

Project-Based Learning Implementation in Higher Education: Theoretical and Practical Issues

Mahmoud Belmekki¹

A doctoral student and a member of Language and Society Laboratory, Ibn Tofail University, Kenitra, Morocco

Dr. Bani Koumachi
FLLA, Ibn Tofail University

¹Corresponding author: mahmoud.belmekki@uit.ac.ma

Abstract

These days, 21st century learners need to develop different skills in order to be successful in their academic and professional lives. To respond to these needs, educators are supposed to prepare learners to successfully accomplish diverse and complex tasks in this changing world. Therefore, innovative pedagogies including project-based learning are required to facilitate the task of 21st century teachers and learners. Although diverse new teaching and learning techniques have been suggested, the focus in this paper is on project-based learning. This paper, then, aims at discussing and reviewing project-based learning and its implementation especially in a higher education context. It outlines the challenges that professors encounter while using this teaching practice as well as suggesting some possible suggestions to overcome those obstacles. It also seeks to compare and contrast between traditional forms of teaching and project-based learning.

Key words: challenges, higher education, implementation, project-based learning, 21st century skills

1. Introduction

This article aims at reviewing project-based learning and its integration in higher education as a teaching practice. Our critical review mainly centers on understanding project-based learning, comparing and contrasting its advantages and disadvantages, describing and analysing some practical issues and challenges related to the implementation of project-based learning in an English as a Foreign Language (EFL) class.

2. Definitions

Project-based learning has been defined in different ways by experts and researchers depending on their disciplines and their research needs. In this study, the focus will be on discussing the widely adopted definitions in an applied linguistic context. Our review of these definitions will target the aspects of project-based learning which we believe are highly recommended in an educational setting. A quick glance at the concept *project-based learning* indicates that it is composed of two main terms: *project* and *learning*. This implies the use of projects for learning purposes. This idea has been supported by Stoller (2006) who defines project-based learning as a model that organizes learning around projects. Thomas et al., (1999, p.4) have provided more detailed description of the concept by defining project-based learning as “a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks”. This definition stresses the importance of systematicity meaning that project-based learning use for teaching and learning has to be characterized by order and planning. This definition also highlights the central role of using complex and authentic questions and tasks that would trigger students’ critical thinking. This definition

alludes to a possible relationship between project-based learning and critical thinking. The term project-based learning becomes clearer by considering the following definition of project which is defined as “a complex open-ended assignment, which provides students with a degree of choice and involves students in design, problem-solving, decision-making, and investigative activities”. The first remark of this definition shows the presence of decision making and problem solving which are the core sub-skills of critical thinking. The other remark refers to the need of involving students in the learning process and giving them the freedom to make their own decisions and choices. This means that project-based learning views the learner as an active participant in the learning and teaching process. Thus, we can conclude that it is a student-centred instructional model that “encourages students to learn subject matter deeply, critically and responsibly” (Berliner, 1992; Holt, 1994 as cited in Gulbahar et al., 2019 p. 4). Last but not least, project-based learning is “a curriculum approach where the process of learning unfolds through the application of knowledge and skills to the solution of real-world problems, often in the contexts of real practice. Students work autonomously over extended periods of time, and prepare realistic products or presentations” (Bligh, 1995; Diehl et al, 1999; Thomas, 1998; Wiggins and McTighe, 1999).

3. Advantages and disadvantages of project-based learning

After discussing the main definitions of project-based learning, this section aims to highlight the merits and demerits of project-based learning in an educational context. Different experts in the field of education have shown the importance of project-based learning in language education, but they have also argued for some disadvantages of this activity. Table 7 shows the main advantages and disadvantages of project-based learning. Those advantages and disadvantages are based on a review of different studies, namely (Beckett, 2006; Cortázar et al., 2021; Dionne & Horth, 1994; Efstratia, 2014; Harmer & Stokes, 2014; Hidayah, Arum & Apriyansa, 2021; Lasauskiene & Rauduvaite, 2015; Shin, 2018; Žerovnik & Šerbec, 2021)

