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Cooperative and Problem-Based Learning Practice in Islamic Education in Bahrain: Strengths and Challenges

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Abstract

This paper investigates the influence of collaborative learning in Bahraini Islamic educational systems when employing problem-based Learning (PBL). It is a case study of a girl's secondary school, where PBL is implemented. This study employed qualitative methods in the form of semi-structured interviews and observations for data collection. The 10 lessons of observational qualitative data emanated from the 4 class-based monitoring that occurred during the problem-based learning event. The other part of the qualitative data was gathered by interviewing 19 students, 2 tutors, and 3 Ministry of Educational consultants. This paper focused on participant's perspectives during interviews where a number of acts from the participants were taken into consideration. Through observations, this research intended to explore how students act and react in cooperative learning and in which way it influences their learning. During the teamwork, a wide array of opinions regarding how to solve problems were examined. This study suggests that the varying roles which are reflected by students alongside the available environmental factors enabled them to gain experiences of different types of learning as well as enhance their self-directed learning skills. This has been to some degree, a result of excellent task planning and monitoring. To add, tutors showed a more assistive and nurturing role, while students collaborated to resolve any provided issues. Students with clever understanding, creative ideas, and well-advanced knowledge of different areas helped to create a motivational environment, and this greatly assisted the creation of new ideas and enhanced the team's creativity. Such issues were explored through group discussions. As suggested by this study, teamwork could facilitate the generation of fresh knowledge; develop student's comprehension, and analytical abilities.

Keywords

Problem-Based Learning, Cooperative Learning, Islamic Education, Arab

Countries, Kingdom of Bahrain

1. Introduction

The purpose of the present research is to use case study of Islamic Education (IE) classes in the Kingdom of Bahrain (KB) for Year 11 learners (namely, learners who are 17 years old) to gain insight into the results associated with the introduction of problem-based learning (PBL). The learning outcomes will be subject to investigation and evaluation to facilitate the researcher's understanding of the degree to which PBL, a relatively new student-centred pedagogy in the KB, constitutes an effective approach. It should be noted that the present research will contribute new research findings to the extant literature given the modern nature of PBL in Bahraini classrooms.

The extant literature relating to PBL details its central features along with the way in which it is carried out in an educational context (Evensen & Hmelo, 2008: p. 2). One feature is that the issues learners are intended to handle in PBL classrooms are multidimensional, thereby enabling wide-ranging analytical and exploitative practices. Another feature is the student-centred nature of the approach. In terms of the way in which it is carried out, the three overarching steps are as follows: 1) Learners are grouped into fives and sixes, with each group being allocated an instructor who plays the role of "facilitator"; 2) Issues or "problems" are allocated to the groups, a discussion arises among the learners and the facilitator, and the facilitator contextualizes the problem to initiate and direct the inquiry; and 3) Each group of learners investigates the problem from varied perspectives to gain insight into its roots and viable ways in which to resolve it.

From the above steps, it is possible to distil the "process" in PBL as involving the identification of the foundational dimensions of the allocated "problem", the definition of the fundamental points of knowledge that should be analyzed, and the exploration of viable solutions. Based on the author's primary research, it is necessary to draw on data from the Quran and Sunnah to reinforce viable solutions, and it is furthermore required that the analytical procedure along with the process of deriving a solution is illustrated. At the end of the process, a period of reflective practice is scheduled, in which each group's facilitator will aid learners in comprehending the key points of knowledge (Evensen & Hmelo, 2008). As argued in a report issued by the KB's Ministry of Education (MoE, 2006), learning is characterized by the greatest degree of effectiveness when learners engage with tasks in an active manner, and cases of this include independent, self-administered learning or group-based learning. The MoE (Ibid.) further states that its policy is geared towards facilitating learners' critical and creative faculties, primarily because this is the crucial way to motivate freedom of expression and innovative activity. The significance of these outcomes—namely, free expression and innovation—is emphasized when one considers the positive way in which

