Investigating the Conditions of Utilizing Web Technology in Educational Project Management: A Case Study

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Abstract

The purpose of this study was to investigate whether Web 2.0 technology and especially Wikis could be the appropriate environment for students and teachers to use for educational project management. The conditions under which both teachers and students would be more easily motivated to adopt the use of Wikis were also detected in the case of the Greek educational system. This research aimed at recording limitations or certain suggestions that teachers or students noted and also if there was a way to overcome possible disadvantages. The fact that this study presents specific findings from the combination of interviews of both students and teachers makes it interesting and significant, since it examines the expectations and the possible speculations of both sides.

1. Introduction

For the last two decades, the technological evolution of Information Systems (IS) has brought about enormous changes to many fields of our lives. Tools like PowerPoint, the use of e-mail and web applications have been around for many years in educational context (Hsu & Dickinson, 2007; Kontopodi & Valvi, 2012). However, Web 2.0 technologies have offered unexpected opportunities for educational activities, since teachers and students could interact through them, using social networking applications such as Wikis, Blogs, Podcasts and RSS (Bitsani-Petrou, 2015; Duffy & Bruns, 2006). These Web 2.0 technologies have become a useful tool for educational project management, as they give the space for collaboration and increased participation (Liao et al., 2015). Projects in educational context concern teachers or students alone and mixed groups, in administrative, curricular and extracurricular activities (Moursund, 2015; Papakitsos et al., 2015). What makes the educational projects different is the existence of groups of participants, which may have a specific goal, but not necessarily both the motivation to accomplish it and the existence of formal bounds. This goal for each group is the accomplishment of a part of the total project of the educational community. Due to this group structure that follows the informal bounds, the sharing of knowledge and the common goal, we can talk about "communities of practice", henceforth CoP (Wenger & Snyder, 2000).

The usage of Wikis in educational context has increased due to a variety of characteristics that they present (Altanopoulou, 2011; Cotsakis, 2012; Quek & Wang, 2014). Wikis allow the sharing of information between the members of a group but they also give the opportunity to everyone outside to see the final team work. In addition, Wikis gain popularity in the educational procedures due to their simplicity and ease of use, which allow users to be more autonomous, independent and creative. In fact, most Wikis provide a simple form that is based on the concept "What you See is What you Get" (WYSIWYG), which is relevant to the simplicity and the lack of standardization in the creation of webpages (Mattison, 2003). After the initial idea of Wikipedia in 2002, a variety of Wiki applications such as Wikispaces, Mediawiki, PBWiki or Wikidot followed (Chu & Kennedy, 2011). However, using Information Technology (IT) in educational context faces challenges such as socio-political and organizational ones. The first kind concerns the practices of educational institutions that must be adapted so as ITs can be used, specific policies that must be applied and norms that could regulate this usage. The second challenge has to do with the existing infrastructure, the resources that are needed, the required technical support and finally

the time that is needed for the training of teachers and students, so that they can use specific software or applications. Thus, the administrative time for a teacher increases and that could be a problem (Salavati, 2013).

1.1 Previous Studies

A good introduction answers these questions in just a few pages and, by summarizing the relevant arguments and the past evidence, gives the reader a firm sense of What was done and why (Beck & Sales, 2001, pp. 100-102).

There are many previous studies that examine the role of Wikis in educational context all over the world (Ravid et al., 2008; Ebner et al., 2008; Karasavvidis, 2010). Most of them are about the use of Wikis in tertiary education (Ziogkou & Dimitriadis, 2010) and recently there have been studies on this usage in secondary education (Honegger, 2005; Singh et al., 2013; Grant, 2006, 2009; Mak & Coniam, 2008; Rossiou, 2014). These studies examine the use of Wikis from many different perspectives and suggest new ways for their exploitation. In Greece there are only a few studies mostly focused in tertiary education, as well. There are also just a few studies about the use of Wikis in secondary education context (Chatzistratidi, 2015) that reveal certain aspects of this issue. For example, to the question:

- "How much do you think that Wikis helped the cooperation between the members of the group?"

the students answered as presented in Table 1.

