

LEARNERS' PERCEPTIONS TOWARDS PROJECT-BASED LEARNING IMPLEMENTATION IN CALT COURSE IN THE COVID-19 PANDEMIC SITUATION

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DOI: <https://doi.org/10.33508/mgs.v50i1.33200>

ABSTRACT

Project-Based Learning (PjBL) is the teaching method commonly used by lecturers who taught the Computer-Assisted Language Teaching (CALT) course in our institution; yet the situation of the COVID-19 pandemic caused a change in the class learning modes from offline to online learning mode. Thus, this study was intended to find out the learners' perceptions toward the change situation during the PjBL implementation in the CALT course by distributing questionnaires to the learners, as teacher candidates, who had joined the CALT course and describe their perceptions in this study. For further analysis, triangulation in the form of focus-group discussion was conducted to confirm the respondents' answers in the questionnaire. This study was described as an Ex Post Facto study with the data taken from the previous semester during which the PjBL was implemented in CALT course in the situation of COVID-19 pandemic. The results of this study reveal the learners' positive perceptions. They admitted that they had improved their self-learning ability, creativity, and other learning skills through the practice of making the projects in the CALT online class taught using PjBL.

Keywords: CALT course; learners' perceptions; project-based learning

INTRODUCTION

Project-Based Learning (PjBL) derives from the theory of constructivism that was coined by John Dewey in the early 1990s. Dewey as cited in Jumaat, Tasir, Halim, & Ashari (2017) stated that the notion of constructivism is the action in education. The action in the teaching learning process can make the language learners not only understand the context of the lesson, but also the meaning beyond the lesson they are studying. This theory underpins the process of learning by doing because when the language learners start to practice and simulate the 'real' problem in the class, they will be able to overcome the problem in the 'real' world situation. Learning by doing can help the learners to enable them to do the self-learning of improving their knowledge in self-learning ability and creativity to solve the problems (Bagheri, Chong Binti Abdullah, & Daud, 2020; English & Kitsantas, 2013). Hence, constructivism learning theory supports the implementation of PjBL in the teaching learning process.

PjBL is defined as a teaching method that organizes learning around projects in the process of the implementation, through which learners are given the opportunity to make projects and learn the error that will happen based on their experience in the project's progression (Solomon, 2003). The highlight point of project-based learning is to enable learners to improve their self-learning ability while doing the projects and creativity to make an innovative creation in order to achieve the goal of the learning outcomes.

In PjBL, there are two goals that have to be obtained by the learners. The first goal of this method is to make learners aware of self-directed learning, practice to collaborate and build their intrinsic motivation (Barrows, as cited in Dewi, 2016). The second goal is to foster learners' courage to become active and creative in the

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classroom so that they can develop their skills through the practice of making the project (Philips, as cited in Pramono, 2016). Due to the contributions that PjBL may offer, i. e., to improve self-learning ability and creativity as discussed above, PjBL has been implemented for several years by the lecturers of an English Language Study Program in a private university in Surabaya to teach CALT (Computer-Assisted Language Teaching) course during the offline classes before the COVID-19 pandemic. CALT course is a course designed to provide the learners with various ways of creating teaching materials and resources for the teacher candidates. The course deals with theories of Computer-Assisted Language Teaching, principles of CALT materials development and how to evaluate CALT materials. Specifically, the course introduces learners to online tools for English language teaching and learning according to the principles of Integrative CALT. Learners will be familiar with writing blog posts and giving comments as a means to practice navigating around the tools and reflecting on the learning process. Learners will also learn with the basic practices of blended learning, mobile learning and collaborative learning. It is intended that learners will be able to integrate technology in language teaching and evaluate it appropriately.

In CALT course through the implementation of PjBL under this present study the learners were given some projects to complete throughout the semester, meeting by meeting from the beginning of the semester until the end of the semester. Some of the projects were done as individual work and some others as group work. As was done by Foss et al. (2008), CALT course assigned the learners to create web-based projects. The PjBL was implemented by Foss and it went well since the learners also explored information and sources through the internet while they were doing the projects. Similarly, Kean & Kwe (2014) assigned the learners to make a web-blog in order to teach culture and during the implementation the learners were using the internet to find information related to their projects while the teacher monitored them to finish the projects.