they impact KB's advancement, politically, economically, and socially. In view of the centrality of Islam to the cultural outlook of Bahrain, the fact that the religion is performing a critical function in the present period of development should not be overlooked. The cardinal intention of IE is to facilitate learners' maintenance of Muslim identity in conjunction with their acquisition of capacities that are useful in an environment characterized by versatile and fluctuate socioeconomic and cultural aspects. Thus, taking the case study of IE in the KB at the secondary educational level, the present research is purposed to evaluate the degree to which the integration of PBL into pedagogical procedures positively or negatively impacts learners' progress. The research findings have defined certain abilities among Bahraini secondary learners, including independent learning, group-based learning, and critical thinking, and the author acknowledges the expectation, widely held in the KB, that PBL will positively affect learners' by facilitating the advancement of their capacity to reason and their ability to acquire knowledge. These outcomes not only under gird the satisfaction of the goals of educational policy in the KB, but they also form the basis of contemporary educational values and principles.

2. Literature Review

Each group in PBL classrooms is required to discuss an assigned problem, and it is intended that the discussion, ideally multidimensional, will focus on the nature of the problem, thereby enabling comprehensive insight to be gained by all involved. Specifically, comprehensive insight can only be gained by gathering critical information regarding the problem, formulating viable solutions, identifying knowledge deficiencies, and creating relevant learning goals. Following the discussion, each learner in a group is required to engage in an independent examination of the problem in line with the learning goals. The author will here emphasize the degree to which PBL is successful and can be measured by referencing the way in which learners perform in their respective groups. As noted by Bessant et al. (2013), it is possible to account for PBL as a "socially formulated pedagogy" due to the way in which learners can participate in the act of knowledge creation. Saka and Kumaş (2009) emphasized that PBL and Cooperative Learning (CL) are two of the most essential applications in physics education that facilitate active learning. Based on the implementation of PBL in CLs, it has been determined that: 1) Students reacted in accordance with the intended course of action during daily practice, and 2) Students' reactions were consistent with the plans. 2) Students adopted the CL principles by utilizing the planning section's resources effectively to acquire skills. 3) They have performed well in their shared responsibilities. 4) More intrigued by the scenario's subject matter. 5) Students concentrated on finding solutions to the problems of daily life. Along the same line, Smith et al. (1995) maintains that since PBL heightens learner motivation while emphasizing collaborative learning, it has the capacity to facilitate more enjoyment for learners. The small-group foundation of learn-

ing that typifies PBL means that learners can participate in the exploration of pertinent issues and, in turn, reflect on the process to identify their strengths and weaknesses; this affords learners with a degree of control and responsibility which can positively affect their learning outcomes (Savin-Baden & Major, 2004). In a case study addressing the employment of PBL for problematic learners, Samsonov et al. (2006) reported that mediocre learners derive the most notable advantages from the process in situations where their group includes exceptional learners. Although interesting, the implication of this finding is far more important for the present study; to be specific, it demonstrates that the collective knowledge generated from collaborative work is the central contributing element to the efficacy of PBL. Over the course of best practice group tutorials in PBL, as detailed in the literature, positive group-based work is driven by the requirement that learners engage in a variety of roles, including facilitator, researcher, recorder, encourager, timekeeper, and checker (Savin-Baden & Major, 2004; Evensen & Hmelo, 2008). Each role has distinctive responsibilities: the facilitator mediates the debate, guides the learners towards consistent commitment to their role, and creates chances for all to contribute; the researcher acquires and conveys important data; the encourager improves the learners inputs and outputs; the timekeeper ensures the timely completion of tasks; the recorder logs the group's progress and presents a report; and finally, the checker interacts with each learner to ensure their comprehension.

