Higher Education Students' Voice in Experiencing Problem Based Learning

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Abstract: This paper is aimed at describing the students' perception on the implementation of problem based learning during Materials Development course in the eve semester 2018. The participants were 58 students of English pre-service teachers. The data were collected through the 58 reflective writings in the end of the course, and the observation recording during the group discussion. Through qualitative analysis, there are five positive themes, and two negative themes found in the reflective writings. This study found that among three characteristics of Problem based learning, the most of the students perceived positively in stimulating critical thinking and devoting authentic experiences. Whereas, there are also some students who perceived problem-based learning as challenging, especially in technical obstacles such as; the appearing of the lecturer's stress during discussion session; not engaging friends in a group.

Keywords: *Authentic experiences, Materials development, Problem based learning.*

INTRODUCTION

The skill of developing materials is undoubtedly necessary for pre-service teachers. The current trends of developing materials is more on how teachers are urged to adapt textbook instead of fully use textbook (Richards & Reppen, 2014; Tomlinson, 2013; Tomlinson, Dat, Masuhara, & Rubdy, 2001). Developing materials itself includes the steps, which are; materials selection, materials adaptation, materials writing, and materials evaluation. In EFL context, some studies found that teachers tend to us ELT textbook as major resources due to its benefits of creating effective teaching (Kaharuddin & B, 2017). The materials selection are based on to what extent does the textbook fit to the current curriculum, how interesting is the layout of the textbook, and how many activities that are provided for the students. However, in the materials adaptation and materials writing, due to the limitation of time and financial issue, teachers tend to only use limited number of

textbooks and Internet resources as the reference to develop materials.

As an effect, there is a practical gap that EFL teachers are rarely found to conduct needs analysis as the basis of materials selection and materials writing (Alwasilah, 2007). This study is aimed at preparing EFL pre-service teachers to have more Problem Based Learning as a part of materials development practices. Thus, since they are pre-service teachers, they have been prepared to be a problem solver for their related problems.

Problem based learning itself is known as students' centered learning that provides real-world experiences. Thus, its popularity in pedagogical context is on how it creates a pedagogical ethos of the students and the teachers (Kwon et al., 2017; Mishan, 2011; Othman, Ismail, & Shah, 2013). Some of its benefits are more on how the students get authentic experiences (Perkins et al., 2015), and adding more inquiry learning behavior for the students (Kwon et al., 2017). Despite of its benefits, the drawbacks are also identified in the implementation of Problem Based Learning. The students may perceive it as demanding because in Problem Based Learning the students should work in independently in collaborative context.

Moreover, the facilitator should also keep observing and checking the students' behavior, personalities, and difficulties. The facilitator should also be encouraging in order to enable the students to be critical and creative (Education, 2015). In other words, the facilitator who has decided to use Problem based learning as teaching methodology should be faithful and open to any forms of students' encountered difficulties and reflection. The purpose of this study is to elaborate:

(1) How is the implementation of Problem Based Learning in Materials Development course?

(2) How are the students' perception on the implementation of Pro Based Learning?

Problem Based Learning

The pedagogical framework of problem-based learning according to Mishan (2011) is the stimulation of higher order thinking in solving the problems. The problems itself should be authentic, so that it will be more motivating for the students because they can use their background knowledge to help them contextualizing the issue. The problems should also be relevant to the students' current or future experiences (Weiss, 2003). In its implementation, this framework also takes both incentives and consequences. According to Wood (2015), the role of teachers will be transformed into facilitator. It means that the lecturing portion should be the lowest and more practical activities should be conducted. The consequences work the same for both the facilitator and the students. Mishan (2011) and (Othman et al., 2013) shared their experiences in conducting this method and highlighted that in terms of students' role, they are exposed to self-directed learning. The students should assess a lot of relevant information, conducting survey and interview, in order to find the solution of the given problems.

