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PROJECT BASED LEARNING: BEST PRACTICE AND OPTIMALIZING STUDENTS' CREATIVITY OF TEACHER TRAINING FOR ISLAMIC ELEMENTARY SCHOOL

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Abstract

Project based learning can organize students have sense-making in every learning process. In fact, it is also a support for a project or assignment from each learning unit completed by students and makes the project or task more focused. This study describes the best practices of project based learning and optimizing student creativity of islamic elementary School or elementary school teacher training program. This research applies experimental research with One-shot Case Study design. Students of Teacher Ttaining for Islamic elementary school State Islamic University of Sulthan Thaha Saifuddin Jambi are the subjects or samples studied in this study. The application of the project based learning method is done by making products from science learning materials. The results of student work in the form of menu presentations and reports. Product presentations by students are reviewed and used as a measure of students' creative thinking level in creating balanced menus. The instrument used is a product observation sheet. The data is analyzed based on the creative thinking scale which is used as a value in the creative design process of a project. The results of the study also found that the use of project based learning can optimize student creativity which is in the very high category. Even during presentations, students are able to develop their ideas in their own and simpler language so that they are clear and easy to understand. Another impact of the implication or application of the project-based learning model is that students become active and creative, both when looking for ideas and conveying those ideas.

Keywords: Best Practice, Project Based Learning, Student Creativity

Abstrak

Project based learning dapat membuat mahasiswa memiliki sense-making di setiap proses pembelajaran. Bahkan, itu juga merupakan penunjang dari suatu proyek atau tugas dari setiap unit pembelajaran yang diselesaikan oleh mahasiswa dan membuat proyek atau tugas tersebut lebih terarah. Penelitian ini memaparkan best practice dari project based learning dan pengoptimalan kreativitas mahasiswa pendidikan guru Madrasah Ibtidaiyah atau sekolah dasar. Penelitian menggunakan penelitian eksperimen dengan desain One-shot Case Study. Mahasiswa Program Studi Pendidikan Guru Madrasah Ibtidayah (PGMI) Universitas Islam Negeri Sulthan Thaha Saifuddin Jambi merupakan subjek atau sampel yang diteliti dalam penelitian ini. Penerapan metode project based learning dilakukan dengan membuat produk dari materi pembelajaran. Hasil karya mahasiswa berupa sajian menu dan laporan. Presentasi produk oleh mahasiswa dikaji dan dijadikan sebagai ukuran tingkat berpikir kreatif mahasiswa dalam membuat menu seimbang. Instrumen yang digunakan yaitu lembar observasi produk. Data dianalisis berdasarkan skala berpikir kreatif yang dijadikan nilai dalam proses desain kreatif dari sebuah proyek. Hasil penelitian juga ditemukan bahwa penggunaan project based learning dapat mengoptimalkan kreativitas mahasiswa yang mana berada pada ketegori sangat tinggi. Bahkan pada saat

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presentasi, mahasiswa mampu mengembangkan idenya dengan bahasa sendiri dan lebih sederhana sehingga jelas dan mudah dipahami. Dampak lain dari implikasi atau penerapan dari model pembelajaran project based learning yaitu mahasiswa menjadi aktif dan kreatif, baik saat mencari ide maupun menyampaikan ide atau gagasan tersebut.

Kata Kunci: *Best Practice, Project Based Learning, Kreativitas Mahasiswa*

INTRODUCTION

Nowadays, learning continues to develop. Many new learning theories strengthen and even renew old theories so that the theory is more complex and perfect. These various theories also suggest a good and appropriate concept delivery. The delivery of this concept and its strengthening can be crystallized through the application of a learning model (Chen & Yang, 2019). One of the learning models which continues to develop is the project based learning model (Kliebard, 2004). Project-based learning is currently often getting attention because the impact of learning experiences that students get in learning is very complex (Holm, 2011; Kokotsaki et al., 2016). Project based learning makes students have sense making for each learning process that is passed (Duke et al., 2021). Furthermore, Duke et al., (2021) explained that project based learning is a support for a project or task from each learning unit that is completed by students and with project based learning makes the project or task more focused.

Learning with project based learning can affect students' cognitive and psychomotor deepening (Latifah et al., 2020). This is because students are looking for their own answers to questions which arise by being provided with signs from educators. Indeed, the results of research (Kuppuswamy & Mhakure, 2020) find the fact that project based learning allows for quality project outputs or results from students. De Porter, et al (Jajang Bayu Kelana et al., 2019) also reveal that a person can learn 50% of what is heard and seen, can learn 70% of what is discussed, can learn 80% of what is experienced himself, can learn 95% of what is taught to others. Project based learning provides a space for students to collaborate and complement each other or an evaluation room from peers in completing projects or assignments (Barron et al., 1998; Kokotsaki et al., 2016; Svihla & Reeve, 2020). Thus, project based learning provides something more to students than the learning process experienced. The application of appropriate and varied strategies has a very important role in reducing the limitations of students in obtaining learning experiences, concretizing the abstract, planting the right basic concepts, bringing up uniformity and will increase the effectiveness and efficiency of the learning process in an effort to improve the quality of learning and improve learning outcomes. (Pratiwi, A., & Handayani, T., 2017).