Since PBL group tutorials involve learners circulating from role to role, the distinctive capacities required to successfully fulfil the responsibilities of each role are transferred to the learner. Moreover, given the natural differentiation in skills that exists among different individuals, the consistent oscillation between roles guarantees that each learner will have responsibilities aligned with their strengths. Yusof et al. (2012) claimed that to face the challenges of the 21st Century (PBL) is touted as one of the effective teaching and learning methods. In engineering education, where the enrolment and class size are high, PBL is more practical although the implementation is difficult to monitor. Cooperative learning (CL) is identified to have the added elements to develop groups into functional learning teams. Combining both CL and PBL results in cooperative problem-based learning (CPBL) framework to guide students through the PBL cycle according to CL principles and to develop the whole class into a learning community. A sample case study affirms the need for supporting students to learn in their teams, and the final outcome of positive development and experiences in team working while undergoing CPBL. Yusof et al. (2012) used a case study of a group in the Process Control course as an example, the problem-based cooperative learning elements provide the necessary scaffolding for developing teamwork skills when implementing PBL in a class that is composed of small groups in a medium to large class. CPBL's strong emphasis on cooperative learning compels students to collaborate with team members and the entire class. All students who participated in CPBL in the Process, Control and Dynamics course

acknowledged the importance of teamwork. Although students may initially encounter difficulties while participating in CPBL, the framework's collaborative components could equip them with the means to surmount obstacles. After one semester of CPBL, it is not surprising to discover that students who initially disliked working in teams have grown to appreciate and enjoy the experience.

As noted by Barrows (1989), this format affords each learner an equal opportunity to participate in the discussion, and it ensures that the session fulfils its objectives in a timely manner. An important point was raised by Tennant (1997) in the context of a discussion centering on collaborative learning in mature education; the researcher suggested that the supposition that a team's requirements must be aligned with the individuals' requirements posits a certifiably rare form of concordance. Every member of a group has distinct learning goals, and each has the capacity to engage with and derive value from the abilities of their counterparts. This is defined as cooperative learning by Albanese (2001), which is characterised by the way in which success can only be achieved in the measure that group operations are aligned towards each member facilitating their achievement. Albanese (Ibid.) defined a series of elements that underpin cooperative learning, including collective objectives, shared knowledge, mutual benefits, and complementary roles. Muijs and Reynolds (2007: p. 69) suggest that despite the advantages associated with small-group learning, critical downsides exist, most prominent among which is the appearance of dominant hierarchies; because of this, independent learning can be backgrounded while reliance on dominant individuals, generating the "free rider effect", is foregrounded. Moreover, small-group learning can bolster misconceptions. Accordingly, several advantages are associated with the small-group work conducted in PBL classrooms regarding learner-learner and learner-instructor relationships (Schmidt et al., 2011). When considered in relation to a conventional, large classroom environment, bonding is less likely to occur than it is in small-group learning. Furthermore, increased participation regularly arises in the latter from the pressurised environment, thereby promoting assiduous engagement. A particularly notable finding noted that learners are more likely to stay in school where small-group learning is foregrounded because of the non-cognitive side effect. In case study research conducted by Nurzaman (2017), it claims that MTsN Bangunharja's model of moral cultivation employs three methods: classical cultivation methods, extracurricular activities in the form of religious activities, scouting, athletics, and Islamic art, and moral habituation. Problem-based learning models in MTsN Bangunharja are implemented using the following steps: find the problem, define the problem, determine the facts, develop preliminary estimates, investigate, enhance the problem once it has been defined, conclude collaborative problem-solving alternatives, and test solutions. The problem-based learning and teaching models at MTsN Bangunharja have been shown to enhance students' character qualities. In another case study research conducted by Imafuku et al. (2014), the researchers examined the process by which Japanese learners

produced group-based knowledge in a PBL tutorial, and it was argued that the goal of interdisciplinary PBL is to afford learners the opportunity to generate the required capacities to collaborate with diverse health practitioners. Furthermore, Imafuku et al. noted that the act of learning was moderated by the learners' cultural suppositions, professional roles, their perceptions regarding other professional roles, and their perceptions relating to collaborative learning. Ultimately, the key implication of the study is that interdisciplinary PBL can result in the enhancement of the learners' capacity to learn cooperatively (Ibid.). This supports the view that creating knowledge is not simply an independent procedure; rather, learning is a social construct that arises in the context of guardian, instructor, and learner relationships. Thus, the construction of a social learning environment through the promotion of collaborative work and discussion can capitalise on this.