The implementation of PjBL in CALT course under this present study before the COVID-19 pandemic had been considered successful by the lecturer when it was delivered through offline classes. However, when the COVID-19 pandemic occurred, the situation caused a change from offline classes to solely online classes where the learners had to study from home (SfH). The situation compelled the learners to study from home whether they liked it or not; facing this situation, the lecturer was challenged to make the online classes as interesting as the offline ones. The instructional design of the PjBL implementation was to be different from the usual design that had been done for offline classes (before the COVID-19 pandemic), as well as the projects assigned to the learners. Fortunately, CALT course is related to the use of technology and the internet, so the learners were exposed to using the internet and information technology to make the projects and enrich their learning skills and the skill in applying online learning tools to complete their projects both “before” and “during” the COVID-19 pandemic. Therefore, it was assumed that the implementation of PjBL “during” the COVID-19 pandemic would be as successful as the one “before” the COVID-19 pandemic. Thus, this study was aimed at finding out the learners’ perceptions towards the PjBL implementation in the CALT course “during” the change situation of COVID-19 pandemic in comparison to “before” the COVID-19 pandemic. More specifically this study was interested in finding out the learners’ perceptions towards the improvement of their learning skills, in particular self-learning ability, creativity, and some other lessons they might have learned through CALT course taught using PjBL “before” the COVID-19 pandemic (through offline classes) and “during” the COVID-19 pandemic (through online classes).

METHOD

This study employed survey research design with an ex post facto orientation because the study was conducted after the fact had occurred without interference from the researcher. The fact in this study was the PjBL implementation in CALT course that had been conducted by the lecturer in the 2019-2020 academic year in the situation of “before” and “during” the COVID-19 pandemic. To make it clearer, the structure of the research design of this study can be seen in Figure 1.