Table 1

Advantages and Disadvantages of Project-Based Learning

Advantages	Disadvantages
<p>Project-based learning contribute to engaging students in enhancing their collaborative and investigating skills</p> <p>The use of project-based learning develops students' autonomy.</p> <p>The use of project-based learning ameliorates students' problem solving and decision making.</p> <p>Authentic use of L2 is another advantage of project-based learning</p> <p>Students develop more effective learning strategies and research skills</p> <p>Students learn to look at problems with a critical thinking lens, asking questions and coming up with possible solutions for their project</p> <p>Project-based learning aids students to develop their reflection and evaluation skills</p>	<p>Project-based learning can be time-consuming due to the length of project's realization.</p> <p>Project-based learning can cause difficulties and challenges in the assessment and evaluation of students</p> <p>Practical difficulties and challenges facing the implementation of project-based learning</p>

<p>The use of project-based learning helps learners to foster their 21st century skills like collaboration and communication</p> <p>Project-based learning assists students to enhance their creativity</p> <p>Project-based learning helps students in their time management, team work, delegation of responsibilities, prioritizing, and leadership skills.</p> <p>Project-based learning improves academic achievement.</p> <p>Project-based learning increases students' motivation and enjoyment</p> <p>Project-based learning involves students in creating knowledge and solving problems by engaging in purposeful, real-world interdisciplinary activities.</p> <p>Project-based learning facilitates the learning of second and foreign languages.</p> <p>Project-based learning could enhance students' sense of responsibility.</p>	
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Table 1 highlights the various advantages and disadvantages of project-based learning at different levels. Achieving these benefits is strongly connected with proper and systematic implementation of project-based learning. For this, teachers who are willing to use project-based learning as an instructional model in their classes should be aware of the principles underlying its use as well as the different practical issues related to its implementation. The following section, therefore, aims at discussing the main principles and challenges of project-based learning.

4. Contrasting project-based learning and traditional teaching models

Developing learners 21st century skills is one of the requirements of universities, these days. To argue for this point, Miraoui (2022), the minister of higher education in Morocco, stresses on this point in different media means. Experts in the field of education have discussed the major contributions of project-based learning to 21st century skills (Puspitasari, 2020). Different researchers have argued for the utility and usefulness of project-based learning as a new teaching practice in enhancing students' 21st century skills. Project-based learning arises to fill in some of the limitations of traditional forms of teaching. Thus, this section aims at highlighting the main differences between traditional teaching models and project-based learning as a latest teaching practice that can be used in a 21st century classroom.

Different studies such as (Bell, 2010), (Bender, 2012), (Ghobrini, 2020), and (Ravitz, et al., 2012) have concluded that there is a strong link between 21st century skills and project-based learning. The mentioned studies go beyond that and have confirmed that the adoption of project-based learning as a teaching practice leads to some improvements into 21st century skills such as creative thinking, collaboration, flexibility, and critical thinking. Therefore, using this teaching practice in class by teachers leads to a shift from the traditional approach to the new form of teaching since project-based learning has certain characteristics of the constructivist approach such as prior knowledge activation, exploration, and student-centeredness (Tsybulsky et al., 2020). This shift, then, contributes to some changes in the teaching practices. Teachers

are required to adapt their teaching practices while using project-based learning as a teaching practice in their classes. To put it bluntly, the role of the teacher in class should also be changed. To illustrate, “in project-based learning, the teacher’s role moves from content-deliverer to content-guide, from lecturer to facilitator” (Harris, 2014, p. 26). This implies that teachers’ role in class should no longer be a lecturer but a facilitator since information is available these days thanks to ICTs. The teacher should be a content guide to his/ her students instead of content deliverer as the availability of information everywhere. Therefore, teachers should try as much as possible to help their students to select the most appropriate information by cultivating the culture of questioning, analyzing and evaluating any content be it written or spoken. In this regard, “unlike traditional methods of teaching where teachers are considered the main source of information and dominate most of talk time in class (Aldabbus, 2018), PBL provides valuable opportunities for students to be engaged individually and in groups in formulating the enquiry questions, setting goals and planning for the process of conducting and designing the project” (Markham et al., 2003). Additionally, using project-based learning as an assessment tool can contribute to the development of building knowledge instead of rote learning that was emphasized by traditional approaches while preparing for the exams. To argue for this, Harris (2014) maintains that “many of the skills inherent in project-based learning have a greater focus on students building knowledge through the process of tackling a problem rather than rote memorization after lecture (p. 30)”.