Table 1. Answers of students about facilitating cooperation through Wikis

"Not at all"	"medium"	"A lot"	"Very much"
30%	25%	25%	0%

Similar were the findings to other questions of these studies. So their authors believe that their research showed conflicting conclusions and they have identified many gaps, thus suggesting further research. Many different aspects and parameters that cover in a holistic way this usage of Wikis were examined. The results were mostly positive although there were certain difficulties that concerned the students' access to a computer or to the Internet and the teachers' skills for the needed administration (Rossiou, 2014). Another issue has to do with the way that teachers see the adoption of Wikis for their duties. The findings were that teachers in Greece want to use Wikis but there are still some concerns that may be reduced in the future due to the employment of younger teachers who are familiar with IS/IT (Georgakenas, 2013).

Moreover, the studies that have been already conducted present some limitations, since they do not examine all the participants in the educational procedures, such as headmasters or parents. In addition, the samples are relatively too small (Georgakenas, 2013) to lead to safe conclusions and also the economic crisis in Greece is a factor that affects the reluctance of teachers to easily adopt new innovative ways of using IS/IT. That happens because they feel that they are not paid well enough to invest more time on their work. This fact might have an effect to the findings of relative researches. In this respect, it should be firstly discussed what are the basic concepts and the main characteristics of Web 2.0 technology and Wikis, along with the ways that Wikis are used in Education, up to now.

1.2 IS/IT in Education

1.2.1 Web 2.0 Technologies

Web 2.0 technologies were a promising area for the creation of virtual communities, which can interact through the sharing of content, audio or graphics. It all started with the use of some applications as a communication tool for CERN scientists but over the years they became a global space for reading and writing utilities and also for social and participating activities. Web 2.0 is in fact the second generation Web applications that combine pleasure and productivity, sharing of content, interaction and collaboration between peers and communities based on Web (Craig, 2010). It facilitates the communication with colleagues, old friends and relatives but also with people all over the world. It is composed of a group of different technologies such as podcasts, blogs, Wikis, RSS feeds, social networks and so on, which make connections in society (Anderson, 2007).

1.2.2 Wikis

A Wiki, which is a major part of Web 2.0, is in practice constructed from one or more pages that are dedicated to a theme or an activity and give users the chance to add content or exchange points of views. It took its name from the Hawaiian word "wiki wiki" which means fast. Wikipedia is the most known example of Wikis application and

is an online encyclopedia that exists due to volunteering work of many web users that enrich its content in their native language (Chu & Kennedy, 2011). Basically Wikis are systems that are used as online platforms where users can write, edit, extend and link other already existing texts. They can also be used as knowledge management systems. They are based on simple HTML elements and editors for the construction of online texts. Wikis work independently from the computer operating system and they do not demand any other local software, since they are accessible through Web. As web applications, Wikis provide the known expression A3 which stands for anytime, anywhere, anybody. They provide interaction between users, users and content and users and instructors. These benefits make Wikis a suitable environment for successful learning and serve the increasing demands for cooperation and training of the learners to solve problems (Chatzistratidi, 2015).

The functions that are available through Wikis enhance socialization and collaboration, increase the interest of participants, since the members of a group contribute with their ideas and efforts for a common goal and provide reflexivity and meta-cognition, capabilities that are significant for today's information era (Ebner et al., 2008). The structure of Wikis is free and the webpages can be organized according to the users' preference and not with a specific order like blogs or forums. This characteristic makes Wikis a flexible tool that offers expansion abilities through collaboration (Duffy & Bruns, 2006). They give space to further processing of information; they are suitable for peer interaction and help the diffusion of knowledge through group work and exchanging of opinions. They can be the base for developing CoP, since they are easy in use and facilitate a democratic participation (Parker & Chao, 2007).

Wikispaces is a free Wiki and there are not extra demands in hardware or software for its use. There are Wikis with more utilities but Wikispaces is simple in use and the provided utilities are apparent for the users. It can operate in three different modes: Private, Protected and Public. For this study the mode "protected" was chosen, where everyone can see the content but only the authorized users can add or edit text and comments (Theofanelis et al., 2013). However, there are also limitations and challenges such as the openness of Wikis that allows all end users to edit the texts and so there is the possibility of false or even dangerous information (Ebner et al., 2008). The flexibility of Wikis also sometimes means that the information can be presented in an unorganized way. In addition, there could be conflicts between the participants in a Wiki and that could lead to unpleasant situations (Theofanelis et al., 2013).

