

A Mixed Methods Study of the Implementation of Project-Based Learning in a United Arab Emirates Middle School

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Abstract

The purpose of this mixed methods sequential explanatory study was to explore how teachers implement the Project-Based Learning (PBL) in a middle school in a United Arab Emirates (UAE) EFL context. The study attempted to identify the challenges that teachers might encounter while implementing the PBL. In the first, qualitative phase, the research main question focused on exploring how teachers implement the PBL approach and the challenges that teachers might encounter while implementing it. The study is significant because it examines the implementation of PBL in classrooms and the challenges that teachers might face while applying this approach. The data were collected through the use of a semi-structured observation which is a qualitative instrument used widely to gather qualitative data. In the second, quantitative phase of the study, the researcher used two questionnaires to collect quantitative data, one for teachers and the other was for students. The questionnaires were based on the results of the first phase which was a qualitative one. The number of participating teachers was five (n = 5) and the number of participating students was one hundred (n = 100). The response rate was 75%. On the one hand, the participants' answers to the questionnaires items on the questionnaire scales were analyzed using descriptive statistics. On the other hand, the results of the qualitative and quantitative phases were integrated while interpreting the outcomes of the entire study. Based on the findings from the qualitative and quantitative phases of the study, it was noticed that PBL is an effective method of teaching, yet it has some challenges that can be dealt with proficiently by teachers and curriculum designers.

Keywords: Middle school, Mixed methods, Project-based learning, United Arab Emirates EFL context.

1. Introduction

The Project-Based Learning (PBL) is a form of active student-centred instruction. It can meet students' interests and allows them to create projects that result in meaningful learning experiences. In addition, it is often distinguished by students' autonomy or independence, constructive investigations, goal setting, collaboration and communication in real-life practices.

Phyllis C. Blumenfeld, Elliot Soloway, Ronald W. Marx, Joseph S. Krajcik, Mark Guzdial & Annemarie Palincsar (1991), state that "project-based learning is a comprehensive approach to classroom teaching and learning that is designed to encourage and engage all students in investigation of authentic problems" (p. 369). Moreover, IDEAS' curriculum program embraces such a project-based learning pedagogy. Their curriculum documents state:

In preparation for a world that increasingly values creative and innovative thinking, students must have the ability to synthesize and to communicate

effectively. These key skills are developed and mastered in student projects and presentations. Our student presentation process includes time for guided reflection and time to learn how to critique. (IDEAS PoS, 2013, p. 5)

Hargreaves and Shirley (2012) call The Forth Way towards inspiration and innovation with their project-based learning pedagogy. Furthermore, educators value the process of placing students in real-life scenarios or situations to help them gain deeper levels of understanding of learning (Boss, 2012; Markham, 2011). Likewise, educators believe that projects are a good means to help students learn new concepts. However, project-based learning is more than just "doing projects" or a simple "real-life" experiential activity (Markham, 2011). Project-based learning is aiming at educating and preparing students for the changes in global industries requiring different multiple skills from the global workforce (Gut, 2011; Markham, 2011).

Additionally, today's schools adopt a variety of teaching approaches so as to improve students' learning outcomes. One of the most important approaches that teachers use to engage students in the classroom activities is the PBL approach. It places students in an authentic problem scenario where they work in a team using problem-solving and research skills to find solutions. A driving question guides the multi-disciplinary inquiry, and the teacher plays the role of a facilitator and advisor. Mostly, experts from the field are asked to present or share information and technology is considered a valuable tool in the learning process (Barell, 2010; Bender, 2012; Larmer, 2009).

Moreover, this approach is used by teachers in order to promote active learning. PBL can be defined as a student-centred approach that engages students in exploring important and meaningful questions through a series of investigations and collaborations (Krajcik, Czerniak & Berger, 1999). The main objectives of this approach are to expose students to experiential learning, and to provide them with activities that engage them in the learning process effectively.

Actually, teachers are expected to encounter challenges in implementing PBL, such as workload issues, teachers' content knowledge, and lack of experience on the side of teachers.

A mixed method approach has been chosen in this study to explore how teachers implement Project-Based Learning (PBL) in a UAE middle school context. Mixed methods involve the integration between the qualitative and the quantitative methods in the research study. This method facilitates the understanding of the research problems more than using only one of other methods (Creswell, 2005). The exploratory design has been used in this study.

Furthermore, the researcher has used the mixed methods research design in order to triangulate data collection and consolidate the validity of the collected data. He also sought to identify the probable challenges of using project-based learning in a UAE EFL context, and to present useful information on how PBL worked in that context. The sample size consisted of middle school teachers who taught English and students from the same school.

Significance of the study

The significance of this study can be the following. The results of this study could be beneficial for teachers, as it might help them reflect on their own practice in using PBL. Interpretation of teachers' attitudes and experiences towards PBL could provide insight into the challenges that both teachers and students face as a result of using PBL. Moreover, it could be helpful as their teachers' voices might be heard by the educational department, which would think of the most effective methods and ways of overcoming the challenges in using PBL.

Additionally, a deeper understanding of how teachers use the PBL and the challenges about using it can contribute to a better implementation of this learning approach in the future.

In addition, this may help teachers to better teach students in working on projects and help them acquire all the necessary skills for developing the project and working collaboratively in a project team. Teachers will have the chance to succeed as influential facilitators of project work activities (Yezhitskaya, 2014).

Also, the findings of this study could motivate policy makers to deeply investigate the project-based learning approach as a useful teaching and learning strategy that would improve students' academic achievement (Harrigan, 2014).

