Efficacy of PBL Approach in Bahraini Context: Views and Reflections

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Abstract

Purpose: After the implementation of Alzayed's research (2016), another research on the efficacy of PBL in the High school in Bahraini context was conducted using the same participants of Alzayed's research (2016). That was for two main reasons: First is to find out the process behind how students on the PBL scheme learn. The second is to detect if it has any positive or negative effect on them.

Methodology: This paper adopted a qualitative approach and semi-structured interviews of twenty-four students, two teachers, and three curriculum specialists.

Findings: Its main findings reflect that students who were taught Islamic Education (IE) under the umbrella of the PBL scheme, their critical thinking skills were significantly reinforced as much as the delivered knowledge which was smoothly adopted without any need to be forced or pressurized through the learning process. Simply, they were able to learn the information effortlessly. This research concludes that the PBL scheme was successful as students developed confidence in learning which enabled them to have positive attitudes towards learning. Although students had to adjust themselves to the different teaching and learning methods, they were able to work together positively and fruitfully. This research explored that students have good ambitions after using the PBL scheme.

Unique Contribution to Theory, Policy and Practice: The study recommends that the Ministry of Education consider this by introducing the scheme as an effective and positive process to be used for students to learn and achieve better outcomes. Moreover, this research adds value to the PBL in the context of Islamic education in Bahrain as well as ensuring its effectiveness in learning and developing skills.

Keywords: *Problem-based learning, Islamic Education, learning process, student's reflections, high school.*

Introduction

The application of Problem Based Learning (PBL)is made up of three elements: Firstly, all the relevant information that is required to be taught is presented as a problem with solutions which can be solved. Students should not be acknowledged with statements and facts that can be established within an academic encyclopedia which makes students less likely to be counter-productive to school. Furthermore, in the second element, the teachers should not dictate information to the candidates, but alternatively, the students must work with one another to find the solutions to the problems which then, can enhance their teamwork skills. In addition to the second element, it continues to the third element, which is that of student-centricity. Student-centricity is the demonstration of knowledge and academic capabilities of students, not the teachers (Savery and Duffy1995).

Moreover, the PBL model is a learning model that uses a contextual problem to motivate student learning. In problem-based learning classes, students collaborate in teams to solve real-world problems. In other words, the PBL is a method of instruction characterized by the use of real-world problems to teach pupils critical thinking, problem-solving, and content knowledge. Barbara J. Duch and Susan E. Groh state that a PBL curriculum development and instructional system simultaneously develop problem-solving strategies, fundamental knowledge and skills through placing students in the active role of solving unstructured daily problems (Nurzaman, 2017). (Nurzaman, 2017) claims that PBL involves the submission of queries or problems, an emphasis on disciplinary connections, authentic investigation, collaboration, and the production of work and demonstrations. The purpose of PBL is not to help instructors to provide more information, but to help students to develop problem-solving abilities and relevant skills.

However, this research is based on a previous study of PBL by Alzayed research (2016). It investigated how the scheme shapes the curriculum, which took place over the course of ten sessions, which fitted well with the ten-topic structure of the KB IE course. All the girls participating in this study were from the same class in the 11th Grade. The employed IE PBL module was a representation of a larger scale model and focused on the topic of 'Provisions of the family in Islam (201)', which was featured in the student's textbook. The PBL process in place was threefold. Firstly, the teachers presented the problem to the students. Then, the students used a group or paired work to find a solution to the problem. The teachers were available for questions during this step and were able to prompt students if they encountered any difficulty. Finally, the whole class discussed their ideas, evaluating each other's solutions and settling on an optimum approach. Using a marketing planning course as an example, the purpose of this study was to investigate various cooperative learning grouping and problem-based instruction in the business administration department of an academic technology institution in order to improve student's learning performance. In this study, the researcher evaluated and revised the course materials of the marketing planning course at a technology college. Also, she modified the cooperative learning and PBL techniques used to serve as a guide for instructors. Questionnaires were used for pre-and

post-testing, and observers were assigned to observe the behavioural changes of groups or individuals, in order to make this study more comprehensive in terms of both quality and quantity (Ruey-Gwoet al (2010).