1.2.3 Wikis and CoP

The idea of CoP was introduced in 1991 by Lave & Wenger (1991). According to the authors, a group of people that share a common interest can, through the exchange of information and experiences, achieve a goal for the field that they are interested in. Later on, Wenger (1998) suggested that a CoP is a concept that combines three basic elements:

- A domain of knowledge that provides a common background and identity,
- a community of people who are interested in this domain and
- a common practice, which the community implements and is beneficial for the domain.

CoP is a concept that is used mainly for companies, but it can also be extended to other social groups that have the same characteristics. Wenger & Snyder (2000) say that CoP might have an agenda of tasks that could follow, but they usually don't follow it exactly and find creative ways to give a solution to problems. From this perspective, groups of participants in educational context can be considered also as CoP, since they can organize their work autonomously and according to the abilities of their members. So the teachers/students groups present the benefits that a community of practice generates. These benefits are that the groups can "renew themselves", share common effective practices and develop critical skills (Wenger & Snyder, 2000). In addition, it would be effective for the teachers to listen to the stories of the groups about how they act and use the best practices for their future guidance to other students. In conclusion, as Sheehy (2008) suggests, one of the most effective strategies for managing educational projects would be the building of CoP.

Wikis can be an appropriate Web 2.0 technology tool for enhancing the existence of CoP and consequently the quality of managing process. They allow multiple contributors, they do not need one particular person to be in charge, they offer quick and easy way of editing from any Internet browser, and they constantly evolve, providing new features and ways of uses (Sheehy, 2008). They are a facilitating platform for the members of a CoP to share their knowledge, work all together, discuss and negotiate and contribute with their individual piece of work for the common goal. Wikis have characteristics that can support significant principles of CoP philosophy, like virtual presence, participation, democracy and the development of individual but also of community identity (Chu & Kennedy, 2011).

1.2.4 Wikis in Education

Wikis have existed in Education for at least one decade in English-speaking countries and many "Wikis" experiences have been described so far (Honegger, 2005). They were firstly introduced into post-secondary education. However due to their characteristics, they became a useful tool to other levels of education with a frequent use in secondary education. According to Duffy & Bruns (2006), Wikis have the following uses in Education:

- They can be used in research projects as a platform of documentation of students' work.

- Students can add their summaries of thoughts.

- For distance learning, Wikis can be a platform for publishing course resources.

- They can be also used as a knowledge base for teachers, providing the space for exchanging opinions, documents and good practices. For this function, Wikis offer an easy navigation and searching environment.

- They can be used for map concepts (brainstorming).

- They are appropriate for presentations of students' works through common software, like PowerPoint and also facilitate students to comment or revise them.

- They are suitable for group authoring and for course evaluation.

As it was presented above, Wikis have many benefits. However there are some drawbacks that must be mentioned. The administrative and teaching educational practices should be revised in order to be consorted with Wikis and teachers need to adopt new strategies since students need to work out of class and need to get feedback (Chu & Kennedy, 2011). The lack of a system locking of some Wikis is another problem. In this case, when two users edit at the same time, some changes will be deleted. In other Wikis, editing at the same time is not possible. Finally, because of the difference with traditional practices, students might need instructions and help from their teachers to become familiar with Wikis (Duffy, 2008). Despite the disadvantages, the functions and characteristics of Wikis make them an appropriate tool for collaborative practicing, reflecting and negotiation.

1.3 The Research Problem

Although Wikis seems to be perfectly suitable with the philosophy and the collaborative character of educational project management, they are not widely used by the majority of teachers. According to a relevant study (Theodosi & Ikonomou, 2014), there are certain conflicts in students' preferences about the use of Wikis in educational projects and this comes in contradiction to the general concept that IS/ITs enhance educational procedures and raise the interest and the motivation for participation. Moreover, reluctance by teachers in adopting Web 2.0 tools is observed (Georgakenas, 2013). This fact necessitates additional and more detailed investigation of the problem. The wider use of Wikis will certainly increase the degree of participation and collaboration between students and teachers, even of different schools. This study aims at mapping the reasons that Wikis are not widely used and suggests new ways of exploitation for overcoming the related obstacles.