Additional studies have reinforced the notion that PBL improves learning owing to the collaborative, group-based setting. After implementing PBL in a Taiwanese primary learning environment, Li (2012) emphasised in his report that a critical component of his research process was to refrain from explaining to the learners why they were working in groups until the final PBL session; this is because he wanted to bypass their sense of being acted and instil a sense that they were cooperating with the researcher. Even so, Li's work provided an account of the advantages associated with group-based learning, thereby heightening their understanding of how collaborative practices can be effective.

Similarly, in a study conducted by Saka and Kumaş (2009), they claim that the implementation of PBL demonstrates to practitioners how PBL can be implemented in CL groups. In addition, the development of best practice documents based on such research to establish a baseline of effective physics teaching applications. Wesam Salah Alaloul, Abdul Hannan Qureshi (2022) reported that for fundamental engineering courses, problem-based learning (PBL) methodologies are considered adequate. The integration of cooperative learning and PBL methodologies creates an uplifting atmosphere for students. The obtained results support the students' effective adoption of the PBL system. However, a few areas were identified as requiring special attention, including PBL workload, strain due to additional course content, and PBL assessment opportunities. It was demonstrated that the majority of students viewed PBL methodologies as more convenient and effective for learning than traditional approaches. Also, Yusof et al. (2012) used a case study of a group in the Process Control course as an example in engineering education, the integration of cooperative learning elements provides the necessary scaffolding for developing teamwork skills when implementing PBL in a class comprised of small groups in a medium to large class. CPBL's strong emphasis on cooperative learning compels students to collaborate with team members and the entire class. All students who participated in CPBL in the Process Control and Dynamics course acknowledged the importance of teamwork. Although students may initially encounter difficulties while partici-

pating in CPBL, the framework's collaborative components will equip them with the means to surmount obstacles. Therefore, it is not surprising that after one semester of CPBL, students who initially disliked working in teams have grown to appreciate and relish the experience.

3. Methodology

To come up with a successful approach, the study should be achieved under the appropriate research design, paradigm, and data collection techniques. In other words, conducting successful research depends on adopting an effective designation which is framed out of the methodological reflection, research aims and questions. As Robson (2011) notes, the implication of this is that a researcher's choice of research design is determined by the issue of what will yield appropriate results. The author of this paper selected the presented research's data collection and analytical techniques based on what generated the most reliable and valid response to the research questions, and this is naturally necessitated by a consideration of the research context. It had been determined that a case study strategy was appropriate for the investigation and evaluation of PBL in IE in the KB, and secondary-level IE lessons at a school for girls who have been used to implement a module on Marriage and Family Life using PBL resources created by the author. 10 sessions were conducted to gather qualitative information in the form of observations, and this involved 4 class-based monitoring processes over the course of the PBL initiative.

4. Sample

Every piece of research, as suggested by Morrison and Scott (2007) requires a selection of research participants. Therefore, the adopted sampling process of this study was a purposive one. Purposive sampling represents the participants who seemed to be more informative and competent; because, as described by Maxwell, they were "privileged witnesses to an event" (Maxwell, 2012: p. 97). Qualitative information had been gathered through observations conducted over the course of the PBL module for Marriage and Family Life. Observation was identified as a variable way to log the nature of the classroom environment during the IE PBL module. By conducting semi-structured interviews with 24 participants—19 learners, 2 instructors, and 3 curriculum experts—it has been possible to facilitate information triangulation, which is an effective way to ensure the comprehensiveness and validity of the findings. Furthermore, by involving three classes of participants in the interviews, it has been possible for the author to address issues that could not otherwise have been addressed. Additionally, semi-structured interviews are a useful way to collect a wealth of qualitative information regarding participant reactions to the PBL approach. It should finally be noted that these interviews were conducted after the completion of the IE PBL module, and the format and questions involved in the interviews were determined by consideration of the observations.