Moreover, the characteristics of the problem-based learning model can contribute to the development of students' critical thinking as well as problem-solving abilities and skills, and mainly their independence as active learners. The use of a PBL model contributes to the improvement of student engagement in both individual learning and classroom discussion so that students are more likely to pose questions and express their opinions in the context of problem-solving. Sahat et al.(2017). Relevantly, the latest studies have expanded on this to encompass PBL's impacts on learning achievements. The data used in these are qualitative and quantitative, leading Hak and Maguire (2000) and Ricardo, et.al, (2017) to compare the field to a 'black box', lacking in relevant information about practical use. As a result, this study focuses more on subjective data which can be gained from interviewing teachers and students of IE in the KB and comparing their views on the matter. This research aims to focus on qualitative data, so the appropriate method is a semi-structured interview to accurately gain information from the participants and to reflect on what the students learn and how they learn.

Methodology

The education system in Bahrain is divided into regular ladder learning, which consists of two levels: basic education and secondary education. Basic education starts from the age of 6 years, going up to 15 years. It is divided into three stages: the first is from 6 to 9 years of age, the second from 10 to 12 years old, and the third from 13 to 15 years old. Secondary education contains two different general majors, technical and vocational education, which lasts from the age of 16 to the age of 18 (MoE, 2012). The secondary level of education complements basic education which prepares students to enter universities and institutes of higher education or to engage in the direct labour market. It consists of three years of study, which are divided into six semesters. Moreover, this stage applies the credit hour system, which provides a wide range of subjects that allow students to learn the skills and to reach goals that are consistent with their future expectations. Under the credit hour system, the student is free to choose one of the following three groups: science and mathematics; languages and humanities; or business, industrial studies, and apprenticeship. The study plan in high school for the General Certificate of Secondary Education (GCSE) requires a total of 182 credit hours approved by the Common Path (MoE, 2013, 2015).

However, two teachers and 120 female students were used in Alzayed's research (2016). From this number that was selected and participated in the previous research, I have interviewed two teachers, three curriculum specialists and twenty-four students. They were selected for participation using convenience sampling. Amwaj Secondary Girls' School was the site of the research (total student body: 1,074). The total sample number of participants that took part in the IE PBL interview was twenty-nine people. The breakdown of participants that were interviewed were twenty-four students, two teachers and three curriculum specialists. The students and teachers

who took part in the research were from IE, while the curriculum specialists were employed in the MoE. The teachers who participated in this research have been teaching for more than 5 years, and they were qualified to teach Islamic Studies. The students, teachers, and curriculum specialists were interviewed. Due to the recurrence of the answers in the interviews, The researcher judged that a saturation point was reached in the data (Mason, 2002).

The aim of the interviews was to find out the views of the students and teachers who participated in the PBL. These views were used to investigate the effect of PBL in KB. The questions used in the interviews were formed in a way to extract rich relevant statements of the participants. There was also an open question at the end of the interview to provide them with a chance to express their own honest opinions without restrictions or directions regarding the PBL scheme. Similarly, interviews were conducted with the teachers in the school and the MoE curriculum specialists. Moreover, to gain an understanding of the students' opinions and experiences with the PBL scheme, semi-structured interviews were conducted as the main source. This has been used to understand what the participants had learnt using PBL, and to collect data for the teachers and curriculum specialists. The main purpose was to elicit answers regarding the participants' views on how students exactly learn.