1.4 The Purpose of Study

The current research concerns the use of Wikis, a major component of Web 2.0 technology, for the specific purpose of educational project management. This purpose is realized in many ways that are based on teamwork between teachers and students. Wikis are a compatible tool for this type of educational activities, regarding either administration duties or teaching/learning processes, since they offer the ability to different users of creating their own, open to everyone, webpages with interactivity, cooperation and enhance group work (Parker & Chao, 2007). Obviously there are many web tools more directed than Wikis. They might be more oriented in educational purposes as in the case of MOOCs or LAMs, or in the organizational aspect (Note 1), in communication purposes (Note 2) or even in presentation purposes (Note 3). But in the case of a general purpose Wiki, there is an orientation to content, common practice and group work with a democratic organization that, combined with a certain flexibility in structure, they form a near perfect environment for educational projects.

Therefore, the purpose of this study is to investigate the ways that Wikis, and more specifically Wikispaces, can be a useful tool for the implementation of the educational project management, what the advantages or disadvantages of this usage could be and what teachers and students believe about using Wikis for this purpose. The reasons that Wikispaces were selected are that they constitute a popular tool and enhance students to an active participation through interaction. They also offer a simple structure for managing all the necessary functions like definition of teams, creation of private groups and activities assessment. The environment can be safe because

teachers may choose exactly who they want to participate or not, so that they keep the students safe from possible threats (https://www.wikispaces.com/).

2. Method

This research has followed the qualitative approach, which is usually used for social/complex phenomena and wherever the aim is the deep understanding of how groups or individuals consider a specific situation or a system (Creswell, 2008). This research method is inductive, since we expect to produce meanings and ideas after the data collection and analysis (Creswell, 2009). The research methodology was the action-oriented research. The reasons for the selection of action-oriented research are analytically explained bellow.

2.1 Action-Oriented Research

Action-Oriented Research is based on Action Research which is a methodology that gives the researcher an extra role, the "helping-role" (Baskerville & Myers, 2004). By conducting an Action Research, the researcher establishes a specific problem, makes an action planning, takes action for the implementation and then continues with the evaluation of the results. This evaluation can lead to further action planning etc. Moreover, the researcher collaborates with the participants, who at the same time are those who face the "problematic" situation. In Action Research we can distinguish two main stages:

- The first stage of the method, which is called "action planning", is the diagnostic part that aims to establish the problems and to suggest possible solutions.

- The next stage is called the "therapeutical stage" that is related to the creation of an organizational change (Baskerville & Myers, 2004).

In this research, only the first stage of the method was applied. More specifically, the researcher conducted interviews with the participants and analyzed the results in order to come up with certain suggestions for a change. The therapeutical stage was out of the initial aims of this research and thus the methodology is an Action-Oriented Research.

The specific methodology was chosen for the current research because it fulfills the main principles that Baskerville & Myers (2004) suggest. According to their suggestions, Action Research is related with practical issues and considers the researcher not as someone who wants to merely study an organizational phenomenon, but a person who wants to make an organizational change and study the way that this change can be made. For this research, both teachers and students were introduced to the way that Wikispaces work through a presentation, since they lacked previous experience. Then, interviews were conducted in Greek language.

2.2 Paradigm of Inquiry

In IS field there are three classifications/orientations that can constitute a choice for a research. These paradigms are the "positivist", the "critical" and the "interpretive" approach:

- The positivist approach concerns the test of a hypothesis for a phenomenon and the conclusions which may come up after the quantifiable measurements of variables from a representative sample of population (Klein & Myers, 1999). Positivist studies are used mostly to test theory and to provide predictive understanding of phenomena (Orlikowski & Baroudi, 1991).