5. Data Analysis and Discussion

The way in which group work is conducted in the context of PBL is distinct from other pedagogies. One example of this variability can be seen when considering cooperative learning, which involves each individual in a group taking certain responsibilities to refine a wide range of abilities. Savin-Baden and Major (2004) demonstrate that group-based learning does not merely relate to the adoption of a certain class of learning instruments or strategic approaches; in opposition to this, it requires that students develop an awareness of the fact that learning is impacted by contextual, temporal, and spatial issues, in addition to the nature of their input into the learning environment. The adoption of specific roles in the context of group-based learning must take place for the purpose of facilitating positive outcomes. Despite this, the learners in the IE PBL module were not required to perform a static role over the course of the module, and the interviews requested that the learners respond to the following question: "Did you have a specific role to fulfil in the task?" Learner Shunonh responded as follows:

> "Well, I ran on different tasks. One learner read the problem, another explained the idea and another presented example based on real-life conditions. Then, my group and I connected the problem with the outside environment to find a suitable answer. Another learner related the task to her own practice and applied her skills. We switched these roles from time to time which permitted me to expand a variety of different skills. We really educated one another and shared these skills within the group, so it was a very positive learning practice". (Interview 5 Student)

The outcomes demonstrate that engagement with various roles exposes the learners to non-uniform experiences and, as such, refines a range of abilities. In this way, fostering a learning environment in which learners are required to switch between roles raises the level of various skills, including group reading, skimming, scanning, communication, and information retrieval. Another question in the interview requested that learners compare the experience of providing a solution to a problem independently to doing it in a group, and learner Marah responded as follows:

> "No, working in groups is better, as they say, 'Two heads are better than one'. Working in groups, we can create more ideas and discuss different opinions and might my classmate have a different idea from me. Additionally, we can gather more evidence and more knowledge based on previous practices and understanding when we work in group work. This is helpful for me and my classmates as it permits us to discover more effective answers at a much quicker pace." (Interview 6 Student)

This is reflective of the way in which group-based collaboration encourages learners to create novel ideas, thereby enhancing their knowledge. Consequently, the experience improves the capacity of learners must address issues and, moreover, articulate their ideas in a clear and open manner. In line with this,

group-based debate allows learners to express their own ideas while exposing them to the ideas of others. Several learners were presented with a question regarding the way in which discussions and debates are managed, and learner Fatima stated the following:

> "In this situation, we listened to the different views and then directed a discussion in order to persuade each other to change or I can say to amend our opinions if necessary to find an appropriate answer to the problem". (Interview 9 Student)

Learner Noor underlined the significant part that group discussion plays:

> "One of the significant skills that I have learnt in the debate within a group is the ability to differentiate between facts and opinions". (Interview 8 Student)

Group-based learning fosters an environment in which the team is collectively engaged in a single task that requires collaboration. Learners can articulate their perspectives in an open manner since the attention and respectfulness of their teammates is ensured.

Nevertheless, it is important to acknowledge that the views regarding group-based learning were not uniform. Instructor May highlighted the importance of managing the team's dynamics and, because of this process's crucial nature, argued that it should be facilitated by an instructor who has a comprehensive knowledge of the learners; this is because such knowledge can guide the composition of groups, thereby ensuring a positive combination of personalities for learning:

> "It was in general a good experience; though, some groups contained active students, so the group was highly communicative. Another group contained mostly passive or calm girls, so their level of collaboration was significantly lower.
> In running this module, I suggested that the groups must be restructured. This would allow me to form new groups with different levels of stimulus and intelligence." (Interview 1 Teacher)

This reflects the criticality of group composition, and the author has found that the ideal group should be composed of learners of varying characters and academic capacities. It should also be noted that a team's dynamics are not entirely dependent on academic capacity, and it should be noted that, given some students can be highly intelligent yet introverted, character is significant. The importance of having a mixture of characters is important due to the way in which learners consider their counterparts when performing in a task, and Samsonov et al. (2006) highlights that an effective mixture ensures a productive balance of comprehension regarding the topic.