Many English teachers are still using traditional academic strategies of memorization and passive learning. The project-based learning (PBL) has been suggested as the most appropriate approach for replacing the traditional teaching methods and to respond to the needs and demands of learners. Teachers also perceived that they might face challenges while implementing the PBL in the classroom.

Furthermore, to overcome the problem of having low academic achievements, there is a need for innovative learning methods. Innovation in this case could be the implementation of PBL. This learning model is intended as a pattern of interaction of students with the teacher in the classroom concerning strategies, approaches, methods and learning techniques applied in the implementation of teaching and learning activities in the classroom (Suherman, 2003).

This mixed methods study will explore how teachers implement Project-Based (PBL) in in their classrooms in a UAE middle school. The study will also seek to identify some of the challenges that teachers may encounter while implementing the PBL. An exploratory sequential mixed methods design will be used, and it is a type of design in which qualitative data are first collected and then followed by quantitative data. The qualitative data will be analyzed and then its results will be used to build the subsequent quantitative phase. After that, the phases will be connected by using the qualitative results to shape the quantitative phase.

The reason for collecting both qualitative and quantitative data is because this method suits the study as well as to provide a better understanding of the research problems (Creswell & Clark, 2007). Also, a better understanding can be obtained by triangulating one set of results with another and thereby enhancing the validity of inferences.

This study will also seek to answer the following questions which are related to the implementation of Project-Based Learning:

1. How do teachers implement the Project-Based Learning Approach in their classrooms?

2. What are the challenges of using PBL?

3. What practices are being used for implementing, planning and managing projects?

4. Does PBL increase students' motivation to interact and learn the target language?

5. Does PBL help students improve their academic achievement?

Definition of Specific Terminology (Definition of terms):

1. Project-Based Learning (PBL): is "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic (real-life) questions and carefully designed products and tasks" (Buck Institute for Education, 2003, p. 4).

2. An approach: is a way of looking at teaching and learning. Underlying any language teaching approach is a theoretical view of what language is, and of how it can be learnt. An approach gives rise to methods, the way of teaching something, which use classroom activities or techniques to help learners learn.

3. PBL Implementation: is the enactment of PBL teaching and learning processes.

4. Voice: the values, opinions, beliefs, perspectives, and cultural backgrounds of individual students and groups of students in a school, and to instructional approaches and techniques that are based on student choices, interests, passions, and ambitions (Hidden Curriculum, 2014).

Perceptions, views, opinions: a belief based on experience and on seeing certain facts (Merriam Webster Dictionary, 2016)

5. Self-efficacy: is the belief in one's capability to perform a given task at a certain level (Bandura, 1997).

6. Problem solving: is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution. Student-centered learning also known as *learner-centered* education, broadly encompasses methods of teaching that shift the focus of instruction from the teacher to the *student*. *Student-centered* learning puts *students*' interests first, acknowledging *student* voice as central to the learning experience.

Assumptions of the Research Paradigm

According to Blanche and Durrheim (1999), the research process has three major dimensions: ontology1, epistemology2 and methodology3. According to them a research paradigm is an all-encompassing system of interrelated practice and thinking that define the nature of enquiry along these three dimensions.

Ontological and epistemological aspects are related to what is commonly referred to as a person's worldview which has considerable influence on the perceived relative importance of the aspects of reality. Two possible worldviews are: objectivistic and constructivist. These different ways of seeing the world have outcomes in most academic areas; nevertheless, none of these views is to be considered superior to the other. Both may be suitable for some purposes and insufficient or for other purposes. Also, an individual may change his/her view depending on the situation. For instance, this study benefits from elements from both views and considers them as complementary.

Moreover, constructivism has a long history. In early 1900s, Dewey, the father of progressive education supported 'learning by doing' as an educational philosophy. He promoted teaching strategies that helped students actively engaged in learning about topics relevant to their lives (cited in Krajcik, Czerniak & Berger 2003; Grant n.d.). Teaching is not a matter of transmitting knowledge but requires students to construct knowledge with their own activities, building on what they already understand (Biggs & Tang 2007).

In this mixed research, the researcher adopted the exploratory design. According to this design, the philosophical assumptions entail that the researcher begins from constructivism for the qualitative phase, then he/she shifts to postpositivism for the quantitative phase.

Review of the Literature

The review of literature is designed to establish a base of knowledge about implementation issues related to Project-Based Learning in a middle school. It will also shed light on how PBL can be an active learning method that aims to engage students in acquiring knowledge and skills through real-world experiences and well-planned activities.

Project-Based Learning (PBL) focuses on involving students in all aspects of a suggested project, from the initial brainstorming of ideas to the presentation of the final product. The main principle in PBL is 'learning by doing', as shaped by the ideas of Dewey (1897). Dewey's pedagogical ideas draw attention to the psychological and social aspects of education. Dewey states that teaching should not encourage a "passive, receptive, or absorbing attitude" (p. 15), but should begin with "a psychological insight into the child's capacities, interests, and habits" (p. 8) to engage the student in expressive and constructive activities as a social individual. Dewey's views agree with Vygotsky's (zone of proximal development) and Piaget's (constructivism) who think that the construction of knowledge arises from the person's own experience.