All interviews with all the participants were conducted in the mother tongue language; Arabic; to allow them to express themselves clearly and easily. Later, all of the interviews were transcribed and translated into English. As stated by Hennink et al., (2011) the interviews were translated as such to get a more sensible understanding of the meaning rather than using literal translation. The interviews of the students and teachers took place in an isolated classroom inside the school while the interviews with the specialists took place in MoE in a conference room. This report sits in the wider context of an interpretive study. The students (18 years of age), teachers and curriculum specialists, all provided qualitative feedback on the scheme through semi-structured interviews, and all lessons were audio-recorded for later reference. The interviews were also recorded, and transcriptions of the conversations were made for content analysis in the style of Lincoln and Guba (1985). This triangular approach to data collection and analysis made for a much deeper understanding of the issues raised, and provided answers where one approach alone would have failed.

Results

Common threads from the comments of students, teachers, and curriculum specialists were used to structure the findings of this investigation.

1. **The learning processes.**

This section outlines the results of the application of the IE PBL scheme of 120 students over ten lessons of Alzayed's research (2016). It became clear immediately that students could tackle problems and devised solutions more efficiently, if they based their discussions on their own experiences, just as Hung concludes (2006). Though some students were reluctant to join in, the

majority participated enthusiastically. Both teachers reported that they were pleased with the students' level of participation during the initial activities. As the sessions went on; however; there were other issues to deal with, such as students having other conversations, students arguing with one another, and teachers tolerating troublemakers for longer was beneficial. Both teachers also found it difficult at times to resist 'normal' teaching as it was the easier option, and had to make a conscious effort to maintain the PBL method. These difficulties were overcome.

However, by the end of the ten sessions, this implies that both had learnt from previous incidents and have developed their teaching technique accordingly. For the most part, the teachers in this investigation stuck to the PBL method and understood their role as being to guide and motivate their students, which contradicts the conclusions of Roland (2005), ACS (2001) and White (1996) that teachers are likely to fall back on styles of teaching with which they feel more comfortable. Li (2012) and Kadir (2012). On the other hand, claims that with time, teachers can become used to this new guiding style of teaching, and eventually reject the prescriptive style of teaching which was once familiar. In 2008, the MoE's new policy placed students, not the teachers, at the center of learning, supporting such schemes as PBL. Students are taught to approach problems in logical sequences, making real-life problems less daunting.

Amena's views (a student) on the process were as follows: "There are so many good things. One of them is that the programme trained us on problems that we may face in our real life, so we can find solutions for them easily. As you know, life is not easy; every day we face problems, in our houses, in our work, everywhere! It is good to have the ability to face such problems and deal with them."

Teacher Jamela stressed the necessity of a logical approach towards finding a proper solution to a problem: "I encourage my students to adopt this methodology. It will be of great advantage to our students in the light of modern advances in the different fields of our life but requires some alterations and amendments." The teacher May agreed to Jamela's statement saying: "It is a very useful method that contributes greatly to the development of the teaching-learning process, as this process needs continuous development in order to meet the dynamic changes and challenges that are taking place all over the world nowadays."

Curriculum specialist Nawal has underlined the MoE's stance on the matter: "The policy of the MoE agrees with the concept of PBL. Well, first I think that learning to solve a problem, through certain well-designed steps, is a new approach to learning that should be supported and encouraged if we seek development and cope with the changes which are taking place around us all over the world, especially in technological fields."

PBL is a keyway of addressing the KB MoE's student-centric policy. The teacher is no longer the source of information but guides the students' research and discussion so that they learn it themselves. This assists students to develop new ways of learning and expands their knowledge.

It also builds on the ideas of constructivism, since the students have been transformed from passive to active participants (Boghossian, 2006).

Yew and Goh (2016) asserted that the ways in which students learn are directly altered by the various stages of the PBL scheme since students are forced to organize their own learning during the middle stage and continue to learn during the discussion stage. Both stages are necessary since either one by itself would not have the same effect. Although, Hemker et al. (2017) conclude that the better structured and more effectively supervised the learning process, the better the outcome. Yew and Goh (2016), on the other hand, argued that it is the problem itself, which is the most significant element of the PBL scheme, since group discussion alone does not alter learning outcomes to great extent.

