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Indonesian undergraduate students' perceptions of problem-based learning implementation in an ELT class: A small-scale survey

Zalfah Ananda Juver, Willy Prasetya

English Language Education Department, Faculty of Psychology and Sociocultural Sciences, Universitas Islam Indonesia, Jalan Kaliurang KM 14.5, Ngemplak, Sleman, Yogyakarta Special Region, Indonesia
Corresponding author: willy.prasetya@uii.ac.id

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ABSTRACT

This study aimed at identifying Indonesian undergraduate students' perceptions of Problem-Based Learning (PBL) implementation in an English language education department at a private university in Indonesia. Using total population sampling, 74 students who were taking a language classroom management course in which PBL was implemented through collaborative work were involved in this survey study. The data were collected using a 21-item questionnaire from Jaeger and Adair (2014) that was based on Senocak (2009). The data were then analyzed statistically to identify the participating students' perceptions of PBL implementation by interpreting the patterns of the data. Based on the results of this study, the participants tended to perceive that PBL helped them become more self-directed. However, many of them felt that the collaborative work implemented in PBL was more a difficulty than an ease. The implication of this study is also discussed.

1. Introduction

Problem-based learning (PBL) is an approach that focuses on facilitating students to utilize their knowledge and skills to solve real-world problems as a way of learning practically. PBL is particularly suited to assisting students in becoming active learners because it relates learning in real-world challenges and put learning responsibilities to them (Hmelo-Silver, 2004). Students have the chance to expand their experiences and self-directed learning abilities using PBL (Hmelo-Silver & Barrows, 2006). Through self-directed learning, students experience learning authentically as a prob-

lem-solving process and gain knowledge and skills by reflecting on what they have accomplished (Hmelo-Silver & Eberbach, 2011). Hmelo-Silver (2004) argued that a good problem provides feedback that helps students to assess how well their knowledge, reasoning, and learning processes work. Solutions to problems should also be complicated enough to encourage students' curiosity and sense of achievement. Moreover, good problems will also improve students' communication skills by allowing them to share their ideas to others.

Hmelo-Silver and Eberbach (2011) has stated that PBL has five goals. First, students are expected to master their knowledge adaptively and go beyond memorized knowledge. Second, students are expected to be able to gain effective problem-solving skills suitable for various challenges and situations. Third, students need to learn using metacognition in learning that will be beneficial for a long term. Fourth, students are expected to be able to collaborate effectively. Lastly, students are expected to be challenged and satisfied with their work. Through PBL, students are expected to be highly motivated and to learn hands-on knowledge and skills relevant to the real world. PBL allows students to examine real-world situations, practice their critical thinking and problem-solving abilities, as well as gain necessary knowledge and ideas (Cahyani & Setyawati, 2016).

Hmelo-Silver (2004) formulated the PBL cycle to describe how students generate answers or solutions for a problem and learn from the process. In the beginning, students are given a problem scenario to be identified and analyzed. After gaining better understanding, students formulate hypotheses about the most possible answers or solutions. After that, the most important step in PBL is that students independently identify knowledge deficiencies and attempt to fill the gap to solve the problems. If they are working in groups, they can share opinions that might improve the answer for the questions. To end the cycle, students evaluate and reflect on their learning experiences. Empirically, Linda and Apandi (2019) has concluded that PBL has three main characteristics. First, the focus of learning is on problem-solving instead of rote learning. Second, students have more responsibility in learning. Third, teachers' role is limited to being facilitators who do not intervene the process. Nonetheless, they have a crucial job as they must constantly watch the discussion, identifying and applying suitable approaches as required (Hmelo-Silver & Barrows, 2006).

Kumar and Kogut (2006) pointed out that students who experienced PBL perceived that it granted them more independence in learning, deeper understanding of the topic being discussed, and possibility to keep track of their progress. In addition, Kumar and Kogut (2006) found that PBL was perceived to be able to improve teamwork and communication skills and help students be more aware of their future goals. Another study by Cheadae and Khongput (2019) also pointed out that students who learn through PBL had positive perceptions of PBL as it was considered helpful in their learning process.

Other than improving students' self-directed learning, PBL can also enhance practical skills. Thus, it is common that PBL is implemented in language teaching courses to help students practically apply their English teaching knowledge, and that may be useful experience for the future (Hapsari & Kuswandono, 2020). This will make students used to teaching and not feel overwhelmed in the future as well as improve their communication skills. However, despite being commonly implemented in English teaching classes in Indonesia (Linda & Apandi, 2019; Hapsari & Kuswandono, 2020), little is known about how Indonesian students perceive their experiences in learning using PBL. To fill this gap, this study attempted to identify Indonesian undergraduate students' perception on PBL in an English language teaching class in a private university.