In other ways, the facilitator should also be resilience and keen on guiding the students, especially in pertaining two roles at once. It is that the facilitator should stimulate students' critical thinking while also helping the students when they found difficulties. Problem based learning does not mean that the facilitator only shared the problems, but also providing indirect aids and stimulation. In the last decades of its implementation, problem-based learning has not yet been reported to work only for high achiever students. The latest studies empower that problem based learning are beneficial for all level of students (Dochy, Segers, Bossche, & Struyven, 2005; Kwon et al., 2017; Mishan, 2011; Othman et al., 2013). Through the framework, of which the problems should be authentic to the students' current and future

experiences, it is assumed to be the powerful factor that make this method becomes more meaningful and provides deep learning for various level of students. The principles of problem-based learning are provided in the figure below:
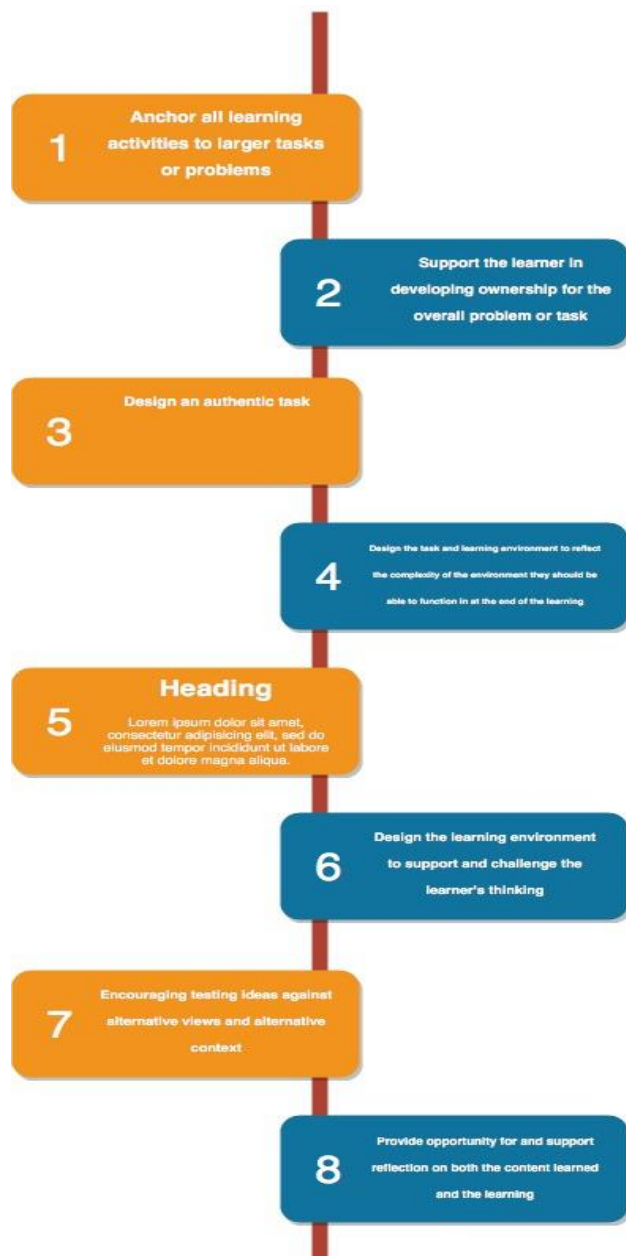

Figure 1. The Adapted framework from Savery & Duffy's model of Problem Based Learning (2011)

The characteristics of Problem Based Learning include four points. Those are learner-centered, having or searching the problems, group work practices, investigation and research, and self-reflection as well as peer-assessment

(Mishan, 2011). In its implementation, the teachers may find that problem-based learning can also shape the students' learning behavior. Those are inquiry behavior, collaborative behavior, and minimally productive behavior (Kwon, et.al., 2017). The inquiry behavior learners tend to be able in problem identification and problem engagement, exploring evidences, explaining reconstruction, communicating and justifying their explanation, and the most important things are reflection and revision. The collaborative behavior students are conditioned through group discussion through certain regulation. The last one is a behavior that may be encountered as challenges when the students are disoriented and demotivated due to unfocused in their target. In this study, it is expected that the students will experiences three of these behaviors so that the problem-based learning process will be fully done by the students.

METHOD

This study employed narrative approach in a way that the researchers collecting the reflective experiences and voices of the students (Barkhuizen, 2016). There were 58 students who ratified the consent form and fully observed during the class. Those students have varied level of cognitive ability. They were divided into three classes, and each class they were clustered into three groups. The research is conducted in wide range of Indonesia because the participants as pre service teachers are allowed to take the data and conducted survey to the high school or junior high school students everywhere through online platforms.