PBL is an important initiative in some school reform efforts as stated by Ravitz, (2010). The word 'project' was found in Kilpatrick (1918). Its definition reflects Dewey's position on providing students with activities that consider the student's interests and capabilities:

If we conceive activities as ranging on a scale from those performed under dire compulsion up to those into which one puts his 'whole heart', the argument herein made restricts the term 'project' or purposeful act to the upper portions of the scale. (p. 5)

At the beginning of the twentieth century, Dewey, the father of progressive education supported 'learning by doing' and he promoted teaching strategies that helped students to actively get engaged in learning about topics relevant to their lives (as cited in Krajcik et al.). Teaching is not a matter of transmitting knowledge but rather it requires students to construct knowledge with their own activities, building on what they already understand (Biggs & Tang, 2007).

The Project-Based Learning Approach is a comprehensive, deep learning approach to classroom teaching and learning that engages students in the investigation of authentic problems (Blumenfeld et al. 1991). Adderley et al. (1975) put forward an important definition of PBL:

- 1. It involves the solution of a problem, though not necessary set by the student himself/herself.
- 2. It involves initiative by the student or group of students and necessitates a variety of educational activities.
- 3. It usually results in a final product (e.g., report, computer programme, a model).
- 4. It often goes on for a considerable period of time.
- 5. Teaching staffs assume advisory roles instead of authoritarian. (p. 1).

Problem-solving is basic to the development of experience; therefore, students should be exposed to real-world problems from the outset of tertiary education (Helle, Tynjala & Olkinuora, 2006). The driving question or problem is crucial in PBL as it helps to drive activities in creating the final product that addresses the questions (Blumenfeld et al., 1991). Also, it is necesseary to provide students with suitable goals from the outset to help them to understand the relevance and significance of the project (Barron et al., 1998).

Krajcik et al. (1999) state that PBL approach involves students in exploring significant and meaningful questions through a series of investigations and collaborative activities. These students ask questions, then they collaborate with each other in designing their investigation activities, collect data and analyses it, share ideas, draw conclusions and create their final products (Blumenfeld et al., 1991). These active investigations make them able to learn concepts and apply information in creating their final products (Houghton, n.d.) which is essential in constructing new knowledge. It is true that PBL is an instructional approach that focuses on learners' learning activities where the learners become more autonomous as they construct meaningful artifacts through their learning process (Grant, n.d.).

In effect, autonomy helps in making learners keep interested and motivated to do activities and to take responsibility for their own learning (Worthy, 2000). Furthermore, by giving control to the students, they maximize their opportunity to use their prior knowledge and experience in finding solutions to the problems (Morgan, 1983).

To make PBL more effective, teachers play significant roles in motivating learners and creating a classroom environment that is conducive to learners learning (Yam & Burger, 2009). Collaboration among learners, teachers and others in the educational process is so important that knowledge can be shared and distributed among the members (Houghton, n.d.). To add more, students' progress needs to be observed so that problems can be detected early (Winn, 1995). Therefore, teachers' support as well as continuous tutorial discussions involving

teachers and students is essential to sustain students' motivation in the PBL process (Blumenfeld et al., 1991). For instance, teachers can help by providing access to information, and support learning by scaffolding instruction in order to make the tasks clearer and more manageable. It is sometimes argued that teachers should break down the tasks into chunks to make them manageable, coaching students in formulating strategies to solve problems, and gradually releasing responsibility to the students (Blumenfeld et al., 1991).

On the other hand, the PBL approach has many benefits. With real-life applications of principles learnt from the course, PBL improves learners' motivation and gives them a sense of satisfaction (Blumenfeld, et al., 1991; Green, 1998; Hadim & Esche, 2002). Krajcik et al. (1999) note four benefits of PBL: students develop integrated understanding of materials; students learn to collaborate with each other in solving problems; it promotes independent learning as students assume greater responsibility in their learning; and as PBL involves various types of tasks, it satisfies different learning needs of students.

PBL has the ability to promote deep learning as learners need to acquire and apply concepts and principles in solving authentic problems. It also can promote critical and proactive thinking as they need to formulate plans and evaluate solutions (Blumenfeld et al., 1991). In addition, PBL moves learners from passive learning to active learning and it can improve knowledge retention and the learners' ability to apply prior knowledge in creating their final products (Felder, RM, Woods, DR, Stice, JE & Rugarcia, A., 2000). Besides enhancing learners' participation in the learning process (active learning and self-learning), it also helps to enhance communication and collaboration skills that are essential in their working life in the future (Hadim & Esche, 2002).

Researchers claim that the PBL helps in raising the academic achievement of learners. Holm (2011) provided evidence from research studies conducted between 2000-2011 regarding the effectiveness of PBL in preschool, elementary and secondary school classroom settings. All studies indicate the positive attitudes of students towards PBL and demonstrate the growth in learners' academic achievement after using PBL. DiEnno and Hilton (2005) state that students who are engaged in PBL show significantly high knowledge results because PBL provided them with the opportunity to learn by doing (as cited in Baumgartner & Zabin, 2008).

On the other hand, PBL presents several challenges for the teachers; these may include teachers' content knowledge, students' lack of experience in PBL and their preferences for traditional approaches that lead to passive learning. Moreover, the organization and administration of PBL can be very demanding and time-consuming on the part of teachers (Frank et al., 2003; Helle, Tynjala & Olkinuora, 2006).

It is important that projects need to be designed in order to enhance learners' motivation. Therefore, teachers must be supported by the administration in creating this type of learning tasks (Blumenfeld et al., 1991). They propose a series of factors to be taken into account in project design to ensure that the intended learning outcomes are attainable. These include the fact that the project should be interesting and worth doing. Learners should have the competence to complete the project, and learners should focus on learning rather than on grades.