- A research can be characterized as critical when it has adopted a social critique approach to the status quo that dominates over a specific social issue and aims to displace alienating conditions so that to enhance humans to make changes (Klein & Myers, 1999). In IS, this paradigm is related to social issues like power, freedom and social control, in regards to the exploitation and the consequences of IS (Myers & Klein, 2011). Critical research can lead the IS professionals to improve their practices and to seek for potential changes, without taking into account restrictive social conditions.

- The interpretive approach focuses on the complex sense that humans make for emerging situations. Through interpretive theoretical tradition, an attempt for deep understanding of phenomena that concern the impact of IS to a system or organization is being done (Klein & Myers, 1999).

The current research follows the Action-Oriented research method, which indicates a possible change to a system. From this perspective, it complies with the critical paradigm. However, as the research tries at the same time to interpret and to deeply understand a specific phenomenon, it can be also considered as an interpretive research. Taking into account recent theoretical assumptions, which introduce the combination of different paradigms of inquiry and the fact that this research fulfills the main principles both of critical and of interpretive research, we can come to the conclusion that it is a Critical-Interpretive study. This kind of approach provides fruitful ways for research and can lead to a more reflective stance of the impact of IS to a system and vice versa (Pozzebon, 2004).

Following the specific approach in IS, there is a potential of the association of interpretations of social interactions to a wider consideration that concern the social power and control.

2.3 Data Management

2.3.1 Data Collection Method

The data collection method is interviewing a focus group of participants. The collected data had the form of different answers of the participants that had been analyzed through text analysis and interpretation. The interview guide that was used included open-ended questions and the answers were recorded on a tape. Then the answers were written down in order to be used for data analysis. Before the interviews, the participants saw a presentation of the environment of Wikispaces and all the available functions that are offered. Each interviewee was interviewed separately.

For the preparation of the interview guides, the main consideration was to follow the general principles of the construction of questions so that the interviewees would feel comfortable and could express their opinion openly. So, the questions must be understandable, simple and clear, open-ended and also focused on the initial research questions (Cheng, 2007).

2.3.2 Data Analysis

The data analysis from a focus group should generally follow the next sequence in order to be interpreted: raw data, descriptive statements, interpretation (Rabiee, 2004). Consequently, the collected data were analyzed through interpretation and text analysis of the answers and by comparison with the findings of the existing studies, in order to find common or uncommon (different) points or new findings. The data analysis and interpretation leads to conclusions about the beneficial use of Wikis for the increase of cooperation skills, in project management and the degree of motivation for active participation of the participants (Creswell, 2009).

The method of data analysis was the Inductive Thematic analysis. In the inductive way of analysis, the themes are strictly connected with the data of the interviews (Braun & Clarke, 2006). In this case, the researcher runs the coding process freely and there is no need for fitting them in a specific and existing coding frame. Then, the thematic analysis is considered as data-driven analysis (Braun & Clarke, 2006). The thematic analysis was chosen because it is an easy and quick method and it is suitable for researchers with a little experience in qualitative research. In addition with the thematic analysis, the produced results are easily accessible to educated general public and these results can summarize key concepts from a large amount of data. It is a flexible method that fits well with social interpretation of data and can produce unanticipated insights.

The text analysis method was the Three Cs one. The Three Cs stands for Coding, Categorizing and Concepts (Lichtman, 2013). After the transcript of the empirical material, the result was two files: One file with the transcript of the students' focus group interviews and one with the interviews of the teachers. The next step was to read the interviews repeatedly, underlining at the same time phrases that could depict codes. After assuring that all the initial meanings were underlined, there were two different lists made: the first included the codes from students and the second the codes from teachers. The double or similar codes were found and chosen as one code instead. At the end of this procedure, a final table separated the three parts: the codes from students, the codes from teachers and the common codes. The next step was the categorization of these codes. The categories that derived were linking knowledge to everyday life, organizing a project, structure of the educational practices, advantages of the use of Wikis for project management, IT infrastructure, cooperation, guidance and advantages.