2. **How students learn.**

When students are required to find their own solutions to problems, they are forced to draw on their existing understanding of the topic and to make logical connections. This can give more independence to learners. In Boghossian's (2006) constructivist theory, all contributions are important, as no contribution is more valued than any other. Therefore, all student's contributions are important and valued in this research.

In reference to this independent learning, student Marah has said: "Actually, my group and I found it difficult to be independent at the beginning, but after that, we found ourselves face-to-face with the book only, and that made us depend more on ourselves. Previously we couldn't understand the book without the teacher's help or guidance, but now things have changed a lot, and we can understand the book and the problem when we read it alone."

When interviewed, a student named Sarah commented on the necessity of independence in real life:"Nobody will solve my problems except me. I think that everyone should have this skill to be able to solve their problems in the future." Ahalam agreed, and elaborated on this saying: "I can use the internet. I write the name of the lesson, then I bring a problem and start to search for proof for the problem according to the opinions of scholars."

MoE representative Ahmed stressed the value of independent learning in MoE policy: "The student has responsibility for herself. Yes, sure, PBL has a significant role in achieving skills aimed at the MoE. Through this PBL module, the student shall acquire the necessary skills and abilities, as the student shall depend on him/herself to reach the solution."

Everyone must adopt this independent approach to life so that they can overcome the problems which they face on a daily basis. Religious leaders and the courts cannot be expected to deal with all problems, especially those which can be resolved privately. It is important to encourage students to move away from this reliance on others and promote self-reliance so that they can make their own judgements about situations.

Manual, a student, commented on her improved ability to retain information: "Actually, in the previous teaching methods the teacher used to give us more information than that in the book, but in this module, we look for the information and the proofs by ourselves. We discover new knowledge by ourselves. And finally, we made our decision depending on what we have concluded. Here such knowledge is stored in our minds and never forgotten, but in the previous teaching methods, the information was given to us without any effort from our side, and so we easily forget it: as they say, "Easy come easy go."

It is easier to retain knowledge that has been gained by hard work, and so the independent nature of PBL improves memory. Students also remember the process by which they came about the answer and can reconsider their discussions with their classmates.

Student Samar said: "The aim of the PBL scheme is to acquire a skill, not just to find solutions. We learn from those scholars and then judge how to deal with such cases." She also gave the following statement by using an example to explain her point: "When I had a difficult question in the exam, at first I couldn't answer it, but when I started to recall how we used to solve the problem, then I followed the steps of solving the problem which we used to follow, and I was so happy that finally, I could find the answer."

Students who discovered solutions and information independently became more able to face other tasks autonomously. This great finesse will be useful in every aspect of their daily lives, both now and in the future. The conclusion drawn in this study; that students could be more effective and enlightened individuals, is consistent with those drawn by other scholars in the field of student directed PBL. Wilkerson, et al. (1991) argued that teachers must not prevent students from directing the path and the rate of their own learning. Similarly, Hemker, et al. (2017) claims the importance of guided learning being a gateway to wholly independent learning, which is the real goal. Razzak's (2012) study shows that self-discipline in students can enable them to consider a range of solutions to a problem and make judicious decisions on the most appropriate. It is important to be aware of the other theoretical arguments which influence the PBL scheme, not just independence and constructivism: For example, consider various socio-cultural perspectives of group work and development to gain a fuller understanding of PBL's benefits (Lycke, 2002).

3. **Reflections on the PBL module proposed.**

In the semi-structured interviews, students appeared to find the scheme complicated at first, but soon they got to grips with the concept of independent learning and developing their skills accordingly. The scheme has not only broadened their understanding of the IE topic, but it has also taught them new ways of learning by themselves.

Fatima (a student) commented on her reaction towards the PBL approach: "In the beginning, I did not accept the programme, but after I had become involved in its activities, I found it so interesting and rewarding. Moreover, it is so useful in my practical life to be able to solve my problems."