Implementation of Project-Based Learning

PBL requires several factors to help implementing it successfully. First, the content should be carefully chosen to meet learners' needs and to attract their attention. Then, the topic should be introduced in an interesting way such as activating students' prior knowledge or schemata through short discussion, eliciting questions, or displaying a video. The purpose of this stage is to motivate students to be eager to know more about the topic. After introducing and discussing the topic, students are encouraged to come up with a driving question to help them stay focused on of the project and to give them a purpose behind conducting the project.

The question should be a little bit challenging, open ended and directly related to the core of the project. It is important to make the project meaningful to learners by giving them the opportunity to choose how to carry out the project. They should be encouraged to use their own ideas in designing the project, what materials to be used, and sources of information and how to present the final product.

While conducting the project, teachers should make sure that learners have enough time and to practice skills such as collaboration, critical thinking and problem solving which all are important 21st century skills.

After answering the main driving question, learners should share with each other the information that they collected in order to be evaluated and summarized, then more subquestions can be generated by students for more detailed information. Feedback is another important element of PBL. The teacher and peers work together to provide constructive feedback to each other. Learners usually learn from the process of conducting the project through which they review and modify their work according to the feedback received from their teacher and peers. Presenting the final product to learners and teachers of other classes and parents can be considered the main incentive for learners to work hard and feel proud of what they have done. Therefore, learners need to be encouraged to display their projects and talk about them to other people and answer their questions.

2. Methods

A mixed method sequential exploratory research approach has been chosen in this study to explore how teachers implement Project-Based Learning (PBL) in a UAE middle school context. The mixed methods research involves the integration between the qualitative and the quantitative methods in the research study. This method has been chosen because it facilitates the understanding of the research problems than using only one of other methods (Creswell, 2005). The exploratory design has been used purposefully in this study.

Moreover, the researcher has used the mixed methods research design in order to triangulate data collection and consolidate the validity of the collected data. He also sought to identify the probable challenges of using project-based learning in a UAE EFL context, and to present useful information on how PBL worked in that context. The sample size consisted of middle school teachers who taught English and students from the same school.

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Participants

The participants in this study are five English teachers and one hundred students who were chosen randomly to take part in the study. They all took part in the study voluntarily and they oriented about the goals of the study. Moreover, they were told that they could quit participating in the study at any time they like without giving reasons. The students' parents signed consent forms regularly asserting their agreement on their son's participation in the study.

The participants in this study consisted of five English teachers (n = 5) and one hundred students (n = 100). The participants were selected randomly. They might have different backgrounds as they come from different countries. The teachers received different training programs, and took different content and method courses, and they all were employed by the Ministry of Education in the UAE and were supposed to have good and effective experiences. The study lasted for almost one complete semester. During their teaching practice, the teachers had to teach full lessons based on a teaching schedule prepared by the school administration. Before the study, the researcher took a written permission from the school administration to conduct the study in the chosen school. I also received consents from the five teachers in the chosen school as well as the students for the study. Moreover, I could develop a trustworthy relationship with all participant teachers and students.

Research Design

To answer the study research questions, the researcher used a mixed methods sequential exploratory approach (Tashakkori & Teddlie, 2003), which is a procedure for collecting, analyzing and mixing or integrating both qualitative and quantitative data at some stage of the research process within a single study (Creswell, 2005). The rationale for mixing both types of data is that neither qualitative nor quantitative methods are enough by themselves to capture the trends and details of situations, such as the complex issue of implementing the project-based learning approach. When used in combination, qualitative and quantitative methods complement each other and provide a more complete picture of the research problem (Greene, Caracelli, & Graham, 1989; Johnson & Turner, 2003; Tashakkori & Teddlie, 1998).

This study used a sequential exploratory mixed methods design, consisting of two distinct phases (Creswell, Plano Clark, Guttman, & Hanson, 2003; Tashakkori & Teddlie, 1998). In this design, the qualitative, text, data is collected and analyzed first, while the quantitative, numeric, data is collected and analyzed second in sequence and this helps to explain or elaborate on the qualitative results obtained in the first phase. In this study, the qualitative multiple case study approach was used to explain why certain factors tested in the first phase, were significant predictors of success implementing the PBL. Then, the quantitative data and results provided a general picture of the research problem, while the qualitative data and its analysis refined and explained those statistical results by exploring the participants' views regarding their perspectives of the PBL and its implementation in more depth.

The priority (Creswell et al., 2003) in the study was given to the qualitative approach, because it focused on in-depth explanations of the results obtained in the first, quantitative phase provided data collection from multiple sources and two-level case analysis. The qualitative and quantitative phases were connected (Hanson, Creswell, Plano Clark, Petska, & Creswell, 2005) when selecting six participants for the qualitative case study and developing the questionnaires protocol based on the results from the results from the first phase. The results of the qualitative and quantitative phases were integrated (Creswell et al., 2003) during the discussion of the outcomes of the entire study (see Figure one for a diagram of the mixed methods sequential exploratory design procedures in the study).

Data Collection Procedures

The research will be divided into two phases: qualitative and quantitative ones. In the first phase, the researcher will collect data through observing the participant teachers and take field notes as sources of data. The purpose will be to explore how teachers will implement PBL

in their classrooms. The data will be collected and analyzed qualitatively to see the actual implementation of PBL in grades seven and eight in a middle school in the UAE. The findings of the qualitative phase will be used to build to the subsequent quantitative phase. The researcher will prepare a questionnaire to measure students' satisfaction with the application of PBL. Also, in the second phase, the researcher will use the questionnaire to collect quantitative data about the progress of the PBL group of students as a result of teachers' tutoring and then analyze the collected data.

