ASSISTING TUTORS TO UTILIZE WEB 2.0 TOOLS IN EDUCATION

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ABSTRACT

Over the last decade, web has changed the way that educational procedures are delivered to students and has brought innovative learning technologies and possibilities that were not available before. The Web has evolved to a worldwide platform for collaboration, sharing and innovation, constituting what is called Web 2.0. Social media are an emerging part of Web 2.0 and have great potential to be used in education. The efficient integration of social media and Web 2.0 tools in educational systems and courses' curriculum mainly depends on tutors' abilities and experiences. However, in many cases, tutors are not familiar with social media and with many useful Web 2.0 tools and so fail in utilizing them into their courses. In this paper, we present an educational system that aims to assist teachers to develop e-Learning 2.0 knowledge and skills and thus turn them from just in-class trainers to skilled e-tutors. We present the educational courses and the learning approaches followed to assist tutors in applying web 2.0 tools and the social media in their courses for the best benefit of the students' learning. The educational system provides courses and learning material, and assists the tutor to learn how to utilize social media and web 2.0 tools in classroom or in distance learning with the aim to organize, monitor and share learning content, attract students' attention with entertaining activities and motivate them to become more active and collaborate in educational activities.The evaluation study conducted reports very promising results.

1. INTRODUCTION

The advert of the web has changed completely the way that eLearning and educational procedures are delivered to students and have brought new innovative learning technologies and possibilities. Web 2.0 technologies are becoming very popular in the everyday lives of students and as a result, teachers and education designers have begun to explore their use in formal education. The growth of Web 2.0 and the rising of social media have transformed the way that people communicate and collaborate and have the potential to enhance the learning efficiency of the educational systems and eLearning procedures (Bennett et al 2012). Indeed, social media platforms can become important disruptive technologies for building cutting edge models of management education (Thomas et al 2012). In this line, the emergence of web 2.0 has led to a new concept known as eLearning 2.0 referring to the use of the social media and the technologies of Web 2.0 in the relatively unchanged institutional framework that characterizes education (Keats et al. 2007) (Lwoga 2012). When applied in education area, Web 2.0 technologies emphasize on students' active participation, the student-centered generation of content and collaboration and seem to fit very well with the kinds of creative and critical activities associated with all levels of education, with the ways that we know students learn through exposure to multiple perspectives, and with the communication and teamwork skills wanted for students to develop (Bennett et al 2012). So, the incorporation and utilization of web 2.0 technologies in education is vital.

When incorporating any kind of media into courses' curriculum, educators should consider the construct of the course, the technologies used and the pedagogical approaches followed to design and deliver the desired learning activities (Blaschke 2014). While eLearning constitutes a commonplace form of education, the web tools and applications that are used are mainly first generation web tools rather that second

generation, WEB 2.0 tools (Connolly et. al 2011). A reason for this is the tutors' and students' perceived complexity of the tools and the lack of training for using them properly. The tutors in many cases are not familiar with the trending social media services and the available web 2.0 tools and fail in utilizing them into their courses. It is well pointed that tutors need to constantly update their knowledge and capabilities regarding the utilization of new technologies in education. However, in many cases, the lack of tutors training and familiarity with the new web technologies prevent their educational utilization and development. Indeed, in many cases tutors are not familiar with the new web 2.0 technologies and are not aware of what they offer and how they can be utilized in education for the best benefit of their students' learning.

In order to assist tutors gain skills on the new Web 2.0 technologies we have designed and developed an educational system and created various courses and training scenarios. The system aims to broaden the e-skills and competencies of teachers, trainers and tutors and help them to develop adequate online training practices for effective distant tutoring activities at the workplace and on the go without time and distance barriers. In this paper, we initially present the educational system developed, the courses designed and the educational scenarios formulated that aim to help the tutors get familiar with various social media and web 2.0 technologies and platforms and utilize them in the courses they teach. The online courses are designed to assist tutors in applying social media tools and techniques in education and also learn how they can integrate the social media in their courses' curriculum. The utilization of social media could enhance the interaction between the tutor and the students and also the communication between the students who have the opportunity to create, share and exchange information and ideas in virtual communities and networks. Then, we present the evaluation study conducted and the results gathered regarding the tutors and students experiences, their thoughts and opinions.