The outcomes of the PBL module have been evaluated from the experiences of the students interviewed. One of those students is a girl named Shonuh. She said: "In the beginning, I was afraid that I would not obtain high marks. Then, when I understood everything about the module, I changed my mind, and I liked it. I feel that I can think properly, I can solve a problem, and it is an interesting module. It builds your self-confidence; you feel you are able to face your life and deal with any problem. Moreover, it teaches me how to accept and respect others' views and opinions; I am not living alone in this world." In addition, student Marah gave an example of the improving academic levels and personal skills of students due to the effect of the PBL scheme; "Mentally it develops the skill of critical thinking. It also develops our level of scientific achievement, as we obtain much information and knowledge through discussion and research processes. Also, life in particular is full of problems. We may face problems at any time in any place, therefore such problems will never shock us as we have experienced them through this programme and we will be able to deal with them."

The PBL module encourages students to be motivated and interested. Student Marah explained how she struggled and then learnt to cope with PBL: "I used to say to myself, "Why should I involve myself in such problems? There are courts who can deal with problems better than me, so I would not benefit from solving others' problems." It was not my business. I was wasting my time. I had to pay attention to my exams only in order to get high marks. When I started dealing with problems, I felt that I was greatly attracted to this method. I felt that the new method has broken the routine in our class. I started dealing with the problems in Islamic Education as if they were my own. In fact, I started having a new understanding of this subject. I understood the information and memorized it more easily." Student Amena gave a statement on the impact of PBL on her future: "It is a modern approach, and no one can deny its effect on our learning and on our life. Without the programme, in real life, I would shift many problems to the courts, but using this programme will help me face any problem and solve it easily."

Jamela (a teacher) mentioned: "It is a module of great effort, aiming at the development of the way we teach, rich with new and creative ideas, and it will be of great benefit to our students in the future." Arguably, a teacher named May stated that the MoE must be attentive and apply PBL: "Yes, I would like to say this module has to receive the full support of the Ministry of Education to succeed and benefit students. It is a pioneering project. Moreover, it should be applied in all the stages; our students are creative and need such new projects to explore their potential."

The first curriculum specialist Ahmed pointed out: "It is a quantum leap in the teaching and learning methodology. It opens prospects for the development of our curriculum. It introduces new skills. For so many years, we depended on theoretical approaches; we thought that such skills concerned other subjects, such as science and mathematics. I can say that it has opened our minds to new approaches and different methods of development." Nawal gave the following views when asked if PBL was valuable: 'Yes, sure. Especially in the (201) textbook, there are so many problems related to real and modern social issues that happen in our society, such as issues of dowries and

guardianship. These are found in the curriculum and are closely related to our social issues. I discussed the problems presented in the module proposed with Ms. Suha and we found that they are closely related to our social issues, so we concluded that such an approach will be of great benefit to this generation in their life.' "You are so welcome, and I liked the programme and the way of the presentation so much that I ask you to give us everything that would help us improve the way they [the students] will be examined. I would like to say that I enjoyed the programme so much and appreciated the effort exerted in the programme and in the way it was presented to us."

The reflections above made it clear that all the participants in this study - students, teachers and curriculum specialists alike - felt that the PBL scheme was an effective scheme for learning and developing independent research skills. This outcome is similar to that of Razzak's (2012) study, which focuses on the PBL scheme in an Educational Psychology classroom and reports a nearly unanimous approval of the scheme from the participants. Students in this and Razzak's study displayed improved self-confidence, greater pride in their learning, and a genuine commitment to using PBL in their subsequent studies.

The IE PBL course fulfilled the 'Quality Assurance' criteria set by the MoE to measure academic progress and student satisfaction. Students may already know the solutions, but they may not realize this, and what they need to find out. Therefore, the PBL scheme makes it clear to students what they need to find out. Thus, each student's learning experience can be catered to their own requirements (Lycke, 2002).