Qualitative Research Design

A multiple case study design (Stake, 1995; Yin, 2003) was used for collecting and analyzing the data in the first, qualitative phase. The instrumental multiple cases (Stake, 1995) served the purpose of "illuminating a particular issue" (Creswell, 2005, p. 439) such as shortage of period time to achieve the parts of the project. The unit of analysis was an expert teacher. The case study was bounded by one individual and by the time he shared in implementing PBL.

Observation

An observational method was used when collecting observational data for this study. Consent was acquired from the administration and the teachers involved in this section of data collection. The researcher observed classroom interactions and happenings in an unnoticeable manner to hinder any influence imposed on the students and teachers. The researcher sat at the back of the classroom and took notes about how the teachers implemented PBL including student-to-student interactions as well as student-to-teacher interactions.

Field Notes

During the study, and as part of the qualitative stage, the researcher observed the teachers and jotted down field notes about how they implemented project-based learning. The field notes contained all the necessary information for subsequent data analysis as well as the group number, the date, the task type, number of students present at the class, the time when the students start to work, and the purpose of the task. The field notes also described the setting and the arrangement of the students. This information provided a clearer picture of what is going on in the class.

Data Collection

The data were collected from multiple sources to provide the richness and the depth of the case description and included: (1) in-depth semi-structured observation, (2) field notes that were taken while observing the teachers while implementing PBL in the classrooms.

Qualitative Data Analysis

The analysis was performed by having qualitative software for data storage, coding, and theme development. Steps in the qualitative analysis included: (1) preliminary exploration of the data by reading through the observation documents and the written notes; (2) coding the data by segmenting and labeling the text; (3) verifying the codes through inter-coder agreement check; (4) using codes to develop themes by aggregating similar codes together; (5) connecting and interrelating themes; (6) constructing a case study narrative composed of descriptions and themes; and (7) cross-case thematic analysis.

Credibility of the findings was secured by triangulating different sources of information, member checking, inter-coder agreement, rich and thick descriptions of the cases, reviewing and resolving disconfirming evidence, and academic advisor's auditing (Creswell, 1998; Creswell & Miller, 2002; Lincoln & Guba, 1985; Miles & Huberman, 1994; Stake, 1995). **Quantitative Phase**

For the second, quantitative phase, questionnaires were used; one for the participant students and the other was for the subject teachers. The questionnaire instrument was self-developed, and pilot tested on 5% of randomly selected student participants. The questionnaires were administered online and were accessed through computers. Active e-mail addresses of the participants were obtained from them. The participants did the questionnaires accordingly and on time. The data collection took place between October 1 and November 18, 2019. Eighty student participants who were willing to complete the questionnaire, could complete it in full. All six teachers received hard copies of the questionnaire and completed them.

Data Analysis

Both univariate and multivariate statistical procedures were used to analyze the questionnaires' data. Questionnaire demographic information and the participants' answers to separate items on each questionnaire subscale were analyzed using cross tabulation and frequency counts. Prior to the analysis, data screening was conducted at both univariate and multivariate levels, following the procedures outlined by Kline (1998) and Tabachnick and Fidell (2000).

3. Results

Qualitative Phase

Classroom observational data

The researcher observed a total of six hours of class time. Approximately half of this time was dedicated to content learning and the other half was focused on the project. The most notable observations made were that students worked in heterogenous groups to achieve the assigned project. English was used most of the time as some students used their mother tongue, Arabic. The researcher also observed that all students actively participated in the project.

In a nutshell, the results of the observation and the field notes show that PBL is an effective method of teaching. Consequently, it will be right for the researcher to conclude that PBL has a positive effect on the students' English language skills and learning.

Indeed, classroom and project share observations were scheduled with teachers in advance. Observation notes were collected and recorded in the researcher's notebook. Those notes were kept for future usage and analysis. The data or documents that were collected from observed teachers were classified and organized according to their content reflecting the design of PBL lessons or activities; implementation methods; assessment methods; or as examples of a project product. The collected documents and classroom observations varied in the type and extent of information offered; yet they offered valuable insight in established data collected from the observations.

Adopting PBL as a method of teaching in UAE schools was considered a big shift from traditional to more advanced methods of teaching. As a result, many challenges were expected to be encountered in the course of implementing PBL. The data which were gathered through observing the teachers and their students while implementing the PBL will be presented and analyzed as follows:

Quantitative Phase

Students' Questionnaire

The questionnaire was given to students upon completion of the project by the teacher and the students. Student participants completed their questionnaires where the most significant recurring theme presented in this questionnaire was that most of the class liked working together as a team. Seventy out of the one hundred participants or 70% indicated that what they liked the most was the collaborative nature of the project. Ten students discussed the poster design as their most liked part of the project. Other ten students indicated that the presentation was their favorite part. Ten students liked that the project was outside of the normal classroom routine.

Moreover, the results from the questionnaire as shown in the table below shows that 99 (99%) of the participants strongly agreed that they prefer PBL to traditional method of teaching. Evidently, all the subjects of this study also agreed that, PBL as an instructional methodology provided them with enough scope to earn and display their English language skills.

