specific role of these 'players', which have been called *Business Mentors*, is the main issue of this paper. Business Mentors have been involved – as partners – in all the 3 countries where online courses for teachers have been activated: Italy, Romania and Slovenia. However, since in the last 2 countries only pilot courses for a limited number of teachers have been run, this paper focuses on results specific to the courses in Italy, where more than 600 teachers have interacted and cooperated with the Business Mentors.

## **2. The Business Mentor**

The figure of mentor is defined by Hutto et al. as an experienced, successful and knowledgeable professional who willingly accepts the responsibility of facilitating professional growth and support of a colleague through a mutually beneficial relationship (Hutto et al., 1991).

In educational settings, mentors are typically experienced teachers that support professional growth of younger colleagues and facilitate the communication between them and other people in the school (e.g. other colleagues; administrative staff; secretary staff and so on). However, in order to facilitate the cooperation between schools and enterprises, and raise teachers' awareness of work practices, we encourage the introduction of a new kind of mentor coming from the business world, that we call Business Mentor (BM).

The Business Mentors' main objective is to make evident to people not directly involved in the company they work for (in this case the world of education and vocational training) what are the sectors of interest of the business organization and the area in which the corporate knowledge focuses. They can cooperate with teachers and other stakeholders in the definition of new educational strategies based on the companies' needs and teachers' skills and expertise.

In this perspective, the EQF represents a potentially important framework that allows schools and companies to align their interests according to formally defined qualification systems.

Following, we report some examples of typical activities for a Business Mentor:

- participating, as an observer, in all the learning activities providing feedback to the teachers taking into consideration the point of view of the enterprise.
- participating in and promoting discussions with other players of the learning settings (tutors, teachers, students, ...).
- participating, actively, to face to face meetings with teachers to describe the "business viewpoint" in the learning activities;
- providing support for the identification of the topics to be taught. This activity is particularly relevant in a competence-based educational context.
- providing feedback on the learning activities carried out by the students.

### **3. How to foster the dialog between teachers and Business Mentors**

The dialogue between schools and enterprises – which is extremely important to promote the access of students to the labour market – is hampered by the radical and substantial different features characterizing each of these two worlds.

Although there are not explicit references in literature regarding the difficulties in communication between VET teachers and labour market representatives, the relationship between academia and industrial sectors have been widely examined. For instance, Booker and colleagues have investigated the issue of relevance of knowledge management/intellectual capital (KM/IC) academic output for practitioners. Specifically, they have pointed out the substantial gap between the state of KM/IC theory and the practical applications of academic findings (Booker and al, 2008). Their analysis confirms the conclusions achieved - in other management fields - by Ankers and Brennan in 2002 who reported that marketing managers knew very little about the state of research and claimed that academics did not understand business realities (Ankers and Brennan, 2002).

Despite of this negative results, the studies also reports on some potential mechanisms to foster the communication between academics and practitioners; for example, Booker et colleagues – by pointing out that KM/IC practitioners perceive the scholarly body of knowledge as very useful indicate that *"If scholarly research should be made available to non-academic consumers, it needs to be transformed and delivered through indirect channels. It is believed that this is the most efficient approach to bridge the gap between academia and practice."*

According to the authors' experience, the relationship between VET schools and enterprises suffers of similar obstacles which could be reduced by acting on the communication channels. To this aim, we have proposed a communication model in which the Business Mentor plays a fundamental role; the model is composed by the following steps:

- Class competence analysis: an in-depth analysis of the class is carried out in order to identify the skills of the groups in each class. In this step the expertise of the class (and of its individuals) is made explicit.
- Class – BM matching: Business Mentors for each class are selected according to the expertise of the class and the technical skills and expertise of the Business Mentors
- Communication environment set-up: a collaborative space in which the discussions between BMs, tutors and trainees can take place must be set up; the decision on the technical solution which better fits the communication requirements should strongly take into account the affordances of different technological tools (Conole and Dyke, 2004);
- Continuous monitoring: the BM has the role of monitoring and promoting the discussions with students and trainees, providing suggestions and helping them.

#### **4. School - labour market collaboration to support inter sectorial Knowledge Management: a case study**

In this section we present the project Sloop2desc - *Sharing Learning Objects in an Open Perspective to Develop European Skills and Competences* – as a case study of the BMs experience to foster collaboration between labour market and schools in online learning contexts. The project – run from 2009 to 2011 - aimed at promoting the knowledge of European qualification systems amongst teachers and academics, through effective e-learning strategies already tested in a previous European funded project called *Sloop: Sharing Learning Objects in an Open Perspective* (Ravotto, Fulantelli, 2007). In the Sloop2desc project more than 800 teachers in Europe have been trained online on the development and sharing of Open Educational Resources (OER) to be used with their own students; OER have been designed by bearing in mind the principles of the competence-based education.

The online training activities for teachers have been structured in 5 modules:

- Module 1 - Using MOODLE as trainees and teachers
- Module 2 – Online tutoring and teaching strategies
- Module 3 – Using and developing Open Educational Resources
- Module 4 - European Qualification Framework (EQF), e-Competence Framework (e-CF), specific certification systems
- Module 5 – Cooperative design and development of Open Educational Resources on specific certification systems

One of the key concepts of Sloop2desc has been the Community of Practice (CoP) of teachers and stakeholders who has grown around the topics proposed by the project. The CoP has developed around the discussion forums activated in the project platform, and specifically:

- the ‘open forum’ – an open discussion area accessible through the project portal, which has been set up to debate on topics of general interest (still related to the topics of the project);
- the ‘Module 5 forum’ - reserved to the teachers enrolled in the online course - also entitled “Collaborative development of educational resources based on a competences standard”. This forum has been activated within the module 5 of the Sloop2desc course, in order to facilitate a discussion between Business Mentors (BM) and teachers regarding the development of OER according to a competence-based education approach.