Conclusion

This study meets the outcomes of the literature review completed by Yew and Goh (2016), in which they examined several PBL studies and evaluated the success of the schemes. They comment that the PBL schemes are often applied to medical education, and so a broader range of subjects needs to be addressed. This paper does just that, focusing on IE instead, and acts on Yew and Goh's other point that previous studies have ignored the finer details of the PBL process and have not considered the subjective opinions of the participants.

The main findings of the study at hand reflect that students' reliability to develop individual ideas as well as discussing solutions together and addressing each other's questions were highly activated and assured. That is to say; the involvement of many different minds reflected lots of different perspectives on the problem and helped to ensure that all aspects of the problem were scrutinized. The students involved in this research followed a logical sequence of steps to reach a solution to each problem. The continuation of their success boosted their confidence in both themselves and the PBL scheme, which motivated their ambitions. As a result, it has enhanced their skills of teamwork, leadership and taking responsibility whilst working as a member of a team. This concludes that students' group learning has been a success in boosting their confidence in learning and acquiring a positive attitude through using the PBL scheme. Students have learnt how to effectively work together in organizing their thoughts and problem-solving. Although it was

difficult for them to familiarize themselves with the new teaching approach of PBL, they successfully adjusted to it and discovered ways in thriving together.

However, the implementation of the PBL with the Prezi tool facilitates students' effective learning and maximizes their comprehension capabilities. It could also pique their interest during the learning process. Thus, it is highly appropriate for a teacher to incorporate a PBL model with Prezi into the learning process to encourage students to learn more actively, thereby enhancing the efficacy of the learning process and the learning outcome of the students, particularly in economics. Some reasons why the PBL model with Prezi is superior to the jigsaw cooperative learning model are as follows: (1) the presence of stimulating questions or problems displayed in Prezi media; (2) the presence of an interdisciplinary focus; (3) the presence of an authentic investigation; (4) the presence of a product in the form of a debate, report, or video presented by students via Prezi media; and (5) the presence of collaboration or cooperation with other students. Sahat et al. (2017).

Furthermore, the CT (skills and disposition) is highly effective; (b) the sources of heterogeneity are studies with other instruments and mixed input methods and outcomes; and (c) the factors that may influence the effectiveness of PBL on CT are students' maturity, nationality, instruction type, sample type, and group size. In terms of CT skills, these variables include sample size, age, instruments, nationality, discipline, group size, and treatment duration. In contrast, the CT disposition criteria are sample type, instruction type, discipline, and duration of treatment. In addition, despite a number of positive findings from recent research, future in-depth studies should be conducted to investigate other aspects of PBL intervention on CT and its various dimensions, taking into account all types of research-related issues. In addition, future CT instructional interventions should consider the influential factors in order to better structure the class for enhanced cultivation, as claimed by Liu ,Y & P'asztor, A. (2022). In conclusion and as stated by Liu, Y and P'asztor, A. (2022), although PBL can be much more efficient in promoting the acquisition of CT (skills and disposition), additional research is required to be conducted in order to examine its efficacy and influencing factors such as; the different learning context or teaching strategies, scaffolding, and scenario-problem-based tasks rather than curriculum-based tasks. These factors should also be considered for the promotion of undergraduates' IT skills and attitudes.

Recommendations

I recommend that the Ministry of Education In Bahrain needs to consider the scheme raised by this research as an effective and positive approach to be adopted for better learning outcomes and skills development. Because one hand can not clap by itself, alignment between all of the relevant aspects should be considered. Also, The MoE should provide development programmes for teachers to raise their knowledge and awareness regarding PBL and its effectiveness in learning and skills development. Moreover, national teaching standards for teachers' preparation and

training programmes should be established in line with the updated teaching methodologies; PBL in particular.
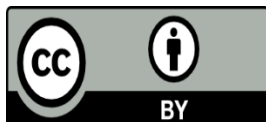
Contribution

This research is built on a previous research conducted by Alzayed (2016) to make a significant contribution to develop an understanding of Problem Based Learning approach, and adds value to it (PBL) in the context of Islamic education in Bahrain as well as ensuring its effectiveness in learning and developing skills.

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