The data taken in this research was the students' reflective writing in the end of the course. The reflective writing is not limited to certain framework in order to dig more themes and findings regarding what the students really feel and learn in the class. The secondary data is the recording of classroom discussion, both when the pre service teachers discuss one another or

with me as their facilitator. The number of recording discussion was only twice in each class. The data were then analyzed qualitatively through thematic analysis. It is then triangulated by using interactive model, in which the reflective writing is compared to the recorded discussion and the portfolio of the students.

Moreover, There are some steps in this research. The steps of problem-based learning in developing materials are presented in the table below:

Table 1. The Steps of Problem Based Learning in developing materials

Steps	Activities	Schedule
1	Needs analysis	1 weeks
2	Recommendation	1 weeks
3	Lesson Planning	2 weeks
4	Materials Development (adaptation & writing)	6 weeks
5	Tripartite validity	2 weeks
6	Revision	2 weeks

In the first step, the students were clustered into three depending on their characteristics and pre-test result. The three clusters are to which school level that the pre-service teachers will have internship program. 30 students were clustered to senior high school, 10 were clustered to vocational high school, and 18 students were clustered to junior high school. Each cluster have smaller groups consisted of two students to have needs analysis practice. They were asked to interview students who were treated as the clients, and to observe the students' classroom, for one week.

The needs analysis practice should not always be a fieldwork. The pre-service teachers were allowed to use online platforms. From the need's analysis practice, the pre-service teachers were expected to encounter the actual problems that are faced by their students related to ELT materials. The pre-service teachers were then gathered in the class to have discussion in order to give recommendation of what English learning materials that may help the students to have

better understanding. They were then involved in the materials writing process and also managed to have tripartite assessment upon their designed materials that are proposed as the solution over their students' problems.

RESULT AND DISCUSSION

The findings of this study are divided into two; the implementation of Problem Based Learning and the students' perception. Through data analysis, the themes are displayed in the table below:

Table 2. Themes of Students' Perception on Problem Based Learning Implementation

Characteristics of PBL	Learning Outcomes	Themes
Needs analysis	Critical awareness of problem engagement	Critical Thinking
	Critical application of L2 theory into practice	
Investigation, research	Critical application of L2 theory into practice	Deep Learning
Self-reflection and tripartite assessment	Ability to give and receive feedback	Feedback
	Reflective practice	

Feedback

During lesson planning, it is quite challenging due to the students were still lack of lesson planning, especially in following the format as suggested by the government, and setting the learning indicators. It also happened when pre-service teachers were involved more on the discussion and presentation on materials development. This part also took an extension on the discussion about creating instruction in each activity. The students felt difficult to corroborate the instructions of each activity to the learning indicators that they have set in the lesson plan. Sometimes, the pre-service teachers tend to put themselves as a teacher, instead of considering how their students will interpret their instructions. This is supported with the observation recording below:

L   : Read your instruction again.
PS   : Find the differences of these two texts.

L   : Which cognitive domain is this in Bloom's Taxonomy?

PS   : This is C2 miss, to differ…

L   : What if the students answer that the difference is text A has more words than text B? Is it wrong or right?

PS   : Wrong miss, because I want them to differ the generic structure

L   : See? Think about the genre as well. You have to revise the instruction into?

PS   : Oh…yees miss, it is not specific yet. It should be, find the differences of the generic structure of two recount texts below

L   : Joss (great).

Whereas from the students' reflective writing, it is found that he felt somehow it was challenging in the first, but he could find his own mistakes and fix it.

Apparently..oh dear..creating instruction is not as easy as I though. It must be really clear and easy to understand for the students. This course is quite challenging and somehow it tested our creativity as a teacher.

Another student also shares the same experiences in her reflective writing:

During this semester in this course, I have done and achieved a lot of things. Then I can practice and got more things when the teacher gave a feedback. Revising the task through teacher's feedback was a great thing and makes me develop in making materials. Even though this course is hard for me, but the teacher teaches like step by step, it is so helpful so much. It feels like it isn't as hard as I think before.

From the observation recording, the pre-service teacher was stimulated to think and revise his own understanding. This practice is in line to Mishan (2011) and (Kwon et al., 2017) who agree that the stimulation of critical thinking and the assimilation of information, in this case is the background knowledge about materials development, were represented by both the lecturer and the pre-service teacher.