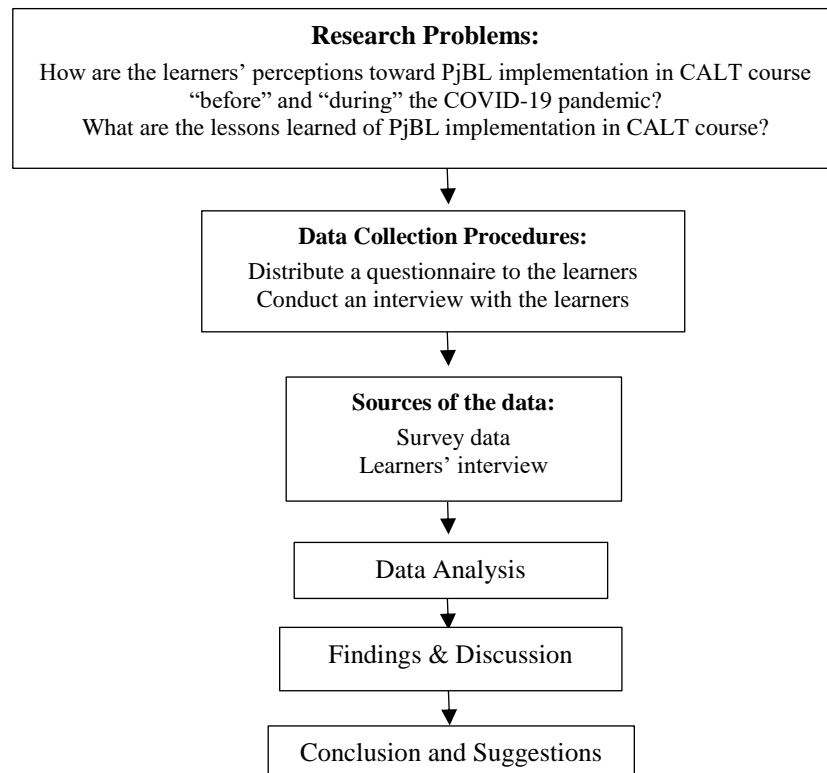


Figure 1. The structure of the research design

Instruments

The major instrument in this study was a questionnaire. The questionnaire was aimed to know the learners' perceptions towards the shift situation from offline to online classes throughout the implementation of PjBL in CALT course “before” and “during” the COVID-19 pandemic. The questionnaire used both close-ended and open-ended type of questions; in the close-ended type the respondents chose their answers from the options provided employing four levels of Likert-scale, i.e., strongly disagree, disagree, agree and strongly agree; there was no “neutral” option. Likert-scale was used for close-ended questions because this study needed numerical data to be put into the statistical analysis (Brown, 2009). However, there were some questions that did not employ Likert-scale so the number of the possible answers provided varied from one to another question item allowing the respondents to choose the best answers to represent their opinions (McMillan, 2008).

Open-ended questions were used to explore the learners' opinions through a broader explanation in their own words related to the answers they gave in the close-ended items (Brown, 2009). Through the open-ended questions, the questionnaire could explore issues that close-ended questions cannot cover.

Data Collection Technique

All the data were taken from the existing data during the previous semester (the 6th semester) of CALT course. There was no intervention given at all. The procedures of data collection are described diagrammatically in Figure 2.

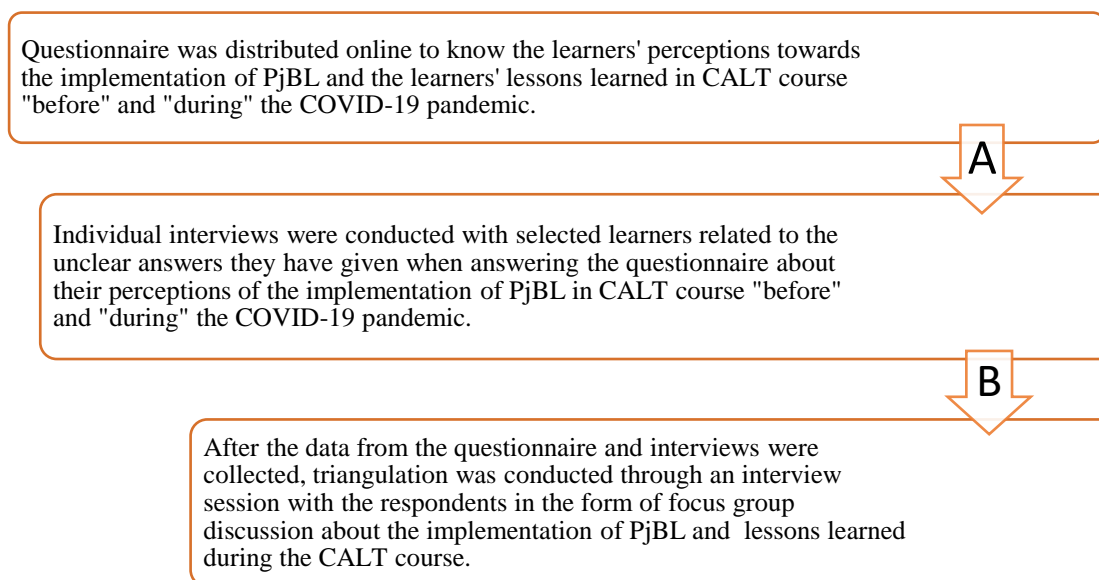


Figure 2. Data collection procedures

Data Analysis Technique

The collected data were related to the learners' opinions about the implementation of PjBL in CALT course "before" and "during" the COVID-19 pandemic and the lessons learned. The data were classified into five categories: (i) learners' opinions about the shift learning situation, (ii) learners' improvement in learning skills after the course was ended, (iii) learners' satisfaction towards their achievement after joining the CALT course and (iv) learners' perceptions towards the lessons learned that they have gained. The data from the close-ended questions were analysed using descriptive statistics and reported in the form of percentages, while the data from the open-ended questions were analysed on the basis of emergent categories.