Following the completion of each lesson, an open discussion was conducted with each group to facilitate the examination of learner attitudes. Learner Marah

stated the following:

> "This conversation exposes any missing ideas and may produce new points; I might have been wrong or have offered weak resolutions concerning the issue and this conversation gives me and my classmates the chance to certify that we have made the right decision". (Interview 6 Student)

For the last discussion, it was necessary for every group to establish a conclusion with the support of Shari'ah information. For the PBL observation on November 5th 013, the author noted that one group exchanged a last discussion with a different group and cited identical evidence as follows:

> "And give the women [upon marriage] their [bridal] gifts graciously. But if they give up willingly to you, then take it in satisfaction and ease". (Quran, Sura An-Nisaa, Verse no 4).

One of the learners in a group rehearsed the "Their bridal gifts" passage and suggested that the pronoun indicated it was the right of the woman to concede as opposed to her father. This represented a particularly insightful answer that won the admiration of the learners and instructor alike.

The important role an open discussion plays can be understood when one considers how it allows learners to reflect on their own experience by exposing them to the views and approaches adopted by the different groups. In this way, open discussions among the groups' present learners with the chance to engage in the evaluation of their decision-making from a multidimensional point of view.

An additional beneficial point associated with open discussions was raised by learner Qamar:

> "This open discussion reviews the important concepts and facts that have been debated during the session. I sometimes disagree with Nada about how she decided on her solution. We can then continue debating the matter and generate new ideas, an aspect of the procedure that I really appreciate." (Interview 10-line Student)

Qamar's point highlights that open discussions of this kind are useful in allowing learners to distil the central elements of the discussion from various individuals, and it provides a chance for groups to collaborate and share their understanding, their approaches, and their perspectives. In addition to the fact that such an environment often extends beyond the classroom context, it is notable that group members often convey ideas to each other that are useful in daily life. Learner Samar stated the following:

> "I aim to reach some agreeable ideas, particularly with those who have different ideas on say polygamy in my group. In some cases, we did not make any resolution for the problem. So, to discuss the case I went to a different class. For example, my friend Rufaidah who was not participating in the programme." (Interview 15 Student)

Each learner identifies a broad range of ways in which an issue can be resolved, and it is pertinent to note that no single group has an overwhelming impact on any other group in terms of the final determinations. This raises a critical characteristic of PBL in that, by the completion of the session, several solutions have been identified by employing an evidence-based approach (ACS, 2014). It should be noted that Islamic jurisprudence is not infringed on in situations where multiple solutions are generated.

Furthermore, an important way in which the distinctive capacities of a learner can be identified is by placing them in a situation in which they can be critically and reflectively active; group discussions are precisely such an environment. This indicates that PBL is a viable way to achieve the goal of constructivism which, as noted by Savery and Duffy (1995), is to foster a learning environment in which independent thought arises among learners.

A key research finding was that the IE PBL module presented learners with the opportunity to develop their capacities, and one of the interview questions asked students to comment on the degree to which their skills were advanced. Learner Shahd stated the following:

> "When I and my group solved the issue, we exploited our capabilities and all our facts, ideas, and opinions to obtain a written answer. We described the idea and made sure other classmates in other groups understood what evidence we had. I mean, there was an experiment. We expressed our ideas of views to each other." (Interview 18 Student)

Instructors underlined the fact that the additional skills were harnessed by the period of PBL, as represented by instructor Jamila:

> "In the groups that I had, there were already some innovative learners and I predicted they would offer creative ideas. The thing which amazed me was that there were less able learners, and I did not expect them to participate efficiently in the events. They were able to provide brilliant and creative ideas." (Interview 2 Teacher)

The author requested that Jamila state a situation in which this form of creative activity arose, and she responded in the following way.