The structure of the rest of the article is as follows: In next Section, background topics on social media and web 2.0 are discussed and related works are presented. In Section 3, we describe the content and the methodologies of the online course developed, the topics it covers and the social technologies involved. In Section 4, the evaluation study conducted is presented and the results gathered are discussed. Finally, Section 5 concludes the article and draws directions for future work.

2. BACKGROUND TOPICS AND RELATED WORK

Web 2.0 technologies and tools have been used with great success in the e-Learning field and can be utilized to improve the efficiency of the learning for the best benefit of the students. There are many definitions regarding the term and the concepts of Web 2.0 which is defined as the social use of the Web which allows people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online (Grosseck et al 2009). Over the past few years, the integration of social media and web 2.0 technologies in educational systems has attracted a lot of interest. A recent overview of good and widely used approaches can be found in (Moran et al 2011) (Tess 2013). Several studies (Venkateshet al 2014) (Churchill 2009) (Laird 2014) point out the important role that web 2.0 technologies can play in educational systems and in the e-learning area in order to assist tutors to enhance the efficiency of their courses' learning activities, engage and motivate students and improve the communication and cooperation among students and their tutors. Various studies (Holotescu 2015) (Huang et al 2014) examine the way that web 2.0 can assist students in learning and support the development of their skills and competencies and also enable drive broader pedagogical approaches and decision making with the aim to improve educational material and learning procedures. In the work presented in (Ebner et al 2010), authors present a research study that was carried in an Austrian University regarding the use of microblogging platforms in Higher Education. The authors indicate that microblogging should be seen and handled as a completely new form of communication that can support informal learning beyond the classrooms. Authors in (Hung et al. 2010) explore how social networking technologies can be used to supplement face to face courses and provide a mean of enhancing the students' sense of community and promote classroom communities of practice in the context of higher education. The authors indicate that the majority of the participants in their experimental study developed a strong feeling of social connectedness and expressed favorable feelings regarding their learning experiences in the courses where social networks were used as a supporting tool. A study made by Callaghan (Callaghan et al 2012) shows the potential of social network integration into course curriculum. The authors point the critical role of the teacher in engaging effective online learning in social networks and indicate that the

quality of teacher-student relationships, the extent to which a 'learning' rather than 'social' attitude was established, and the online presence that the teacher exerted in the social network facilitate more successful student learning. In the study presented in (Arnold et al 2010), authors indicate that social networks can extend the community originally formed in a physical classroom into an online social network community. The online environment could provide students and teachers the ability to publicly post and read each other's work, modeling approaches to the assignments and various opportunities to provide feedback. Authors in the work presented in (Roblyer et al 2010) study the integration and the utilization of the Facebook platform in the education field. Authors present how students could communicate and cooperate formulating virtual classes and indicate that students are open to the possibility of using Facebook and similar technologies to support classwork. Finally, authors in (Grosseck et al 2009) examine the potential of the Twitter network in the educational field. The authors describe its capabilities and present various ways it can be utilized by the tutors in their courses. The work indicates that Twitter can be very useful and assistive for both tutors' teaching and students' learning enhancing their communication and cooperation.Researches and educators indicate the important role that social media can play in the educational field for assisting the tutors in teaching and students in learning for the best benefit of their learning progress. It is well pointed that teachers should have a strong knowledge and understanding of the way that social networks function, what each social network offers and how they can be utilized and integrated into the courses they teach.

3.   WEB 2.0 TECHNOLOGIES AND USING SOCIAL MEDIA

In this section we present the educational system developed and the courses designed to assist tutors in learning how to use social media and web 2.0 technologies in education. The educational system offers tutors various functionalities. Initially, tutors register to the system. During registration, personal information such as name, age, sex, years of previous employment, discipline, school and specialty are required. After subscription the tutor can, at any time, enter the system and assess his account and then select and study the available courses.