2. Method

To identify the perceptions of the PBL implementation, a survey was conducted for this study. Price et al., (2015) explained that survey research allows participants to report their true thoughts, perception, and performance. This method was selected because it might include many participants, and it was suitable for identifying perceptions of multiple participants. Despite its lack of details, unlike qualitative methods, a survey can provide a big picture of a topic being examined.

The present study involved 104 English language education students at a private university who were taking an ELT class named Language Classroom Management. This was a compulsory class in which the participants learn how to manage a teaching-learning process and overcome challenges in classroom. The languages of instruction were English and Indonesian. PBL was implemented in this class to allow the participants connect theoretical and conceptual knowledge to practical problems at school.

The present study adapted a questionnaire of PBL from Jaeger and Adair (2014), which was modified based on Senocak (2009). The questionnaire was divided into four aspects, namely facilitator support, student responsibility, student interaction and collaboration, and quality of problems. The questionnaire had 21 items with 5-point Likert scale to measure the responses (1- Never, 2- Rarely, 3- Sometimes, 4- Often, 5- Always). Using total population sampling, the questionnaire was distributed via Google Form to the 104 students, and 74 students gave their responses. Table 1 presents list of questionnaire questions and its translation.

Table 1. Translated questionnaire

No	Items in English	Indonesian Translation
FACILITATOR SUPPORT		
1	The teaching staff directed our thinking with some guiding questions	Dosen mengarahkan pemikiran kami dengan pertanyaan panduan.
2	If I asked a question, the teaching staff gave me just a hint instead of the complete answer	Jika saya mengajukan pertanyaan, dosen hanya memberi saya petunjuk alih-alih jawaban lengkap.
3	The teaching staff encouraged us to use various information sources	Dosen mendorong kami untuk menggunakan berbagai sumber informasi.
4	The teaching staff encouraged us to express our ideas clearly	Dosen mendorong kami untuk menyampaikan gagasan-gagasan kami dengan jelas.
5	If we asked for feedback, the teaching staff provided us with positive and negative feedback	Jika kami meminta umpan balik, dosen memberi kami umpan balik positif dan negatif.
6	The teaching staff asked us to show the approach of solving problems	Dosen meminta kami untuk menunjukkan pendekatan yang kami gunakan dalam memecahkan masalah.

STUDENT RESPONSIBILITY		
7	I fulfilled the tasks given to me during group work	Saya menyelesaikan tugas yang diberikan kepada saya selama kerja kelompok.
8	I made enough effort to use various information sources	Saya cukup berusaha untuk menggunakan berbagai sumber informasi.
9	There were times when I had to make my own decisions	Ada waktunya ketika saya harus membuat keputusan sendiri
10	I played an important role in my own learning	Saya berperan penting dalam pembelajaran saya sendiri
11	I evaluated the performance of my peers and myself	Saya mengevaluasi kinerja rekan-rekan saya dan diri saya sendiri
12	When I came across something I didn't understand, first I consulted with a fellow student, then we consulted the teaching staff as a group, if necessary	Ketika saya menemukan hal yang tidak saya pahami, pertama-tama saya akan bertanya kepada teman saya, lalu kami tanyakan kepada dosen secara berkelompok jika diperlukan.
STUDENT INTERACTION AND COLLABORATION		
13	For group work, I collaborated with the other members of my group	Untuk kerja kelompok, saya berkolaborasi dengan anggota lain di kelompok saya.
14	For group work, I discussed my ideas with the other members of my group	Untuk kerja kelompok, saya mendiskusikan gagasan-gagasan saya dengan anggota lain di kelompok saya.
15	For group work, I shared my individual results with the other members of my group	Untuk kerja kelompok, saya membagikan hasil pekerjaan individu saya dengan anggota lain di kelompok saya.
16	For group work, I respected others' ideas in my group	Untuk kerja kelompok, saya menghargai gagasan-gagasan dari anggota lain di kelompok saya.
17	For group work, I participated in group work as much as possible	Untuk kerja kelompok, saya berpartisipasi dalam kerja kelompok sebanyak mungkin.
QUALITY OF PROBLEMS		
18	The projects we carried out included real-life problems	Penugasan yang kami kerjakan memuat permasalahan di kehidupan nyata.
19	The projects were easy enough to solve without any serious difficulty	Penugasan yang dikerjakan cukup mudah tanpa ada kesulitan yang berarti.
20	The project descriptions were written in an understandable language	Deskripsi penugasan ditulis dengan bahasa yang mudah dimengerti.
21	The projects were of the kind for which one can produce different solutions	Penugasan yang dikerjakan memungkinkan mahasiswa menghasilkan solusi-solusi yang berbeda.