2.3.3 Validity and Reliability

The concepts of validity and reliability constitute an important factor for qualitative research, in terms that they both can assure the strength of the data. The current study followed the basic principles suggested for the "trustworthiness" of data (Lewis & Ritchie, 2003). Considering the sample of the participants, they were strategically selected in order to be representative and to show multiple perspectives and aspects of the topic. The teachers who participated had dissimilarity in the years of experience, the course they teach, the level of skills in computers. The sample also consists of men and women. As for the students, their teachers made the selection with criteria like different levels of grades, balanced number of boys and girls and different classes. Considering the procedure of data collection and data analysis, they were analytically explained by the authors, so as to be evaluated from the readers. The participation of both teachers and students, in other words the use of different sources, ensures the triangulation in order to check the validity of the data.

2.4 Ethical Considerations

Ethical issues are very important when a research is conducted. The specific topic is about an IS/IT issue in combination with educational management. The fact that education is a sensitive field and also that students are

adolescents, raises significant ethical issues. In addition, because of the nature of the qualitative method, whenever the answers concerned private points of view, the significance of ethics is increased (Lewis & Ritchie, 2003).

Accordingly, the teachers agreed to be interviewed when they had all the necessary information about the procedure. They were also informed about the confidentiality of their personal information and the way that the interviews would take place. Teachers were interviewed separately and were also informed about the goal of this research and its future use and they were asked for their permission that their answers would be recorded. The participation of the teachers and students were voluntarily based. For all the above, the participants read an informed consent form and signed it, stating that they agree to participate. Additionally for the participation of the students, the informed consent form was signed from their parents. During the interview of the focus group of students, one parent and two teachers were present. The parents and students were also informed that the interview would be recorded. Instead of the real names of the participants, a designation was used for students (S1, S2 …) and teachers (T1, T2 …), in order to ensure anonymity and confidentiality.

3. Results

Significant findings from the interviews are related to the benefits of the use of ICT in educational management. Both teachers and students gave answers that show their willingness to use more of these technologies in order to take advantage of the extra facilities and possibilities that they offer. They generally believe that they would have a lot to reap, if the educational project management could be conducted with the use of Wikis. These findings are classified in three categories: functionality, infrastructure and cooperation issues.

3.1 Functionality Issues

According to the answers of the teachers, the use of Wikis could help students to communicate and interact, because they can do it in an asynchronous mode. The available time of students is limited and Wikis can offer the opportunity of communication, annihilating this crucial obstacle.

Students initially consider the possibility to share their final work with other people as very important. They consider that other students could use their projects so as to be informed and take ideas for their own assignments. They would also feel satisfaction if their parents or friends could have access to their work because in this way their efforts would not be wasted. So, when students found out that Wikis offer this utility, they were very pleased and considered this facility as a great advantage. Besides that, students realized that through Wikis they could cooperate not only with the members of their groups but also with other groups, schools or they can communicate internationally with schools from other countries.

Another advantage of using Wikis is the familiarization of the students with the use of computers, something that does not happen at the time being. Through Wikis, students could discover the possibilities that technology offers for co-creation of a project. In this way, every project can be the result of collaborative effort and all the members of a group contribute with their ideas and knowledge to the formulation of the final work.

It was also noticed by students, during the presentation of Wikispaces, that through this environment, teachers can monitor the contribution of students and thus they know who dedicates more time for the project and who does not. This could solve the problem of the unequal contribution of students to a project and also could help students to cooperate better, since there would be no more complaints between the group members. In addition, this utility can increase the motivation of students to actively participate.

Finally, from the students' and teachers' answers it is obvious that the digital space that Wikis provide for the collection of students' work is another significant advantage and is also connected with the motivation of students to participate, since they would like their work to be available for others to see and use.

3.2 Infrastructure Issues

The majority of the students noted the big problem of inadequate IT infrastructure in their school. They underlined that there is only one computer laboratory and it is very difficult to find it available every week. The economic crisis of the last years blocked the supply of new computer equipment and the spread of new technology means in Greek schools. Consequently, the use of technology is prevented and under these conditions teachers are discouraged to insert this use to their activities. Teachers highlight the lack of IT infrastructure, as well, and consider the adequate existence of IT equipment one of the most important factors that affects the use of IS. Another impact of the economic crisis is that there are students who might not have Internet connection at home and this fact is crucial, since all students do not have the same opportunities.