The system provides tutors a series of online courses that assist them to learn how to use web 2.0 technologies and social media in education and also assist them to develop online courses and enhance their teaching. In general, the platform provides tutors with courses covering the utilization of the new generation technologies in education. The courses are organized into categories and each category consists of a series of courses. Three main categories of courses are available covering the domain of application of social media in education, presentation of web 2.0 technologies and the e-Learning practices in classroom and in distance education. A part of the categories of the online courses provided by the platform is illustrated in Figure 1.
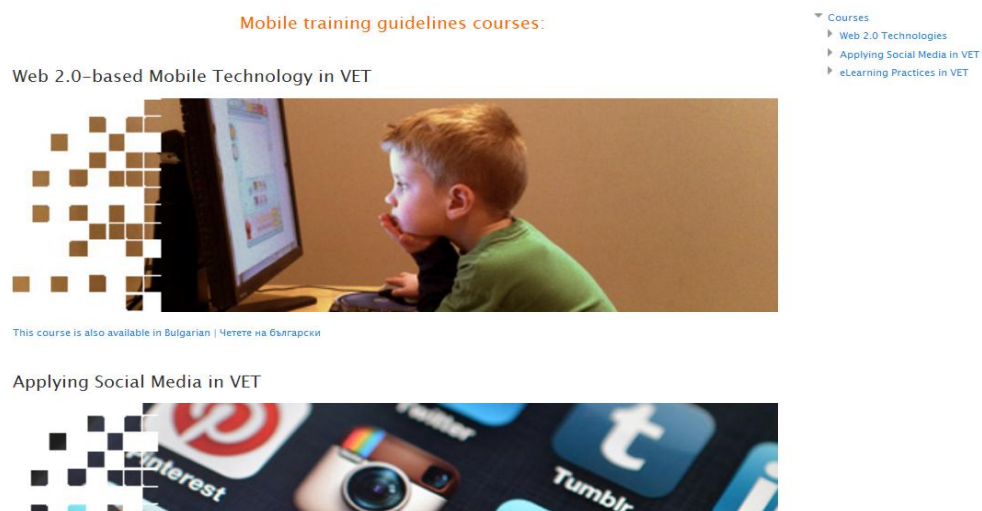

Figure 1. A part of the main categories of the courses

Each category consists of a number of courses. A basic course regarding the use of social media in education is the "Applying Social Media in VET".This course after an initial introduction to social media provides detailed, step-by-step instructions to use some of the most representative social media tools for education. The social media tools covered are Wikispaces, PrimaryPad, Twitter, TodaysMeet, Facebook, Edmondo and Pinterest. Some of these are very popular tools that the educators may already be familiar with (Facebook, Twitter) while others are not popular, but are very useful and easy to learn tools (PrimaryPad, TodaysMeet) that can be used in the classroom or in distance education. Each presentation/chapter has an introduction and instructions of how to use the tool and also a section with ideas, guidelines and scenarios to follow for the tool presented. The contents of the course are illustrated in Figure 2.
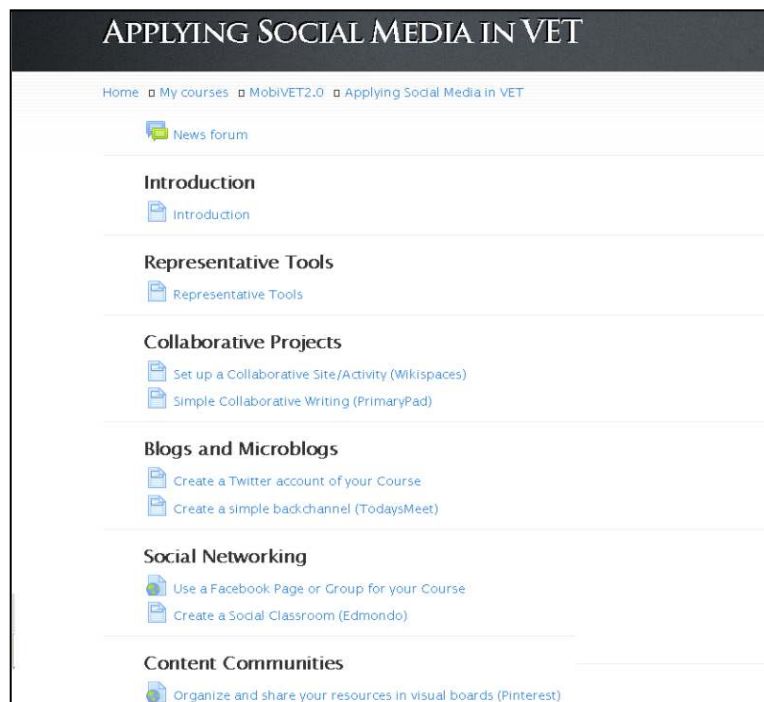