Subject: English					
Statement	Strongly	Agree	No	Disagree	Strongly
	Agree		Opinion		Disagree
1. Projects help me apply my	75	24	1	0	0
knowledge.	(75%)	(24%)	(1%)	(0%)	(0%)
2. Projects are more interesting than	77	22	1	0	0
traditional classrooms.	(77%)	(22%)	(1%)	(0%)	(0%)
3. Projects improve my communication	80	20	0	0	0
and time management skills.	(80%)	(20%)	(0%)	(0%)	(0%)
4. Projects increase my motivation.	90	10	0	0	0
	(90%)	(10%)	(0%)	(0%)	(0%)
5. Projects are more satisfying than	75	24	0	1	0
studying from a textbook.	(75%)	(24%)	(0%)	(0%)	(0%)
6. Projects are frustrating.	0	0	0	20	80
	(0%)	(0%)	(0%)	(20%)	(80%)
7. I find during a project I struggle with	0	0	0	80	20
many problems.	(0%)	(0%)	(0%)	(80%)	(20%)
8. I participate better in projects than	79	20	1	0	0
working on my own.	(79%)	(20%)	(1%)	(0%)	(0%)
9. I like the freedom and flexibility of	70	30	0	0	0
projects.	(70%)	(30%)	(0%)	(0%)	(0%)
10. I believe PBL gives more factual	75	20	5	0	0
knowledge of learning than in a normal	(75%)	(20%)	(5%)	(0%)	(0%)
classroom.					
11. Projects help me understand the	80	16	4	0	0
subject more.	(80%)	(16%)	(4%)	(0%)	(0%)
12. I improve in my reflecting during a	70	30	0	0	0
project.	(70%)	(25%)	(0%)	(0%)	(0%)
13. Teamwork and interpersonal skills	75	20	5	0	0
during a project are better than a	(75%)	(20%)	(5%)	(0%)	(0%)
traditional class.					

Table 1. Student questionnaire

14. I desire more projects to be	85	10	5	0	0
organized in my class work.	(85%)	(10%)	(5%)	(0%)	(0%)
15. I do not learn a lot from projects.	0	0	5	10	85
	(0%)	(0%)	(5%)	(10%)	(85%)
16. I feel projects are a satisfying way	80	20	0	0	0
to learn.	(80%)	(20%)	(0%)	(0%)	(0%)
17. Projects are difficult due to the	0	0	0	10	90
independent aspect of PBL.	(0%)	(0%)	(0%)	(10%)	(90%)
18. I respond negatively when I find out	0	0	0	15	85
I am doing a project.	(0%)	(0%)	(0%)	(15%)	(85%)
19. I gain a lot from projects.	80	20	0	0	0
	(80%)	(20%)	(0%)	(0%)	(0%)
20. I do not gain a lot from projects.	0	0	0	15	85
	(0%)	(0%)	(0%)	(15%)	(85%)
21. I find projects difficult.	0	0	0	5	95
	(0%)	(0%)	(0%)	(5%)	(95%)
22. I find projects motivating.	90	10	0	0	0
	(90%)	(10%)	(0%)	(0%)	(0%)
23. I do not find projects a satisfying	0	0	0	5	95
method of learning.	(0%)	(0%)	(0%)	(5%)	(95%)
24. When I find out I am going to do a	0	0	0	25	75
project; I do not know where to start.	(0%)	(0%)	(0%)	(25%)	(75%)
25. Projects are time consuming.	5	10	15	25	45
	(5%)	(10%)	(15%)	(25%)	(45%)

Table 2. Teacher'squestionnaire

I teach English / Male Middle School						
Statement	Strongly	Agree	No	Disagree	Strongly	
	Agree		Opinion		Disagree	
1. Projects help my students apply my	3	2	0	0	0	
knowledge.	(60%)	(40%)	(0%)	(0%)	(0%)	
2. Projects are more interesting than	5	0	0	0	0	
traditional classrooms for my students.	(100%)	(0%)	(0%)	(0%)	(0%)	
3. Projects improve my student's	5	0	0	0	0	
communication and time	(100%)	(0%)	(0%)	(0%)	(0%)	
management skills.						
4. Projects increase my student's	4	1	0	0	0	
motivation.	(80%)	(20%)	(0%)	(0%)	(0%)	
5. Projects are more satisfying for my	3	2	0	0	0	
students than studying from a textbook.	(60%)	(40%)	(0%)	(0%)	(0%)	
6. Projects are frustrating for my	0	0	0	0	5	
students.	(0%)	(0%)	(0%)	(0%)	(100%)	
7. My students find during a project that	0	1	0	3	1	
they struggle with many problems.	(0%)	(20%)	(0%)	(60%)	(20%)	
8. My students participate better in	4	1	0	0	0	
group projects than on their own.	(80%)	(20%)	(0%)	(0%)	(0%)	
9. My students like the freedom and	4	1	0	0	0	
flexibility of projects.	(80%)	(20%)	(0%)	(0%)	(0%)	