FINDINGS AND DISCUSSION

Learner's Perceptions towards the PjBL Implementation

The learners were assigned to make projects about developing various teaching materials/resources and learning media by using the internet and technology since the beginning of the offline classes. However, the situation of COVID-19 pandemic obliged them to study from home. This situation made the learners and the lecturer have to adjust themselves into a full online teaching and learning. Fortunately, PjBL implementation is in line with the online teaching and learning and this situation could be an alternative case of conducting PjBL implementation during the situation of COVID-19 pandemic. The results of the study concerning the learners' perceptions toward the implementation of PjBL in the change of learning situation from the offline to full online learning mode are presented below.

a. Learners' perceptions toward the change of learning situation from offline to online learning mode in CALT class implementing PjBL

When COVID-19 pandemic occurred at the end of March 2020, the teaching delivery of the CALT course changed from offline mode to online mode. When asked whether during that time the learners had any difficulties in completing the projects in CALT course (item 1), the majority of the respondents (58.6%) chose “strongly disagree” and “disagree”, while 37.9% chose “agree”.

In response to whether the learning activities “before” and “during” the COVID-19 pandemic were different (item 2), the majority of the respondents admitted that they were different, whereby 75.9% chose “strongly agree” and “agree”, while the minority of them (24.1%) chose “strongly disagree” and “disagree”. When asked to explain the differences of activities “before” and “during” the COVID-19 (item 3), the respondents who agreed that the learning activities “before” the COVID-19 pandemic were different from “during” the COVID-19 pandemic explained as follows:

- a) “Before” the COVID-19 pandemic where the learning mode was offline, the lecturer gave a detailed explanation of the materials and the projects assigned, while “during” the pandemic he gave a brief explanation and the students started doing their projects right away. The learners spent a lot of course time doing the projects and thought that through online learning it was harder for them to understand the materials and made the projects.
- b) During the offline learning mode, the learners could meet their friends and lecturer and interact directly and more easily with them in the classroom. They could also directly ask the lecturer whenever they had a dead end to their problems. “During” the pandemic (online class), it was true that they could still interact with their friends and lecturer through the LMS, but the learning environment was totally different compared to the offline class which was more lively and easier for them to interact with the lecturer and peers and collaborate with peers. However, online classes made most of them feel that they only had themselves to rely on and felt more encouraged to improve self-learning.
- c) “During” the online classes, they had to be better with technology in doing the project tasks.

For those who disagreed that offline learning mode “before” the COVID-19 pandemic was different from online learning mode “during” the COVID-19 pandemic thought that in terms of learning activities they were simply the same because the materials were fine both to be taught through offline and online modes, even they were better taught through an online mode. The project tasks could also be done well in an online mode.

When the respondents were asked to give their feedback whether they enjoyed their online classes “during” the COVID-19 pandemic (item 4), 65.5% admitted that they enjoyed the online classes. Although the majority of the learners enjoyed the online classes, the number of the learners who admitted that they did not enjoy the online classes was quite many (34.5%).

Item 5 asked about the advantages of having the online classes compared to their offline classes during the CALT course. The respondents' answers were various that can be examined below.

- It was easier for the learners to submit their tasks.

- Through online classes they could save their time so that they had more time for practicing their lessons and it also encouraged them to understand the materials by themselves through self-learning, so they could improve their self-learning ability.
- The technology and materials given could be applied during project completion.
- More chill and they had more time to explore the materials in the internet.
- They learned many more online applications other than the ones the lecturer gave to support language teaching.
- It gave the learners more time to know themselves in learning, overcome their weakness during the online classes by themselves so it could improve their independent learning ability.
- They did not need to go to the campus because everything could be done online.
- They got more time to prepare the projects assigned
- There got many friends who were ready to help with the problems they had to solve through online.

b. Learners' perceptions about learning skills

The questionnaire also required the learners to indicate their perceptions towards the learning skills they had gained through joining the CALT course as the influence of the implementation of PjBL. Item 6 asked the respondents' perceptions towards what kinds of learning skills they could gain after joining CALT course. They admitted that they gained self-learning skills, creativity, collaboration skill, and critical skill. Among those learning skills, self-learning skill was learned by most students (89.7%), and critical thinking skill was the least learned (41.2%). When asked about other learning skills the respondents could gain (item 7), they also improved their responsibility, time management and self-management, accuracy, problem-solving skill, and computer skills.