Figure 2. Contents of the course "Applying Social Media in VET"

The course provides an introduction to the social media and to the technologies it involves. It also provides a simple categorization of the basic types of Social Media Tools. Furthermore, it describes the benefits for both students and educators of applying social media in education and especially in distant learning. For each type of Social media tools (Collaborative, Blogs and Microblogs, Content Communities, Social Networking, Virtual Social Worlds, Virtual Game Worlds) it refers to specific tools that are popular or useful for education. For each tool there is a small introduction about what it is and what kind of functions it offers. It focuses on free and open source software that is either popular, so educators and students are probably already familiar with, or simple and easy to use in classroom. The platform also provides the capability for the trainers to create an online course using the Web2.0 technologies. It provides guidelines for designing and developing an e-Learning course for instructional designers and trainers who are new to the development of online learning resources and it addresses the design, development and delivery activities which are specific to e-Learning. The tutors can access the educational system anytime, select the courses they would like to take and study the material of each course on their own pace. Finally, while studying the courses, the tutors can utilize the tools they study into their own courses and help their students to explore and use them.

4. EVALUATION

The evaluation study had the purpose to evaluate the teachers' overview about the utility of didactical aspects of the system and the courses designed. It aims to provide an insight of tutors' feelings regarding the utilization of web 2.0 technologies into their courses. The evaluation was conducted during the school year 2014/15 and the participants were 11 tutors from Greek schools from different categories of schools and education levels.

The primary descriptive analysis indicates that the respondents are distributed by gender with ratios of 27% male and 73% female respectively. Also, regarding the respondents' age, it can be observed that 73% of teachers are over 40 years old as illustrated in Figure 3.
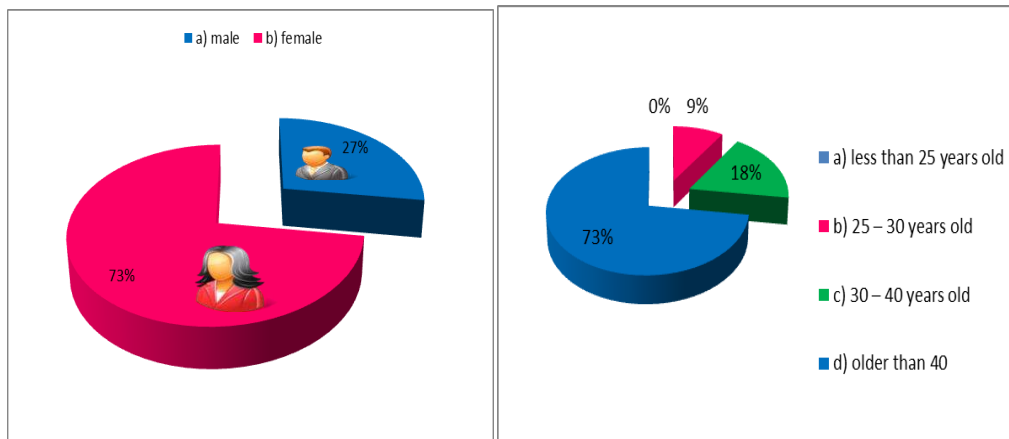

Figure 3. Tutors gender and age.