10. I believe PBL gives my students	3	2	0	0	0
more factual knowledge of learning	(60%)	(40%)	(0%)	(0%)	(0%)
than in a normal classroom.					
11. Projects help my students	4	1	0	0	0
understand the subject more.	(80%)	(20%)	(0%)	(0%)	(0%)
12. My students improve in their	3	2	0	0	0
reflecting during a project.	(60%)	(40%)	(0%)	(0%)	(0%)
13. I see my students improve in their	5	0	0	0	0
teamwork and interpersonal skills	(100%)	(0%)	(0%)	(0%)	(0%)
during a project than they would during					
a traditional class.					
14. My students desire more projects to	3	2	0	0	0
be organized in their class work.	(60%)	(40%)	(0%)	(0%)	(0%)
15. My students do not learn a lot from	0	0	0	0	5
projects.	(0%)	(0%)	(0%)	(0%)	(100%)
16. My students feel projects are a	3	2	0	0	0
satisfying way to learn.	(60%)	(40%)	(0%)	(0%)	(0%)
17. My students find projects difficult	0	0	0	0	5
due to the independent aspect of PBL.	(0%)	(0%)	(0%)	(0%)	(100%)
18. My students respond negatively	0	0	0	0	5
when they find out they are going to do	(0%)	(0%)	(0%)	(0%)	(100%)
a project.					
19. My students gain a lot from projects.	4	1	0	0	0
	(80%)	(20%)	(0%)	(0%)	(0%)
20. My students do not gain a lot from	0	0	0	0	5
projects.	(0%)	(0%)	(0%)	(0%)	(100%)
21. My students find projects difficult.	0	0	0	0	5
	(0%)	(0%)	(0%)	(0%)	(100%)
22. My students find projects	4	1	0	0	0
motivating.	(80%)	(20%)	(0%)	(0%)	(0%)
23. My students do not find projects a	0	0	0	1	4
satisfying method of learning.	(0%)	(0%)	(0%)	(20%)	(80%)
24. When my students find out they are	0	0	0	0	5
going to do a project; they do not know	(0%)	(0%)	(0%)	(0%)	(100%)
where to start.					
25. My students find that projects are	0	0	0	1	4
time consuming.	(0%)	(0%)	(0%)	(20%)	(80%)

The results are a testament to the fact that PBL can improve students' collaboration skills, which is a very important skill needed in todays and future workplace. Almost most of the students, 90 (90%) strongly agreed and 9 (9%) agreed that PBL greatly improved their collaborative skills during group practical sessions. The responses by the subjects of this study to the questionnaire items suggest that, all the participants indeed embraced PBL as a viable teaching approach capable of improving students' English language skills and positive learning

Positively, the results from the teachers' questionnaire showed that 4 (80%) strongly agreed and 1 (20%) agreed that PBL is an engaging and motivating method of teaching. It can enhance student's English language ability. Therefore, the researcher can conclude that PBL has a positive effect on the students' English language learning.

4. Discussion

The purpose of this mixed methods sequential exploratory study was to explore the implementation of PBL in a middle school in an EFL in the UAE. The qualitative follow up the case study analysis revealed that four reasons were crucial: (1) quality of the teaching process and other related academic experiences; (2) the nature of the learning environment; (3) support and assistance from different sources; and (4) student self-motivation. The quality of academic experiences had the most favorable impact on the participants' achievement in the project. All participants were equally motivated to share in the project.

In the quantitative follow up phase, four external and internal to the program factors ("project nature", "the learning environment", "student support services", and "self-motivation") were found to be predictors to students' interaction in the project.

The way qualitative and quantitative findings highlighted the quality of the project and participants' academic experiences in it, the importance of student support and self-motivation to succeed in the project. The qualitative and the quantitative findings in this study supported the principal components of the success of the PBL. The quality of the project and academic experiences learning in the learning environment, the importance of student support and student goal commitment were integral components of students' progress in the project.

Research question one inquired about how teachers define project-based learning. The results from the data indicated that teacher participants agreed that PBL is a teaching method in which students acquire knowledge and skills by working collaboratively for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.

In regard with answering the main question posed in this study which was "How do teachers implement the Project-Based Learning Approach in their classrooms? The researched found through observing how the English language teachers implemented PBL that they had the same opinion regarding the time issue. For example, one of the English language teachers complained that PBL requires extra time after lessons, whereas another one added that students had to spend their extra time after lessons, which made them tired. Moreover, a teacher mentioned that students sometimes do not submit their work on time. This probably indicates that the reason could be lack of time or tiredness. In a nutshell, according to the teachers' responses, lack of time is considered a serious problem for students.

Research question three was about how teachers use technology to support their projectbased activity? The research findings showed that teachers and students could utilize the available technology for the sake of implementing PBL in a useful and effective way.

Research question four was about the challenges of using PBL. The challenges were related to teachers, students, curriculum and schools. The main problem was the lack of coordination among the educational authorities and schools with their staff and students to be prepared well for the implementation of PBL.

Regarding the sub-question about the challenges that teachers might encounter while implementing PBL, the researcher found that the English teachers mentioned the lack of resources which were necessary to conduct PBL. For example, a teacher stated that there was a problem concerning the materials. They added that the materials that the school had were not enough for students to conduct PBL, which required them to buy those materials. Moreover, it is worth pointing out that the lack of resources might depend on the subject and the topic of the project that students conduct.

Research question five was about whether PBL help students improve their academic achievement. The results showed that PBL could help students improve their academic achievement. Almost most of the students, 90 (90%) strongly agreed and 9 (9%) agreed that PBL greatly improved their collaborative skills during group practical sessions. The responses by the subjects of this study to the questionnaire items suggest that, all the participants indeed embraced PBL as a viable teaching approach capable of improving students' English language

skills and positive learning and it contributed to the advancement in their academic achievement.

In conclusion, through observation it can be stated that PBL is a student-centred approach. It can provide students with good opportunities for interaction and practicing the target language effectively. The efficient implementation of PBL requires ensuring many conditions such as offering more training to teachers and students on implementing PBL. Also, there should be more collaboration among teachers, school administrations and parents to help this approach be implemented effectively. In addition, the curriculum needs to be based on the project-based Learning. If these things were handled successfully, implementing the Project-based Learning can be very productive.