b.1. Learners' perceptions on self-learning skill

Items 8, 9, 10, and 11 required the respondents to give their opinions related to self-learning skills. Undeniably, 96.6% of the learners agreed that during the CALT course they were demanded to undergo self-learning to complete the projects given (item 8), also 96.6% of the learners agreed that their self-learning skill improved after joining the CALT course (item 9). When asked about the reasons why their self-learning skill improved after joining the CALT course (item 10), most of them (89.7%) stated that to know the information related to the projects assigned, they had to explore related materials in the internet, start to study independently, manage their own time to study, and did not have to rely on or wait for the lecturer's explanation (72.4%). In response to how they practiced self-learning skill during the CALT course (item 11) most of them (93.1 %) stated that exploring and finding the information in the internet had helped them to practice their self-learning and other preferred practice through solving the problems that they had found in the projects given (62.1 %) and reading relevant articles or books in the library related to their projects given (10.3 %).

b.2. Learners' Perceptions on Creativity

Besides self-learning skills, the learners were also asked about their perceptions towards creativity. Their responses to whether they needed creativity skills to complete the given projects during the CALT course (item 12), 65.5% of the learners chose "agree" and 31% of them chose "strongly agree", while only 3.4% of them chose "disagree". In addition, undeniably, 96.5% of them felt that they improved their creativity skills (item 13).

During one semester the learners had done quite many projects to complete. Thus, they were asked about how interesting the projects were (item 14). Their responses showed that all the projects were interesting (chosen by more than 68.9 % of the learners). “Canva” and “Hot Potatoes” were the most interesting ones among them (chosen by 96.5 % of the learners). Table 1 presents a more detailed data.

Table 1. Learners’ opinions about the attractive projects during CALT class

Projects	Very Interesting	Interesting	Very Uninteresting	Not Interesting
Weblog	12 respondents (41.3 %)	13 respondents (44.8 %)	-	4 respondents (13.7 %)
Hot Potatoes	15 respondents (51.7 %)	13 respondents (44.8 %)	-	1 respondent (3.4 %)
Animoto	11 respondents (37.9 %)	14 respondents (48.2 %)	1 respondent (3.4 %)	3 respondents (10.3 %)
Handling Ms. Word document with Style	6 respondents (20.6 %)	15 respondents (51.7 %)	-	8 respondents (27.5 %)
Presentation with Snagit	8 respondents (27.5 %)	18 respondents (62 %)	-	3 respondents (10.3 %)
TED Ed	10 respondents (34.4 %)	17 respondents (58.6 %)	1 respondent (3.4 %)	1 respondent (3.4 %)
Group Presentation about “Learning through Technology”	2 respondents (6.8 %)	18 respondents (62 %)	1 respondent (3.4 %)	8 respondents (27.5 %)
Free Project	12 respondents (41.3 %)	13 respondents (44.8 %)	-	4 respondents (13.7 %)
Canva	20 respondents (68.9 %)	8 respondents (27.5 %)	1 respondent (3.4 %)	-

c. Learners’ Satisfaction

When asked about their satisfaction with their learning outcomes after joining the CALT class for the whole semester (item 15), they chose “satisfied” (37.9%) and “very satisfied” (62.1%); none of them chose “unsatisfied”. It means that all of the learners learned satisfactorily through PjBL and achieved the learning skills and outcomes after joining the course with satisfaction.

d. Learners’ Perceptions on Lessons Learned

The last question asked the respondents related to their reflection on “lessons learned” they had experienced, realized, and reflected during their enrollment in the CALT class taught using PjBL (item 16). They realized that PjBL had successfully exposed them to various skills such as self-learning, independent learning, creativity, collaboration, critical thinking, and exploration. Engaging themselves in these skills has assisted the learners to be responsible, more independent, confident, and productive in generating ideas. What are other skills the learners could learn after joining CALT class can be summarised below.