The participants' responses were then analyzed through the descriptive quantitative method using SPSS 26 to identify their perception on PBL in the class. the overall results were sorted from the highest to the lowest means to find out which aspect had the stronger perception. Next, the results of each aspect were presented by ranking the items from the highest means to the lowest ones. By doing so, the patterns of the data became evident, and thus some interpretations of the results were formulated.

In this study, the validity, or the degree to which an instrument accurately represent a construct being studied (Heale, 2015), was achieved through expert judgment. The translated questionnaire was also verified by a lecturer who were fluent in both English and Indonesian. As for the reliability, the Cronbach Alpha for the questionnaire was 0.884, and thus the questionnaire was reliable.

3. Results and discussion

The results are divided into four dimensions, there are student responsibility, student interaction and collaboration, facilitator support, and quality of the problem *(see Table 2)*. These dimensions are combined into one questionnaire form with 21 items in total. The questionnaires were distributed to the respondents through social media and face to face meetings in classes. The responses received were from 74 students out of 104 students from English teaching classes in one Islamic University in Yogyakarta. The data below shows the dimension from the highest mean to the lowest. The highest score belongs to student responsibility with a mean score of 4.35 which means the students are more inclined to their duty as an individual. Then, the lowest mean score is the quality of problem where the students could not relate to the questions as it is not very relatable to their real-life situations.

Table 2. Students' perceptions of PBL based on the aspects

No.	Aspect	Mean
1	Student responsibility	4.35
2	Student interaction and collaboration	4.32
3	Lecturer support	4.13
4	Quality of problems	3.97

The results for each aspect are presented as follow. Most of the students agreed about having an important role in their own learning with a mean score of 4.62. However, many also disapproved about evaluating their performance with their peers as the mean score is 3.85. Albeit, they were working in groups, according to the mean from the highest to the lowest, it shows that the students prefer self-directed learning, meaning they choose to do more on as an individual instead of focusing on collaborating with others, but still have a small discussion with their peers if they have something they do not understand. Therefore, it can be concluded that, even if the given tasks need to be finished as a group, the students will focus more on the part that has been given to them. Table 3 shows the results on students' responsibility aspect.

Table 3. Results on student's responsibility aspect

No.	Item	Mean	Std. Deviation
10	I played an important role in my own learning	4.62	0.590
7	I fulfilled the tasks given to me during group work	4.54	0.686
8	I made enough effort to use various information sources	4.49	0.602
12	When I came across something I didn't understand, first I consulted with a fellow student, then we consulted the teaching staff as a group, if necessary	4.38	0.806
9	There were times when I had to make my own decisions	4.26	0.829
11	I evaluated the performance of my peers and myself	3.85	0.871

As for student interaction and collaboration aspect, the students while having collaborative work, they respected other ideas as the mean score showed 4.55. Then, as each student has their own role in their group work, the majority of the students chose to focus on sharing their ideas or individual results to the group members as their participation to the group instead of working collaboratively. This conclusion came as the mean score for collaborating with other members has the lowest mean which is 4.18 *(see Table 4)*.

Table 4. Results on student interaction and collaboration aspect

No.	Item	Mean	Std. Deviation
16	For group work, I respected others' ideas in my group	4.55	0.600
17	For group work, I participated in group work as much as possible	4.35	0.730
14	For group work, I discussed my ideas with the other members of my group	4.28	0.868
15	For group work, I shared my individual results with the other members of my group	4.23	0.837
13	For group work, I collaborated with the other members of my group	4.18	0.970

From students' perceptions on their facilitators, based on the mean score of 4.54, the facilitators guided and helped the students through the lesson and encouraged them to use numerous information sources. However, according to the result as the mean score is 3.09, when the student de-

manded solutions to their problems, the facilitators tend to give them complete answers instead of hints that might also help them in developing their thoughts on the problem. However, even so, the facilitators still provide their feedback which can help their learning process. Table 5 shows the results on facilitator support aspect.