Delimitations/Limitations

This study focused on exploring the implementation of the PBL in a middle school in a UAE context. This makes the findings relatively limited in terms of making a causal claim. Actually, the study might have another limitation as the documents collected through the observations and the questionnaires varied in nature among teachers and students which may have weakened triangulation of the data. The number of observations per classroom also varied, based on availability and scheduling conflicts, which may also weaken triangulation of the data.

Moreover, the sample chosen for the study is a middle school male school in the UAE and so the results might not be suitable for being generalized to other schools. Additionally, this study was implemented in the scholastic year 2019-2020, therefore, the study is limited only to one middle school in the UAE and in one scholastic year. Thus, it would be appropriate for a future study to conduct an experiment on the topic in more schools and in different contexts to have more valid results. In addition, the qualitative data were subject to the researcher bias. To reduce the potential for this, the qualitative observation results were coded by a second rater.

5. Conclusion

The purpose of this study is to explore how teachers implement Project-Based Learning in a UAE middle school. Through this study, I have found that there is a current shift towards PBL within most educational systems all over the world. As we proceed through this era of rapidly advancing technology, it becomes necessary for our educational systems to meet the needs of an ever-changing society. As a result, we need to move towards teaching 21st century competencies within our classrooms.

The analysis of the data in the two qualitative and quantitative phases revealed that most participants could get engaged in PBL activities effectively, whereas the rest failed to do so because of the following reasons. First, some of them were reluctant and not confident enough to use PBL. Some new teachers found it a little bit difficult to manage their classroom time appropriately because projects took more than the expected time.

In general, PBL is a teaching approach that can transform teaching from a dull process of passive learning into an active one where learners actively get engaged in the process of learning and activities resulting in deeper learning and significant learning outcomes. The use of PBL as a teaching approach is promising as more schools work hard to incorporate experiential learning into their methodologies. In fact, it just needs more serious preparation of all the necessary requirements for implementing it efficiently.

Overall, the findings of this study offered a good opportunity for the researcher to suggest what might help in facilitating the process of implementing Project-Based Learning, as illustrated below.

Suggestions and Recommendations

There are some suggestions and recommendations which are made to help teachers, schools and decision makers in implement PBL as it should be applied in order to be effective and useful.

- Teachers should receive enough training on how to implement PBL.
- Learners should also be trained on how to apply PBL.
- Parents need to be familiarized with the significance of implementing PBL.
- Curriculum should be authentic and designed to be taught by PBL.
- Special budget for projects should be offered by school administrations.
- Displaying students projects products in certain areas in the school can help motivate other students to work hard while implementing PBL.
- Rewards for best projects should be provided to stimulate students to reach their potential in this regard.
- Collaboration among teachers within school should be encouraged for the welfare of implementing PBL.
- PBL should be used across the curriculum.
- Effective assessment tools should be used to assess the process of implementing PBL and the final product.

Moreover, the sample size that took part in this study was relatively small. Therefore, a bigger sample is recommended. Further research to explore the effectiveness of implementing PBL in public schools in the UAE is suggested.

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Appendices Appendix (A) Students' Consent Form

Dear students,

The researcher is doing a research to explore the implementation of Project-Base Learning (PBL) in a UAE middle school context. If you like to participate in this study, he will ask you some questions related to this topic. If you want to change your mind for the participation, inform him by email or even calling. During and after the study, he will write about any new knowledge or information gained from this study, but with a secret personal information.

If you want to participate in my study, please write your name down in this paper. Copies will be kept with the researcher, you, and your parents.

Researcher,

Abdullah Taha,

Voluntary Agreement Form

I have read the information in this study, and I understood all steps. So, I agree to participate in this study. I have the right of withdraw at any time. I have received a copy of this form. **Student full name:**

Signature :	:		
Date:	/	/ 2020	

I certify that I have explained to the participating students the purpose, steps and nature of the study. Also, the researcher assures that he answered all the questions that were raised by the participant.

Appendix (B) Students' Questionnaire

Subject: English					
Statement	Strongly	Agree	No	Disagree	Strongly
	Agree		Opinion		Disagree

Appendix C Teachers' questionnaire

I teach English / Male Middle School					
Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree

1. Projects help my students apply my			
knowledge.			
2. Projects are more interesting than			
traditional classrooms			
for my students.			
3. Projects improve my student's			
communication and time			
management skills.			
4. Projects increase my student's			
motivation.			
5. Projects are more satisfying for my			
students than studying from a			
textbook.			
6. Projects are frustrating for my			
students.			
7. My students find during a project			
they struggle with many problems.			
8. My students participate better in			
group projects than on their own.			
9. My students like the freedom and			
flexibility of projects.			
10. I believe PBL gives my students			
more factual knowledge of learning			
than in a normal classroom.			
11. Projects help my students			
understand the subject more.			
12. My students improve in their			
reflecting during a project.			
13. I see my students improve in their			
teamwork and interpersonal skills			
during a project than they would			
during a traditional class.			
14. My students desire more projects			
to be organized in their class work.			
15. My students do not learn a lot			
from projects.	 		
16. My students feel projects are a			
satisfying way to learn.			
17. My students find projects difficult			
due to the independent aspect of PBL.			
18. My students respond negatively			
when they find out they are going to			
10 My students asin a lat from			
projects			
20 My students do not soin a lot from			
20. Wry students do not gain a lot from			
21 My students find projects			
difficult			
unneun.			

22. My students find projects			
motivating.			
23. My students do not find projects a			
satisfying method of learning.			
24. When my students find out they			
are going to do a project; they do not			
know where to start.			
25. My students find that projects are			
time consuming.			