In a traditional classroom, the role of the teacher is to deliver the set content of a particular course to students without any discussion or debate. Students are also required to copy what has been dictated by the teacher without giving them the chance to ask questions or evaluate the content being delivered. As for assessment, teachers give direct questions. This means that students are supposed to learn the content by heart and back the same product in the day of the exam without any addition. Those who learn the content by heart are deemed as successful learners in a traditional class. However, nowadays 21st century learners are in need to develop certain skills to be successful learners. We are no longer in need for students who are just memorizers. Conversely, we need students who are capable to analyze arguments, to solve complex problems, to make sound decisions, to be creative and critical. Therefore, teachers’ roles in class also should be changed since what we need from students is continuously in change. Another major difference is that the purpose of traditional approaches is to prepare students for the exams. As students finish their exams, they forget about everything. Conversely, project-based learning emphasizes preparing students to act effectively and properly in the outside world as future citizens. Table 2 summarizes the main differences between project based learning and traditional forms of teaching

Table 2

Major Differences between Traditional Forms of Teaching and Project-Based Learning

Aspects	Traditional forms of teaching	Project based learning
Teachers’ roles	Lecturer Content deliverer The only source of knowledge	Facilitator Adviser Guide
Students’ roles	Memorizer Recipient of knowledge Passive learners	Problem solver Decision maker Active learners Life-long learners

Activities used in class	Lecturing	Problem solving activities Debating discussion presentations
Assessment	Direct questions	Problem solving tasks that requires analysis and critical thinking Projects

Table 2 presents the major differences between traditional forms of teaching and project-based learning at the level of teachers' roles, students' roles, activities and tasks and assessment. A critical analysis of these differences shows that project-based learning is more advantageous over tradition forms of teaching and learning. However, implementing project-based learning in 21st century classroom is demanding and challenging. Thus, the following section is meant to shed light on and discuss some practical issues associated with project-based learning implementation especially in an EFL context.

5. Practical issues related to the implementation of project-based learning

5.1 Some challenges related to project-based learning instruction

As mentioned earlier, project-based learning has got different advantages, and the use of project-based learning can foster learners' 21st century skills in many ways. However, no one can deny that some inherent challenges can occur during the implementation of project-based learning in an EFL context. Thus, this section aims at raising and discussing some challenges may be encountered during adopting project-based learning as a teaching practice in an EFL classroom. These challenges can be related to teachers, students, curriculum, school culture/ environment and parents.

Some teachers resist changing their teaching beliefs and/ or methods just because they have become more comfortable with a particular teaching method which might be no longer useful. They show no or little readiness to take risk to try a new alternative way of teaching. In this regard, Aldabbus (2018) argues for this point by pointing out that

some pre-service teachers were reluctant and not confident enough to apply project-based learning because they had a preconceived belief that if they applied project-based learning students would create too much noise in classroom, as a result they would not be able to make them calm and regain their attention easily (p. 75).

This quote shows that some teachers prefer not to use project-based learning for two main reasons. While the first reason is related to their reluctance to change their teaching beliefs and practices, the second reason has to do with lack or little confidence in the utility and effectiveness of project-based learning. The quote also highlights some problems in classroom management that would arise due to engaging students in project-based learning. Most of these classroom management problems include students' noise in class and lack of attention. What's more, teachers should make sure that every single student is participating in the project and not only one doing the whole job. This is considered one of the main challenges while using project-based learning as a teaching practice since it is difficult for teachers to make sure that every student is taking part in the recommended tasks. Additionally, some teachers are unable to use

project-based learning instruction in their classes due to different reasons. Aldabbus (2018) summarizes these reasons in the following points. Teachers are unable to decide in which unit they should adopt project-based learning since they have not received any/ enough training on how to use it. Teachers are required to finish their courses at specific time. So, “using project-based learning often takes more time than other methods of teaching which may delay the processes of presenting and covering the lessons scheduled” (p. 75). Project-based learning for some teachers is deemed to be as time consuming. Hereof, Dahlgren et al., (1998) demonstrate the fact that a lot of teachers think that project-based learning is time consuming since they have argued that they were unable to cover much content and material in comparison to traditional lecture-based style. This can be attributed to either the lack of training or experience. Another reason for this misconception about project-based learning as a time-consuming practice has to do with the general goals of teaching and learning. This means that the majority of teachers are still concerned how much content they cover in a particular course. Conversely, the focus should be on developing students’ skills which we believe would be more achievable through project-based learning. Another obstacle that may hinder the implementation of project-based learning is the lack of teaching and learning materials and the classroom crowdedness (Baghoussi & El Ouchdi, 2019).