- Learning how to be creative so that their future teaching will not be boring for their future students
- Improving responsibility, collaboration, creativity and cleverness
- Making great learning videos could make them think critically and show their creativity in the project’s completion, especially in weblog
- Wanting to make weblogs different weblog different from friends’ and use different platforms
- Knowing many interesting learning media

- Exploring more and more materials
- Knowing how to teach using creative and fun ways, also with extra patience
- Being able to operate Ms. Word easier
- Increasing students' creativity, collaboration in group work, and responsibility
- Learning many lessons that cannot be mentioned in this section
- Appreciating all the good things they got, especially, by learning from home, they realized doing everything related to the materials and projects independently
- Encouraging the learners to be more creative and harnessing their critical thinking, self-learning, time management, etc.
- Mastering how to operate applications that have been taught during the course
- Improving innovation to teach students online with technology
- Improving self-learning ability through all the projects given during the CALT class

From the learners' opinions stated above it can be summarized that after joining CALT course taught using PjBL, the learners admitted they improved many learning skills, including self-learning, creativity, collaboration and critical thinking skills. They also developed other learning skills like time management, responsibility, digital literacy skills and many more.

Triangulation

In order to validate the data from the learners, the triangulation was held after the data was collected. The triangulation was held on November 10th, 2020 through an online platform with all of the participants who joined CALT course in that semester. The idea of the triangulation was for confirming the learners' consent about their answers in the questionnaire. However, if there were any objections toward the result of the questionnaire, the discussion should have been held. The triangulation occurred in the form of focus group discussion so that the participants could discuss and share if there were objections toward the questionnaire result. The agenda of the triangulation was described as follows.

- The researchers sent the meeting link for focus group discussion to all of the participants.
- The researchers stated the aim of the meeting and followed by presenting the result of the questionnaire.
- The researchers asked if there were any objections from the participants toward their answers in the questionnaire.

The result of the triangulation was that the learners had no objections toward their answers in the questionnaire about PjBL implementation in their CALT class during the situation of COVID-19 pandemic.

DISCUSSION

This section aims to discuss the findings of the present study. The use of internet and technology in CALT class had brought positive impact since it was useful for both offline and online learning modes, especially in the situation of COVID-19 pandemic that required full usage of internet and technology to complete the projects during the implementation of PjBL. This is similar to the results of several previous related studies into the effectiveness of implementing PjBL through the use of internet and technology that the learners could enhance their technology skills after the implementation of PjBL (e.g., Chang & Tseng, 2011; Foss et al., 2008; Giannakos,

Krogstie, & Aalberg, 2016; Gil, 2017). However, in this present study some learners had difficulties with the internet quota and understanding the materials through self-learning since they were not used to doing independent learning. Luckily the problem with shortage of internet quota was finally resolved by the government through providing the learners with free internet quota that could help them join the courses smoothly.

Another problem the learners were facing during the pandemic was that they had to solve the course problems on their own since they could not meet with their friends face-to-face to solve the problems. Due to this reason, doing self-learning at the beginning was hard but eventually they got used to it since they practiced how to handle the problems every day during the situation of COVID-19 pandemic. By doing self-learning, they became aware that it was their responsibility to complete their projects (independently) and eventually their self-learning ability improved and they were able to complete the projects with confidence and success. It is in line with the goals of PjBL (Barrows, as cited in Dewi, 2016; Poonpon, 2017; Phillips, as cited in Dewi, 2016). Additionally, in doing the projects the learners were given opportunities to complete and overcome the problems contained in the projects and this result confirmed the findings of the studies by Solomon (2003) and Thomas (2000) that the learners experienced learning through the problems during project progress and overcame them.

In regard to the projects assigned to the learners, they were attracted to learn more about the projects because the projects were mostly interesting and contained “real-life problems”. The process of completing the projects made them become more active in online classes. This is aligned with the goal of PjBL through which learners become more active in the classroom (Phillips, as cited in Pramono, 2016).