3.3 Cooperation Issues

There are many multiple cooperation issues that arise from the interviews. Firstly, there are malfunctions to the cooperation between peers, due to the unequal distribution of work that most of the time takes place. The majority

of the students noted this problem, explaining that it is very usual for a student of a specific team to compulsory undertake a major part of a project, since the other group members are indifferent. There is always someone who is more diligent and responsible and he/she cares about the completion of a project. The rest of the members, knowing that, take advantage of this situation and show indifference and irresponsibility.

An issue that puzzled students was that through Wikis whatever is edited is public and thus students must be very careful and show responsibility when they edit something. Students expressed their concern about the possibility that a student could use inappropriate and embarrassing expressions in Wikis context. This situation could affect the regular cooperation between peers and cause unexpected problems to the operation of the school.

Related to the previous issue is the students' highlighting of the need for parity and democracy between the members of the group. Through Wikis, students can edit to a common context and everyone can add or delete text. There should be mutual respect between peers and changes to the context should be taken place only after a democratic debate and dialogue. The role of the teacher is indicated, who should set rules about respect and equal rights that all students should have.

The limited controlled access of students in environments like Wikis can be a possible threat. Nevertheless, it is also noted that Wikis can be a useful tool for easier guidance and evaluation of a project. It has been though recognized that a project in educational context gives to students the opportunity to learn how to negotiate and find ways to succeed a common goal. Finally, for enhancing the cooperation between students, understanding and communication are a prerequisite in order that problems and malfunctions can be dealt with.

Students consider the issue of their training in the use of Wikis equally important. Moreover, the need for rules that teachers have to set is, according to students, significant too. Teachers should also control that students comply with the rules and observe the way that groups work together. Another task of the teachers that stem from their interviews is the settings of specific goals that delimit the work of students and helps them to focus on the objectives of a project.

What is also significant, according to the students' answers, is the fulfilling of the obligations from both sides: students and teachers. Occasionally, teachers have their own problems and they do not give the appropriate attention to the process. That is a drawback extended to the cooperation between students.

Teachers' training in Wikis is an issue that arose from both sides as a prerequisite for the proper use of Wikis. The administration of Wikis demands effort and time on behalf of teachers and these can be limited only if teachers are adequately trained. The majority of teachers also noted this need, explaining that they do not use Wikis because they do not feel that they are familiar with this technology.

4. Conclusion

The presented qualitative action-oriented research had the aim to explore how Wikis could be a useful tool for conducting projects in the context of secondary education. Although Wikis can certainly support educational projects with its available tools for cooperation, communication and sharing, the participants (especially teachers) do not easily adopt this use and they also do not use adequately IS technology for this purpose. This research aimed to map the possible reasons for this situation and to make the way that Wikis can become a prime choice of using IS technology in the future for educational projects. Also, Wikispaces were the researchers' selected suggestion to the participants. An introductory presentation of the functions and tools of Wikispaces took place in order for the participants to consider if and how they could use them for this specific purpose. Afterwards, a focus group was organized by teachers and students. Interviews guides were constructed with open-ended questions and the answers were recorded on tapes. After the transcription of the tapes, thematic analysis was used for the interpretation of the participants' answers.

Generally, this study offers the opportunity to understand the connection between educational project management and the contribution of Web 2.0 technologies to that direction. The opinions of the participants revealed that educational project management presents a great number of advantages by using ICTs. Nevertheless, the existing IT infrastructure is not adequate due to the economic crisis that prevents the supply of IT equipment. Finally, the last issue was the need for more cooperation skills on behalf of the participants, the setting of clear aims and the existence of relevant rules to be followed. The related training in ICT, but also the previous familiarization with Wikis, is a prerequisite for this usage. In this respect, there are certain ways through which the educational community could be motivated to use Wikis in project management. The most important means is keeping the educational community aware of the benefits of ICT's and also providing it with the adequate training programs and IT infrastructure for the utilization of these technologies.

Acknowledgments

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Notes

Note 1. See for example: adminproject.eu, specifically designed to handle the management burden of EU funded projects.

Note 2. As it is the case of padlet.

Note 3. As it is the case for Prezi.

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