A third forum, referred to as ‘service forum’, has been set up to allow partners, BM and teachers to discuss issues specific to the course.

In the Sloop2desc project, the BM have introduced the needs and expectations of the world of work, and provided feedback on the trainees achievements from the enterprises’ perspective. Six entrepreneurs have been selected as (BM) for 11 online classes of Italian teachers (more than 700

have enrolled the course); in Romania and Slovenia, companies have been involved as partners or associate partners.

The BM have supported the project activities by:

- participating, as observers, in all the activities of the project and providing feedback to the project partners;
- attending the transnational partnership meetings, in order to share their observations and provide support to the project;
- taking part in the technical meetings of the project in order to cooperate with teachers in the selection of the topics to be developed as OER;
- contributing to and promoting discussion threads in the "open forum";
- promoting and coordinating discussion threads in the "Module 5 forum"; the BM have provided support on identifying the OER contents, and provided feedback on the actual resources developed by the trainees.

Considered the central role of the CoP in Sloop2desc, in order to assess the contribution of the BM to the project, we have analyzed the BM support to the CoP, with regards to their participation in the project forums.

We have considered the hits of each discussion thread in order to highlight the topics that have collected more interest amongst the community. The results are shown in table 1.

<b>Subject</b>	<b>Hits</b>	<b>Type</b>
<i>LIM for learning</i>	3746	<i>Open</i>
<i>Falcone-FAL02 Ecdl</i>	3060	<i>Module 5<sup>2</sup></i>
<i>Informatics competences and enterprises</i>	2474	<i>Open</i>
E-learning experiences at school	2321	Open
Informatics competences and school	1796	Open
<i>Digital Native (them) and digital immigrants (us)</i>	1042	<i>Open</i>
Problems in inserting learning resources	1035	Service
Login and registration	1006	Service
Knowledge, abilities, competences	893	Open
Course reports	848	Service
SLOOP2DESC course experience	840	Open
<i>Technologies for software development area</i>	761	<i>Open</i>
FreeLOms	646	Service
FreeLOms User Manual	611	Service
<i>Networking Area</i>	564	<i>Open</i>
Learning design with competences	556	Open
Didamatica 2011	540	Open
Video meeting proposal	497	Service
Using excel for didactic use	492	Open
<i>Graphic and engineering area</i>	465	<i>Open</i>

<sup>2</sup> This discussion thread has received a surprisingly high number of hits, especially compared to other similar threads in the 'Module 5 forum'; a possible explanation is that the thread is catalogued, by the main search engines, under 'ECDL' related searches, and consequently they list the thread in its first page of their results, thus making it much more visible and accessible than other threads.

<i>Falcone-FALOI Linux</i>	427	<i>Module 5</i>
Tools web 2.0	372	Open
Self-assessment EUCIP and proximity profile	361	Open
<i>Montinaro- Boole Algebra</i>	359	<i>Module 5</i>
FreeLOms	348	Service

Table 1. **25 most popular topics in the Sloop2desc forums (out of 1566 topics).**

Subjects in italic are the ones in which the BM made a contribution. According to this data, we have observed that:

- Areas of the forum that have been setup to discuss topics of particular interest to companies are ranked highly in terms of popularity (e.g. *Computer skills and business; Technologies for software development; Networking Area; Graphic area engineering*). This shows that these topics received great attention from the community and from the public at large, which mainly consists of school teachers.
- The BM also participated actively in two forums dealing with topics mainly oriented to school teachers: *Interactive Whiteboard and Education; Digital natives (students) and digital immigrants (teachers)*, thus showing an interest in the education system as a whole, and a positive attitude towards communicating with teachers.

Finally, a preliminary qualitative analysis of the discussions in the project forums allow us to affirm that the participation of the BMs has had a positive influence in the OER produced by the teachers.

## 5. Conclusions

The Sloop2desc project has promoted and encouraged the cooperation between the formal education system and the labour market, in order to enhance the latter relevance of VET, as recommended by the EU policies on education, employability and economic growth.

Specifically, through an effective cooperation between VET professionals and the Business Mentors (enterprise representatives), school teachers have become aware of the necessity to make VET curricula more outcome-oriented, and more responsive to labour market needs. This is an extremely important result of the project, since it responds to a major social challenge: by readapting VET curricula, it is possible to reduce the risk of exclusion from the labour market, thus increasing both employability and employment rates of VET graduates. Furthermore, the teachers have developed pedagogical competencies which take into consideration the evaluation systems adopted by the companies to recruit VET graduates; finally, the project has contributed to improve the links between education and training professionals and the world of work.

The choice of the Sloop2desc project to focus on the competence systems more and more used by enterprises to recruit new labour force has proved to be a key factor for the achievement of the results; the second key-factor has been the involvement of the labour market representatives throughout the project, thus encouraging teachers and Business Mentors to share their perspectives on the VET system.

However, some obstacles to the communication flow amongst teachers and business mentors have been experienced during the project. The informal communication environment adopted in the project has proved to be effective in reducing the cultural barriers: it has been observed that the relationship between trainees and BMs, established through the online forum, has increased mutual understanding of the two worlds, facilitating the development of a common language and breaking down the barriers that often exist between them.

This final observation opens up some insights concerning the cooperation between teachers and Business Mentors: actually, Sloop2desc has highlighted how it is possible to activate new Knowledge Management processes that cross traditional borders between the educational system and the labour market. Further investigation is necessary to measure the impact of these new processes, both on schools and enterprises. Nevertheless, we think that the Sloop2desc project proposes a first step towards the objective of a stable integration between different knowledge producers: schools, companies, research centers, academy, and so on.

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