During their struggle to complete the assigned projects during the COVID-19 pandemic, the learners admitted that they gained many learning skills after joining the CALT course, i.e., self-learning, creativity, collaboration skill, and critical thinking skills. In addition, they also improved their responsibility, time management and self-management skill, accuracy, problem-solving skill, and computer skills. These results confirmed the findings of previous studies on the use of PjBL revealing the strength of PjBL, i.e., once students succeeded to finish the projects, the skills including collaboration skills they had gained during the group works for the projects could boost their creativity skills in completing the projects (e.g., Boss, Krajcik, and Patrick, 1995; Dörnyei, as cited in Dewi, 2016). They could also develop their creativity in making various learning media to be written in their weblog (e.g., Kean & Kwe, 2014; Ravits, Hixon, English, & Mergendoller, 2012), improved the awareness and responsibility to finish the projects given (e.g., Solomon, 2003), the critical thinking skills that helped them solve the problems stated in the projects given (e.g., Fragoulis & Bell, as cited in Abubakar, 2015; Boss, Krajcik & Patrcik, as cited in Dewi, 2016; Mukhaiyar & Radjab, 2013; Poonpon, 2017; Sumarni, 2013), technology skills to make learning media and operate the applications that can be useful for their future job as a teacher (e.g., Eskrootchi & Oskrochi, 2010; Foss et al., 2008; Kean & Kwe, 2014; Ummah et al., 2019).

To sum up, the lecturer had succeeded in implementing PjBL in the CALT course during the situation of COVID-19 pandemic because the learning materials, projects, activities, and assessments the lecturer implemented were aligned with the characteristics of PjBL, had given positive impact on the learners’ learning skills as can be seen from the learners’ perceptions about “lessons learned” (such as self-learning, creativity, collaboration, critical thinking, responsibility, time management, etc.). The learners were also aware of the knowledge transfer as they collected information from the internet, discussed with their friends and lecturer online to get ideas and solve problems they were facing during the process of project completion.

CONCLUSION

The result this present study indicated that the learners preferred offline rather than online classes because through offline classes they could interact with the lecturer and peers directly and more conveniently in the classroom. This sudden situation made the learners to face some difficulties during the PjBL implementation in CALT course. The problems that they have faced were various, but most of them had to deal with the internet quota and understanding the materials by doing self-learning, yet in the progress of making the projects, they found ways to overcome their problems.

Despite their difficulties during the online classes, it was good that the use of technology and internet remained the same in the CALT course. From the very beginning of the course, the learners were told that the projects given were related with computers and the internet, so during the pandemic situation, the learners still could do the projects. Related to the problems that the learners faced, they were struggling to learn how to cope with their problems during the online classes, especially to do self-learning. By the end of the CALT course, they realised that the pandemic situation required them to practice their self-learning ability and other learning skills in order to finish their projects. They kept practicing to acquire learning skills that could help them to finish the projects and they also stated their way of practicing those skills in the questionnaire by exploring the internet, discussing with friends and lecturer and many other ways. To be specific with the learners' lessons learned, the result of the study indicated that they gained lots of learning skills including creativity, self-learning, collaboration, critical thinking, responsibility and many more. In the beginning of online classes, they were concerned about the difficulties of conducting group work since the internet connection among each other was the main matter in completing the projects. However, as the time went by, the learners learned to solve the problems and managed to improve their learning skills, especially collaboration in a group work.

The learners' learning skills were improved by working in groups and individually, studying independently and studying with the help of the lecturer. Those are the ways they did the learning which contributed to their creativity improvement. To sum up, the learners achieved their learning skills during the progress of making the projects by working individually and being in a group. They also developed their creativity and collaboration skills while working in a group and also practice their self-learning and any other skills while finishing the projects individually. The implication of the present research findings for teaching through online learning is that PjBL can practically be used as a method to support online classes and if carefully planned by the lecturers and teachers PjBL is very suitable in the situation of COVID-19 pandemic to attract learners to the lesson and successfully achieve the learning outcomes.

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