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Experiential education through project based learning

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Abstract

Experiential learning is the key factor of acquiring knowledge through experiencing things. It addresses specific teaching methods, which are believed to achieve a beneficial outcome to the learning ability of students. Project Based Learning is such a modern teaching method. The core idea of Project Based Learning is to connect student's experiences with school life and to provoke serious thinking as students acquire new knowledge. While there are some negative implications related to PBL, the method can leverage the advantages of modern teaching techniques. Finally, through Experiential Learning and in particular through PBL, connection with problems of real world is achieved.

1. Experiential learning

Although the traditional form of education has been with us for some years, experiential education is a modern form of education that appeared in recent years. It focuses on the learning process of the individual and concerns the development of student's abilities, such as memory, creativity, and sensitivity to achieve knowledge (Mulligan, cited in Boud et al., 1993). Without being too strict about its objective, we can say that "experiential education emphasizes on the significant role that experience plays through the learning process" (Dedouli, 2001: 1). In this way, students benefit from discoveries and experiments by learning through observation and interaction, while at the same time they explore the real world (Dedouli, 2001) from personal or other classmates' field of interest (Chrysafidis, 2006). Thus, learning is characterized from subjectivity and emotionality (Matsaggouras, 2002). "Experiential learning

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stimulates original thinking and develops a wide range of thinking strategies and perceptual skills which are not called forth by books or lectures" (Williams, 1983:170).

2. A brief history of experiential education

Stemming from a historical basis, it is important to note that early descriptions of experiential education can be found in teaching methods of Socrates who utilized inquiry-based practices (Chesters, 2012). However, it is generally accepted that Dewey's "learning by doing" theory and Hann's "Outward Bound" school during the Second World War, could be characterized as landmarks (Roberts, 2005). Dewey claimed that "education is a process of living and not a preparation for future living" (Dewey, 1897: 79), while Hann believed that school should prepare students not only for higher education, but also for life experiences. Thus, he used teaching methods to foster self confidence, cooperation and determination (Stetson, 1941). Moreover, Chickering's, Tumin's, Bloom's, Friere's, Gardner's, and Lewin's contribution (Vu, 2013) cannot be ignored. Piaget has been also acknowledged, since he highlighted the importance of cognitive development, while children interact with the environment (Matsaggouras, 2002). He paved the way of understanding how age can be a key factor in exploring everyday life, while we interact with others (Vu, 2013). Furthermore, it is believed that Montessori's theory of observation and empirical learning and Bruner's discovering learning also played significant roles to the history of experiential learning (Vu, 2013). In particular, Maria Montessori supported the idea that education is acquired "not by listening to words, but by experiences upon the environment" (Montessori, 2007: 6).

More recently, David Kolb helped to popularize the work of Dewey, Lewin and Piaget, through his cyclical model stating that experiential learning is a multidimensional process. It begins from concrete experience to reflective observation, then to abstract conceptualization to active experimentation (Dunlap et al., 2008). In other words, the first stage is where the learner actively experiences an activity. The second stage is when the learner consciously reflects back on that experience. The third stage is where the learner attempts to conceptualize a theory or a model of what is observed. The fourth stage is where the learner is trying to plan how to test a model or theory or plan for a forthcoming experience.

Table 1. Kolb's cyclical model

Active Experimentation	→ Concrete Experience ↓	Reflective Observation
	↑ Abstract Conceptualization ←	
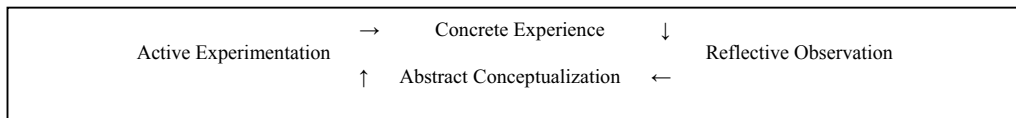
3. Project based learning

The empirical evidence shows that experiential education addresses specific methods and Project Based Learning is one of them. "The core idea of Project Based Learning is that real-world problems capture students' interest and provoke serious thinking as the students acquire and apply new knowledge in a problem-solving context. The teacher plays the role of facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience" (David, 2008: 80). PBL can take place both inside or outside classrooms.

4. Method

4.1. Structure - Success of the method

It is undoubtedly true that a Project Based Learning method is successful when seven essential elements are fulfilled. First and foremost, teachers should engage student's interest and "need to know" and at the same time stimulate them by making a capturing driving question (Larmer and Mergendoller, 2010). Moreover, students are in charge of deciding whether they will use resources, how they will cooperate and communicate in order to achieve the goal of their challenging project (Frey, 1991). Besides, critical thinking is enhanced and students can easily conduct their inquiry as well as innovate by exploiting sometimes the advantages of technology (Larmer and Mergendoller, 2010). An example is when a whole class of iPadslaunch their research, while at the same time they are connected to teacher's presentation in order to discuss a project. This technological improvement gives students the opportunity to interact and simultaneously submit questions and answers (Webster, 2012). Finally, feedback and revision are also important before student's presentation in front of a real audience (Frey, 1986).