In addition, the distribution of the educational levels of the tutors' organizations is illustrated in Figure 4. The results showed that most of the tutors were teaching in secondary or vocational schools.
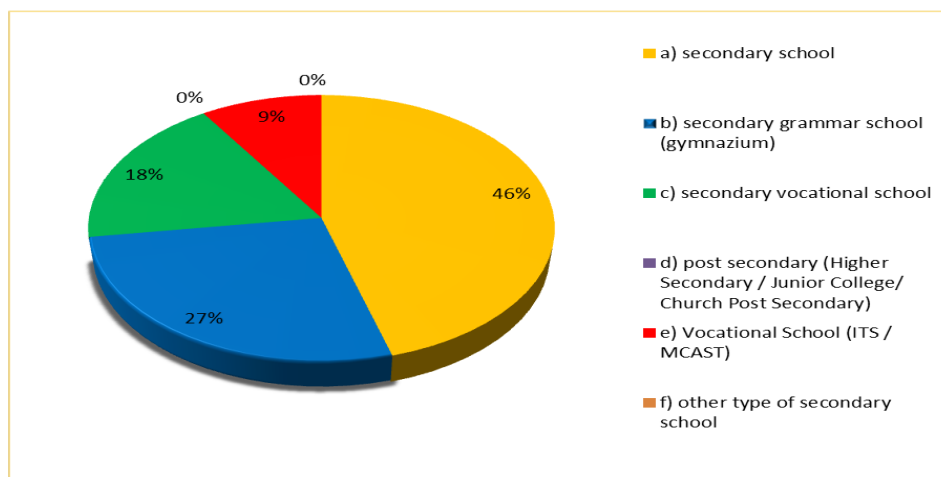

Figure 4. Distribution of the educational levels of organizations

The system provides online courses that the trainers studied and used into their courses. Presented in Figure 5 are the courses that tutors studied and utilized and the most studied courses were the "Applying Social Media" and "Web 2.0 based Mobile Technologies". Both of these courses present technologies and tools that could be useful for all trainers regardless of their domain. Most of the other courses offer good practices regarding specific domains and as expected fewer trainers were inclined to use them.
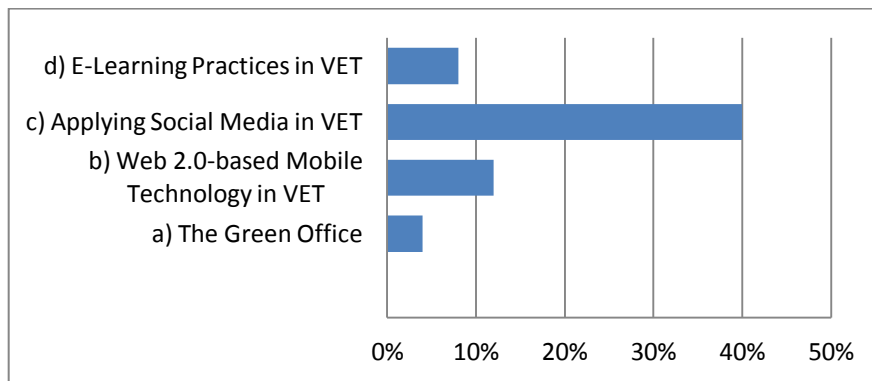
Figure 5.Courses attended by the tutors

After tutors had studied the courses, they were asked to apply the practices and the learning activities they learned in their courses. They were also asked to integrate and use web 2.0 tools they find interesting and fit to the nature of their courses. Then, all trainers were asked to complete an online questionnaire which consisted of questions indicating their experiences of using social media in their lesson and evaluating the quality of the online courses. The questionnaire consisted of 10 questions. Questions 1-8 were based on a Likert (Likert 1932) scale (1: not at all/not good, 5: very much/very good) (see Table 1). Remaining questions 9-10 were of open type and concerned strong and weak points or problems using the platform.