> "In the topic lesson about the 'wife's rights', it is written in the textbook that it is the wife's responsibility to do the housework. Through dialogue, the students established that it is the husband's responsibility to offer a person to do the housework. It is not the wife's responsibility." (Interview 20 Students)

One of the curriculum experts, Ahmed, noted that learners were generating novel viewpoints in this session, and he stated the following:

> "Yes, that is true, and this is cited in the corrections introduced to the textbook. But it is interesting that learners revealed this by themselves." (Interview 1 Curriculum Specialist)

The key insight that can be derived from these findings is that group-based learning presented learners with the opportunity to occupy various roles and, due to this, to advance diverse capacities. It is also notable that high-level collaborative activity across the group promotes a rise in the level of understanding and creativity displayed by learners, and the group can subsequently explore novel viewpoints. Additionally, the implementation of an open discussion among the groups following the completion of each session enabled learners to evaluate their approaches and ideas in relation to those of other groups.

The present research has advanced the degree to which the learners can articulate their viewpoints in an open manner, and this is primarily because learners were motivated to express and justify their approaches to assigned issues. For the purpose of illuminating the way in which PBL functions in a secondary educational environment in the KB, interview questions were posed to students to examine whether they were motivated to articulate their viewpoints in the sessions. Considering all the responses, it is possible to conclude that the free and open nature of expression was of such a high level that learners could challenge the perspectives of their instructors. Many learners noted that they could propose their own views and debate these with teachers to establish consensus. In addition, learners considered the solutions of different groups and evaluated whether they were more or less appropriate; in certain cases, learners revealed that this process shifted their viewpoint, thereby facilitating a more effective solution. All in all, this was highly beneficial for their development.

For the PBL session on 3rd November 2013, instructor Jamila commenced the session by expressing her thanks to the learners regarding the way in which they performed for the previous session on dowries. In response to this, a learner noted that comprehensive agreement had not been established, and Jamila emphasised the common nature of having multiple viable solutions in the PBL method.

As noted, the ability to articulate perspectives freely and to investigate and assess various viewpoints is a central characteristic of the PBL method. In the present context, it is clear that PBL motivated the learners to derive suitable solutions and to consider contrasting viewpoints.

In terms of the expression of viewpoints, learner Sarah drew attention to one difficulty:

> "Some learners within groups in some cases did not change their minds. They kept defending their ideas of views and they did not admit other learners' opinions." (Interview 2 Student)

Contrastingly, instructor Jamila interpreted this phenomenon in a different way:

> "This is a noticeable skill that you can find. At the beginning of the programme, they did not have this kind of skill, as they believed that their decision was completely right. After a while, and through the processes of PBL, they accepted the ideas and views of others." (Interview 20 Student)

This highlights that Sarah's protestation can be attributed to the nature of their previous education, characterised by the inability to articulate ideas openly. Given Jamila's emphasis on the way in which the educational experience of learners was fluctuating continuously over the course of each session, it can be concluded that PBL positively influenced most learners' learning behaviour.

The following question was presented to the curriculum experts: "Do you think that articulating a viewpoint should be limited to the high-level learners, as suggested in the MoE's Teacher's Guide?" One respondent, Nwal, stated the following:

> "Three ability groups in the class. The objective of expressing opinions is only given to high-level students. However, in PBL, it is valuable to comprise other levels." (Interview 2 curriculum specialist)

The results are indicative of the fact that learners were introduced to viable ways to handle arguments by articulating their viewpoints and using evidentiary support; consequently, over time, learners' proficiency in group-based learning increased. As noted in the literature review, PBL can constitute a more entertaining and engaging pedagogy for learners owing to its collaborative nature (Smith et al., 1995), and it is equally important to acknowledge that mediocre and below-average learners can benefit enormously by interacting with high-level learners (Samsonov et al., 2006). Moreover, Barrows (1989) claim that this is a useful way to facilitate inclusion while advancing comprehensive skills.