Table 5. Results on facilitator support aspect

No.	Item	Mean	Std. Deviation
3	The teaching staff encouraged us to use various information sources	4.54	0.601
4	The teaching staff encouraged us to express our ideas clearly	4.50	0.646
5	If we asked for feedback, the teaching staff provided us with positive and negative feedback	4.28	0.803
6	The teaching staff asked us to show the approach of solving problems	4.19	0.715
1	The teaching staff directed our thinking with some guiding questions	4.18	0.649
2	If I asked a question, the teaching staff gave me just a hint instead of the complete answer	3.09	1.252

In the aspect of quality of problems, according to the data result as presented in Table 6, the highest mean score of 4.30 is that the students expressed that the problems given by the facilitators are easy to figure out and helped them to accomplish different outcomes. They also agreed that the project was written in understandable language. Nonetheless, for the students the quality of the problems were hard as the mean score is the lowest with number 3.49. They declared it was not really relatable to their real-life situation. Therefore, they sense some hardship in carrying out their task.

Table 6. Results on quality of problems aspect

No.	Item	Mean	std. Deviation
21	The projects were of the kind for which one can produce different solutions	4.30	0.735
20	The project descriptions were written in an understandable language	4.18	0.728
18	The projects we carried out included real-life problems	3.89	0.804
19	The projects were easy enough to solve without any serious difficulty	3.49	0.910

3.1. Discussion

English teaching class has always been an important step in learning language education. To develop their knowledge, students learn about many methods in teaching, since method is one of the processes in achieving successful learning. Problem-based learning is one of the methods where students direct their own learning process while the facilitator guides them and follows up their progress. Allen et al., (2011) stated that PBL tasks may purposefully provide cognitive difficulties by not providing all necessary information, encouraging a self-directed search for explanations. Savery (2006) declared that the aim of self-directed learning is for students to gain information and inform their peers for their groups' decision-making to get answers to their problems. In this process, there would be interaction of exchanging individual information from one to others to enhance their solution to the problem.

PBL also works on improving students' collaborative learning as well. Hmelo-Silver and Eberbach (2011) stated that one of the goals is for the students to collaborate with their peers. Therefore, this method is to optimize their ability in understanding the lesson based on what they have learned and improve their communication skill in their collaborative learning. Hmelo-Silver and Eberbach (2011) stated that PBL can lead the students to have collaborative learning which can increase students' communication skills. However, according to the current study, the respondents inclined to have self-directed learning instead of collaborating with their group members. Thus, the current study's result contradicts the related study on how the PBL is able to lead the students to have collaborative learning. Nonetheless, deeper qualitative research is needed to find out how students view collaborative learning in PBL.

PBL advances students' problem-solving skills by allowing them to think independently and try to repeat what they have previously learned (Hmelo-Silver & Eberbach, 2011). Accordingly, they can get the solution of the given problem individually. Instead of giving competence in specific material, the facilitator in PBL is an expert learner who can model appropriate learning and thinking processes (Hmelo-Silver & Barrows, 2006). The facilitator ideally guides the students by providing them support, so that there is productive interaction between group members that help them find answers to the problems (Gijselaers, 1996). Moreover, in the related studies, students believed that PBL granted them to work individually since they have to find the solution to the problem independently before receiving help from the facilitator (Kumar & Kogut, 2006). Yet, in this current study, the facilitators tend to show the students the complete answer instead of hints to their questions, although this opinion is not very dominant.

Based on Hmelo-Silver and Eberbach (2011), one of the goals in PBL is for the students to be able to build their flexible knowledge rather than learning from basic knowledge that they have obtained in the past. Therefore, students can provide many ideas or solutions for the given task such as how the majority responded to the questionnaires in this study. PBL is a great learning technique as well that uses real-world scenarios to teach students critical thinking and problem-solving skills, as well as important information and ideas (Cahyani & Setyawati, 2016). On the other hand, from the result of the current study, students did not take the problems given as easy as it did not relate much to their real-life situation.

4. Conclusion

This study aimed at identifying Indonesian undergraduate EFL students' perceptions on PBL implementation in an English language teaching classroom. The results indicated that the students found that working collaboratively in the PBL implementation was more challenging than working individually. The participants preferred to seek answers independently and share their thoughts to their groupmates instead of completing assignments by discussing it together as a group. As the participants chose to focus on their self-directed learning, the lecturer's guidance also played some role in enabling them to do their assignments. Although, in this case, the lecturer tended to give them full answers instead of clues when the participants ask questions. This was somehow against the intended purpose of PBL in which lecturers or teachers only facilitate the problem-solving process. Meanwhile, the participants considered the quality of the problems in the context of this study allowed them to produce more than one solution, and it allowed them think more thoroughly and critically by referring to what they had learned previously. It can be concluded that the participating students had a positive perception of the PBL implementation despite the challenges in working collaboratively.

Regarding the results of this study, further research is required to better understand the students' perceptions of PBL implementation using a qualitative approach. With qualitative research, it is possible to gain in-depth data on why students found collaborative work challenging and how and why the lecturer implemented PBL in the class.

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