There might be some students who are unwilling to work on projects. Some students may wrongly assume that working on projects is a waste of time and effort. They believe, then, this would negatively affect their academic success and achievement. Put differently, they would assume that working on projects would limit their chances to score higher in their exams especially they are test-oriented. Additionally, Aldabbus (2018) conducted a study on project-based learning, and he concluded that: when students work collaboratively on a certain project, it has been noticed that only one student do the whole thing (most of the time high achievers). This can be linked to the fact that either students are unwilling to participate in that project or they do not grasp the meaning of collaborative learning or the misunderstanding of the assumptions underlying project-based learning (Aldabbus, 2018).

It seems that the curriculum is another hindrance that may impede the use of project-based learning in an EFL classroom. Some curricula are not based upon project-based learning. In other words, according to Aldabbus (2018), “the curriculum was not designed to be taught by project-based learning” (p. 76). It means that the elements of project-based learning are neglected and not integrated in the curriculum. Therefore, teachers may suffer if they want to adopt project-based learning instruction.

Another major obstacle that may affect project-based learning instruction in EFL classroom is related to parents. Generally speaking, parents play a major role in the educational process of their children. No one can deny that students at home need some support either financially, psychologically or cognitively. Sometimes they need their parents to work with them on certain projects. However, concerning this latter, there are some parents who did the project for their children. Parents think that this can support their children, but it is not, in fact. This shows that either parents are unaware of the importance of project-based learning or they have lack of background knowledge on how to assist their children when they ask for help.

Last but not least, schools have been seen as another hindrance that may affect the implementation and use of project-based learning instruction. To illustrate, Aldabbus (2018) found in his study that “different projects need different materials and facilities to be conducted and if the schools do not have sufficient budget, it would be hard for teachers to apply project-based learning” (p. 76). Another major obstacle that is connected to school is that there are some schools who are restricted to a specific teaching method, so they resist to change it. This resistance stems from the fact that the shift from one approach to another requires more

investment. To conclude, it is true that all these challenges impede and affect the implementation and use of project-based learning instruction. However, many researchers such as Blumenfeld et al., (1994) and Pereira et al., (2017) report that school is the major barrier that can hinder the implementation and use of project-based learning.

This section seeks to investigate the main obstacles that can be faced during the implementation of project-based learning instruction in an EFL class. These obstacles involve different stakeholders, namely teachers, students, parents, curriculum designers, textbook writers and policy makers. Therefore, any attempt to increase the benefit of adopting and implementing project-based learning necessitates some efforts by the different stakeholders as discussed in the following section.

5.2 Some possible suggestions

This section aims to describe some practical suggestions to successfully deal with the some of the aforementioned impediments. First of all, teachers need to be aware through organizing meetings or seminars to highlight the benefits of project-based learning in education in general. Providing pre-service and in-service trainings to teachers would definitely contribute to successful implementation of project-based learning instruction. Such trainings will help teachers to manage their classes effectively and support teachers to manage their time efficaciously. Furthermore, textbook designers are required to design more activities that is based on project-based learning as a teaching practice. They should suggest themes and topics that would require students to use their problem-solving and decision-making skills while working on a project. Besides, schools need to financially aid and support students who are unable to buy the material they need while working on a certain project. In other words, the school environment has to be motivating for teachers and students to successfully engage in project-based learning activities and practices. Schools need to be open and flexible to other teaching approaches that may facilitate the teaching and learning process. They need to be ready to adopt and adapt to new educational changes recommended by educators and researchers. What's more, students should be motivated by their teachers to work on projects through highlighting its importance in enhancing the quality of the teaching and learning process. Finally, researchers can play a vital role in dealing with most of the above-mentioned challenges through organizing some conferences or study days on project-based learning. Attending such conferences and study days would make the different stakeholders aware of its benefits and give them the chance to discuss and exchange ideas about the different practical issues related to project-based learning implementation. These discussions would be the basis for establishing a standard framework on how to implement project-based learning properly. However, a review of published research conducted in Morocco shows that there a scarcity of theoretical and empirical research on project-based learning as shown in the following section.

6. Conclusion

This paper discusses project-based learning as a teaching practice through highlighting its advantages and disadvantages, comparing and contrasting between it and traditional teaching models, and the practical issues related to its implementation. This paper incorporates diverse pedagogical benefits of project-based learning at different levels. These benefits are presented in the form of hypotheses which calls for more experimentation and empirical research to verify and test those claims. Therefore, this paper can inspire educators and researchers to further investigate the different aspects related to project-based learning especially in an educational context.

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