Table 1. Analysis of the tutors' questionnaires

Q	Questions	Answers (%)				
		1	2	3	4	5
1	Did you find the online courses interesting?	0	9.1	18.2	18.2	54.5
2	How much did the online courses assist you to utilize Web2.0 Technologies into your courses?	0	0	27.2	36.4	36.4
3	How much did the online courses assist you to use the social media in classroom?	0	18.2	18.2	18.2	45.5
4	How would you rate the quality of the context of online courses?	0	0	27.3	18.2	54.5
5	How would you rate the quality of the multimedia of online courses?	0	9.1	18.2	18.2	54.5
6	How appropriate did you find the length of the course/courses?	0	0	9.1	45.5	45.5
7	How would you rate the quality of the learning material in general?	0	0	9.1	45.5	45.5
8	Would you suggest the online courses to other trainers?	0	0	0	45.5	54.5

The questionnaire results show that the tutors gave very positive responses. More specifically, tutors' answers show that they found the system and the courses very helpful in learning how to utilize web 2.0 technologies and social media in education. They also found the courses to be well structured and designed and the educational context to be of high quality. Finally, tutors indicate that they will definitely suggest the system and the courses to other tutors.

For the second part of the evaluation study, tutors asked their students regarding their experience of using web 2.0 tools and social media in the courses. The purpose of the study was to examine the students' thoughts regarding the efficiency and the effectiveness of web 2.0 tools and social media in the classroom and in distance learning. In this part of the study, the participants were 100 students. The fields of the studies that the tutors teach and students participated in were among others: theoretical studies in sciences as engineering, Physics, Economics and Business Administration and Mathematics. The questionnaire given to the students consisted of 5 questions which were based on a three point Likert-scale (strongly agree, neutral, disagree). The results collected are presented in Table 2.

Table 2. Analysis of the questionnaires that students filled in

Questions	Agree/ strongly agree	Neutral	Disagree / strongly disagree
	%	%	%
1 The use of social media can enhance my learning interest.	84	12	4
2 The use of social media can enhance my learning motivation.	85	10	5
	70	20	10
3 The online course helped me learn more effectively.	72	22	6
4 The social media helped me to better communicate and cooperate with my fellow students.	75	20	5
5 Would you suggest the web 2.0 tools to be used by the next year's class?	82	17	1

The results indicate that the students enjoyed and had a positive feeling regarding the use of web 2.0 tools and social media in education. It is very encouraging that a very high percentage of the students (approximately 85%) claimed that social media increased their learning interest and motivation. Students also indicated that the communication with their fellow students and their cooperation was better and that they were able to cooperate in a more direct way. Finally, most of the students (82%) would definitely suggest next year's class to utilize the web 2.0 tools and the social media.

5. CONCLUSION

Social media and web 2.0 tools are important technologies that can enhance the learning capabilities of educational procedures both in classroom and in distance education. A vital aspect of the effective utilization of the social media and web 2.0 tools into courses and students' training activities in both formal and informal learning is the tutor's experiences and skills. However, research studies indicate that in many cases tutors are not familiar of the new web 2.0 technologies and are not aware of what they offer and how they can be utilized in education for the best benefit of the students' learning. So, in this paper, we present an educational system and courses designed to assist tutors in learning how to utilize the capabilities offered by the Web 2.0 technologies and the social media and understand what each tool can offer and how they can be integrated in educational activities and in their courses in both classroom and distance education learning. The utilization of social media and Web 2.0 tools could enhance the interaction between the tutor and the students and also the communication between the students who have the opportunity to create, share, exchange and collaborate on information and ideas in virtual communities and networks.The evaluation study reports very encouraging results. Findings indicate that possible pitfalls of tutors or even students being unfamiliar with the Web 2.0 tools and technologies and the lack of institutional support can be easily overcome.

As future work we plan to make a bigger scale evaluation of the educational system's capabilities and furthermore extend the learning scenarios and the educational activities offered to the tutors during the designed courses. Furthermore, we plan to extend the system so that tutors that utilize web 2.0 tools into their courses, to be able to report and illustrate good practices and share their experiences and their students' feelings with the educational community and with other tutors, stakeholders and institutions on local, national and international level. Exploring this direction is a key aspect of our future work.

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