4.2. Advantages and disadvantages of PBL

As every teaching method, Project Based Learning has both advantages and disadvantages. Assuming that all students cannot learn in the same way, it is important for educators to develop and implement alternative teaching methods (Muthukrisma et al., 1993). Thus, Project Based Learning isn't limited in terms of knowledge and information, but rather with their teacher's help, it provides students with the opportunity to transform themselves during the learning process (Aggelakos, 2003).

Nowadays, learning to read is no longer enough. Knowing how to solve problems, working collaboratively and thinking innovatively are considered to be 21st century essential skills. Therefore, Project Based Learning is generally accepted as an effective method for teaching processes, such as problem solving and decision making (Thomas, 2000). Besides, experts should help in developing character's emotional, social elements apart from cognitive (Katz, 2000). Other positive outcomes by using Project Based Learning are the reduction of student's anxiety (Boaler, 2002), and the enhancement of student's learning quality compared with conventional teaching methods (Thomas, 2000).

On the other hand, Project Based Learning is marginalized by the educators themselves, since they lack both training and experience in implementing this approach. Furthermore, deficient finance and technology are challenges that teachers have to overcome, while evaluation can be also ineffective when students use technology. Finally, it is evident that venturing into an alternative method opposed to sterile memorization discourages teachers, since they are supposed to manage additional activities and demands, such as helping collaborative student investigations (Evans, 1994; Arhontaki and Filippou, 2003 cited in Katsarou and Dedouli, 2008).

5. Results

5.1. How students experience PBL

It is easily understood that there are significant differences between the conventional teaching method and the PBL one as far as students experience PBL is concerned. In traditional teaching, there isan assessment through an exam that evaluates the knowledge acquired from lectures and quizzes. On the contrary, during PBL, there are a lot of separate steps, including activities, workshops, labs, and researches with much more assessments until the final evaluation in order for teachers to be more objective and lead their students to a better learning outcome. In addition, PBL evaluates cognitive and emotional - social skills in comparison to the traditional teaching method that evaluates only cognitive ones. Also, through the PBL teaching technique, students could cooperate, communicate, and use their critical thinking under their teacher's guided reflection until their final submission and presentation of their project (Mwangi, 2012 cited in Thomas, 2000).

5.2. How teachers experience PBL

First and foremost, teachers stimulate students through a driving question. They try to capture their interest and "need to know" by engaging them into a compelling project. To continue with, they plan their research, while helping them to understand the problem throughout all the process of research. When needed, they resolve the problems appeared. Finally, they evaluate students during the different steps of the teaching method in order to create an objective and thorough assessment, while leading them to conquering knowledge (Illinois Mathematics and Science Academy, 2014).

5.3. Project based learning in greece

In my country, Project Based Learning is considered to be a significant teaching method in different school ages. During the last years, PBL is a key factor in curriculum and it is applied in five steps. First and foremost, teacher creates an interactive environment by using technology, such as videos, CD-ROMs, Internet, TV and other educational tools (Department for Education, 2013) in order to facilitate student's' "journey" to inquiry and fulfillment of their "need to know". Another step has to do with the same the inquiry and the research in relation with the project assigned. Students learn to collect all the necessary data through the methods of keeping a journal, video, recording, taking pictures, which in the end are evaluated. In addition, they cooperate and separate parts of the project, while they exchange beliefs and ideas in order to find a solution to the problem. In the end, a presentation takes place, while students could also use computers in favour of publishing, creating brochures, designing or making anything that would assist project's outcome (Edwards, 2002).

5.4. Project based learning in other countries

In recent years, it is generally accepted that English teachers have changed their techniques in order to boost learning abilities. In the same direction is the new curriculum, the aim of which is to develop and prepare students for later life (British Educational Research Association, 2013). In the UK, Project Based Learning is called "Independent Learning", it is "hugely significant as a concept and is massively understood" (Webster, 2012: 1).

Project Based Learning "has become so successful in America that one school in Washington is spending $128 million on rebuilding its campus and redesigning its curriculum around the teaching technique" (Wellham, 2013 :1). Students take the initiative to launch campaigns in favour of environmental sustainability, bullying and racial discrimination apart from simply solving problems (Boss, 2013). In Ghana, students are protesting against child labour through digital publishing projects, while in Philippines, student videographers try to protect their forests. All around the world, students delve deeply into projects and prove to be excited to participate in similar ventures (D' Orio, 2013).

6. Discussion and conclusion

To conclude, there are some negative implications related to PBL. Teachers are discouraged of implementing this method, because sometimes they are not experienced, they lack of motivation, or consider PBL as additional activity. Moreover, there are limitations related to length of project's realization or class periods and syllabus. Even when technology is used, problems of evaluation appear and time available to better promote knowledge is decreased.

However, through Experiential Learning and in particular through PBL, connection with problems of real world is achieved. Students develop apart from cognitive skills, significant abilities that could change our world to a better one, while they enhance their learning outcomes.

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