Critical Thinking

After having six weeks discussion on materials development, the pre-service teachers were asked to try out their designed materials to the students whom they have interviewed before. The students as clients were allowed to give feedbacks and comments as the basis of revision. After revision steps, the pre-service teachers were involved in materials development exhibition. Their materials design was assessed and observed by high school teachers, vocational school teachers, and junior high school teachers. The pre service should revise their lesson plan and materials design based on the feedbacks and the final revision should be submitted as a form of end-semester test. This form of tripartite assessment; by the lecturer, by the students, and by the teachers, was expected to broaden the pre-service teachers' mind in accepting feedback and more self-reflective learner. According to Mishan (2011) and (Kwon et al., 2017), the process of critical thinking is identified through the students' willingness to contribute in the discussion by giving comments or revision. This phenomenon is captured in the recording below:

Alexis   : I think the blanks should be "Use" (the students are discussing a blank to complete an instruction "…. the words below to create a past sentence"

Dian   : I don't think so, it should be "Transform"

Yuda   : Why?

Dian   : Because this is activity in cognitive three, modification.

Alexis   : (checking the Bloom's taxonomy table), but the word "use" can also be employed as modification.

Yuda   : Yes, it is indeed. But, "use" is too general. I am more into "turn".

Facilitator: Nanang, what about you? (Nana remained silent and played a game in his mobile phone).

Yuda : Come on Nanang, which one is it? "use" or "transform"?

In the recording, it is clear that the process of critical thinking is dynamic in order to solve the problem. In this case the problem is to create an instruction for their learning activities. Wood (2015) emphasized that the role of facilitator is to make the students keep engaging through prompts instead of through giving reward and punishment. This experience is apparently meaningful for most of the students as it is mentioned in their reflective writing:

This course relies much on critical thinking. This skill should be used from now to the future. I think this is the most important thing that I got in this class.

Although it is confusing in the beginning, and I felt that I was facing high cognitive load, I kept trying to work on the tasks although I might be quite slow.

This course has abundant tasks, but I think it is not a problem because the learning process is scaffold. Thus, if we keep attending the class and engaging in the whole meetings, it is not that difficult.

The statements by Yuda, Dian, and Alexis correspond to the suggestions of types of problems that should be raised in problem based learning by Mishan (2011). It is that the problems should be related to the pre-service teachers' current and future experiences. The pre-service teachers said that the skills would be beneficial for his long-term professional development. However, some students also experience high cognitive load. Their way of coping the cognitive load is interesting because they do not give up. As suggested by Kwon, et.al (2017), the students

gradually shape themselves in inquiry behavior learning.

Deep Learning

The students found that the implementation of problem-based learning reshape their belief of learning behavior. It is that they became more aware about real world tasks. It is found that

I feel that in Materials Development class, we learn to not only develop materials but also to learn about life. I feel and experience the atmosphere of being energetic.

Facilitator's Role

Although there is not yet specific characteristics of facilitator that should be fulfilled if they want to employ problem-based learning, however the pre-service teachers found that there are some supporting characteristics and practices that are presented by the facilitator.

I think all the instructions in this class are very scaffold. Since the first meeting until the end, most of the instructions are consistent and easy to understand.
Ms Dee is very discipline that makes us keep being on track. It is because, if we missed one task, we are worry of not passing this course.

I found that the class is very discipline, which makes me more being effortful to be on time. Can't we have more extension miss?

This class is quite challenging, because we have to find many relevant resources. However, ,Ms. Dee keeps guiding us, although the feedbacks make us rethink. It makes us more comfortable. I am even more confident in this class.

These comments should be a further consideration for English teachers or lecturers who is willing to employ problem-based learning. These characteristics of a facilitator in

PBL have been shared by Wood (2015), Othman, Ismail, & Shah (2013). They should be keen on guiding the students in terms of indirect intervention. The use of prompts, clear instruction will avoid the students to be trapped in minimum productivity behavior.

CONCLUSION

Problem-based learning enables the pre-service teachers to reshape not only their way of thinking and learning, but also in cognitive skills under specific terms and conditions. It is that the whole instructions and the learning design given by the facilitator should be clear and focus. This is due to the load of tasks and resources that are quite demanding. The facilitators themselves should be able to give an effective yet stimulating feedback for the pre-service teachers. In terms of cognitive skill, this research has a limitation of not measuring the specific scoring by using quantitative analysis, however, the students' reflection in the deep learning strands is considered to be sharper in justifying how effective problem-based learning to help them understanding the L2 theory on lesson planning and materials development.

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