This study's findings suggest that the learners' capacity to acquire knowledge independently has been developed by the IE PBL module, and this can be accounted for in part by referencing the way in which the team activities were effectively organised and managed. The instructor entered the role of guide to facilitate the exploration of multidimensional viewpoints that relate to a single issue, and this included each student in the discussions. A process of this kind has been shown to produce novel ideas while promoting innovative activity in a cooperative way. The findings are supportive of Samsonov et al. (2006), Elizabeth and Zulida (2012), Bessant et al. (2013), and Imafuku et al. (2014), all of whom reported that learning in a group context promotes active learner engagement with assigned topics while determining information requirements; furthermore, each researcher has emphasised that the procedure drives the creation of suggestions regarding viable ways to solve the problem. It should furthermore be noted that the findings in the present study relate to the tenets of constructivists, a group which is characterised by its emphasis on the positive impacts cooperative work can have in assessing learner understanding and analytical capacity (Savery & Duffy, 1995; Hartle et al., 2012). However, Yew and Goh (2016: p. 78) claim that "the phases or components of the PBL process influence students' learning, causal models suggest that the PBL process, as described by the PBL literature, that begins with problem analysis, Followed by self-directed learning and a sub-

sequent Reporting phase, is important to predict students' learning, and that having only the collaborative component or the self-directed learning component is insufficient".

6. Conclusion

Based on the findings from the interviews and observations, the researcher suggests that CL and PBL practice increased learners' motivation and self-confidence. This practice supports their learning process; as it reduces their nervousness, worries, and hesitation, and makes their learning easier when adopting positive attitudes toward their learning as well as the provided material. Learners were more active, enjoying sharing and exchanging information, ideas, and opinions. It also helped learners to develop several skills: Self-directed learning skills, problem-solving skills, critical thinking skills and communication and teamwork skills. The researcher also suggests that one of the main challenges when implementing CL and PBL is that they need much more time to be assigned.

As the name suggests, the process of problem-solving lies at the core of the problem-based learning (PBL) approach. The purpose of the approach is to provide learners with an opportunity to develop an understanding of a topic while working in a team and demonstrating independent learning. Group-based learning is a highly effective way to allow learners to assume various responsibilities, thereby facilitating the development of a diverse skill set. Moreover, collaborating with other learners produces novel viewpoints and, because of this, it refines collective knowledge with discussion and debate. In view of these considerations, it is possible to conclude that PBL has made a significant contribution to IE by way of its student-centred nature, its inclusivity, and its foregrounding of communication.

The fact should not be overlooked that PBL is also advantageous, because of its allocation of responsibility to each student as a necessary, active, and productive participant within the learning environment. This stems from the way in which PBL promotes collaborative activity in combination with the advancement of knowledge, opinion, experience, and material transmission. However, more demand-controlled experimental research therefore needs to be carried out to discover the procedures and the roles of each member in the group behind cooperative learning working in PBL.

To sum up, this study concludes that the Problem-Based Learning model can support the development and improvement of the learner's character. Moreover, the problem-based cooperative learning elements could provide the necessary scaffolding for developing teamwork skills when implementing PBL in a class that is composed of small groups. CPBL's strong emphasis on cooperative learning compels students to collaborate with team members and the entire class. All students who participated in CPBL in the Process Control and Dynamics course acknowledged the significance of teamwork. Although students may initially encounter difficulties while participating in CPBL, the collaborative

framework components could equip learners with the means to surmount obstacles. After one semester of CPBL, it was not surprising to discover that students who initially disliked working in teams have grown to appreciate and enjoy the experience.

The author of this study recommends the implementation of PBL approach in hand with the cooperative way of learning in Bahraini classrooms for better critical thinking, communication, and collaborative skills, and in turn better learning, outcomes and personalities. That will not be reached without more effective staff development programmes, which are designed to improve and develop the professional competency of the staff, and curriculum makers. Teachers need to be supported to change their roles from being just information transmitters to more student-centred classrooms. All of that could be incorporated into both; the formal and informal professional learning as well as the staff development programmes in order to develop the culture of reflectivity and reflective learning.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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