The fact from the results of initial observations in the science learning course of the teacher training for Islamic elementary school, Faculty of Tarbiyah and Teacher Training, State Islamic University of STS Jambi shows that lecturers still do learning that does not encourage students to be creative so that students are only able to remember what they have learned and do not know how that knowledge can be used as a product and applied in everyday life in which students become consumptive and do not know how to create. Creativity has an important role in the process of creating various ideas to deal with various problems faced by students (Botty, M., 2018). Efforts are needed to change learning from learning that only students listen and memorize to be a challenging learning to develop and optimize creativity. The development of creativity has a close influence on the process of individual cognitive development because creativity has manifestations and work related to the brain (Mutmainnah, U., & Aquami, A., 2017). One way which can be conducted is to learn by utilizing a project based learning model because in learning students are trained and required to be able to develop creativity and provide learning opportunities to work autonomously to construct their own knowledge and create real products(Arisanti et al., 2017).

Many studies related to project based learning have been carried out but none have detailed how the process of project based learning is implemented and how it impacts. Previous research is related to project based learning, for example the Habok (2015) which examines the development of project based learning without first detailing the process of the project based learning. According to Duke et al (2021), the lack of research is related to the impact of project based learning at the elementary level. In this study, the process or best practice of project based learning and optimalizing students' creativity of teacher training for Islamic elementary school is described. This research is conducted on students of teacher training for Islamic elementary school at State Islamic University of Sulthan Thaha Saifuddin (STS) Jambi.

RESEARCH METHOD

The research carried out applies experimental research using a One-shot Case Study design. Meanwhile, the subject of this study is students of teacher training for Islamic elementary school, State Islamic University of Sulthan Thaha Saifuddin Jambi, totaling 31 students. The learning carried out is using the project based learning method to science learning materials by making product in the form of a balanced menu for elementary school student. As for the phases of project based learning, the first is Star with the essential question, second is design a plan for the project, third is creates a schedule, fourth is monitors the students and the progress of the project, fifth is assesses the outcome, The last phase, project based learning is evaluating the experiences. The results of student work in the form of menu presentations, reports, and product presentations are observed as a result of creative thinking skills when making balanced menus.

The research instrument used by the researcher is a product observation sheet. The data is observed based on the creative thinking scale as the value of the creative design of the project. The data are analyzed using the percentage formula proposed by Sari et al., (2018) :

$$Na = \frac{X}{X_m} \times 100\%$$

Information:

Na = Creative Value X = Score Obtained X_m = Maximum score

The uniqueness of the creativity assessment are adopted and modified from Sari et al., (2018) as in Table 1 below:

Table 1. Uniqueness of Student Creativity

Percentage	Uniqueness of Creativity
81-100	Very High
61-80	High
41-60	Medium
21-40	Low
1-20	Very Low

RESULTS AND DISCUSSION

Best Practice Project Based Learning in Science Learning

Star with the essential question is the first phase of project based learning. Learning begins with essential questions. To raise questions, the lecturer asks students to watch a video entitled 'Beware of obesity in children from an early age' and then asks what problems are contained in the

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video and whether these problems have anything to do with a balanced menu. So, various student answers is related to the video they watched and they answer very enthusiastically. The existence of this essential question will become the center of project based learning activities. Thus, this initial phase can facilitate students to stimulate curiosity which is an indicator of creativity.

As in then, the second phase of project based learning is design a plan for the project. In this phase, student and lecturer plan a joint project to solve the questions formulated in the first phase. The learning activities implemented in this phase are 1) Collecting information from various sources such as library book, bookstore and even browsing the internet about balanced nutrition for school children, 2) Preparing food ingredients to make a balanced menu for school-age children, 3) From ingredients these ingredients, make a simple menu which meets the requirements for balanced nutrition, 4) group each food ingredient in a column in the worksheet, 5) record all data for each group in a column in the worksheet, 6) consult lecturer regarding the activities carried out, 7) Completing reports in the form of presentations (making reports), for example, can be like the following table 2.

Table 2. Example of Report Exposure

Serving Time	Menu	Food material	Heavy	Nutrients			
				Carbohydrate	protein	fat	vitamin
Morning	Chocolate oatmeal	- Oats	40 gr	√			
		- Milk	150 m1		√	√	√
		- Banana	piece		√	√	√
		- Dates	2 pieces		√	√	√
		- Chocolate Biscuit	3 pieces		√		
		- Strawberry	Enough	√	√	√	√
		- Almond nut	Enough	√			
		- Yoghurt					
		- Water	Enough 100 ml	√			√

In this second phase, there is collaboration between student and lecturer in solving problems in the form of project design which results in extracting information related to questions. Students often ask meaningful questions and provide many ideas and suggestions in a problem. The third phase of project based learning is to create a schedule. In this phase, students make a list of project implementation. The project implementation schedule starts on October 18th, 2022 until October 20th, 2022 with details of activities, namely collecting data related to balanced nutrition for school children from various references made by all group members; preparing food ingredients to create a balanced menu for school-age children; existing food ingredients are formulated into a simple menu containing balanced nutrition; classify each material according to the column in the worksheet; document the column data in the worksheets of each group on; consulting lecturers regarding the activities carried out; completing reports in the form of presentations (making reports); presentation preparation; presentation planning; and presenting reports; and write notes on comments and suggestions from colleagues and lecturers.

This third phase resultes in students being able to express opinions spontaneously and not be shy. Hereafter, the fourth phase of project based learning is monitoring the students and the progress of the project. In this phase, students carry out projects under the supervision of the lecturer. Furthermore, at this stage, the lecturer prepares an instrument or rubric for activities carried out by students in order to facilitate the lecturer in the process of observing and recording all student activities related to project implementation.

The rubric used during this activity consists of an assessment of the preparation, implementation, and presentation activities. The score used applies a Likert scale in which the

highest score is 4 with the criteria if each activity is fully and systematically documented. the score of 3 with the criteria for each activity being completely and not systematically documented, the score of 2 with the criteria for each activity being incompletely and systematically documented, and the score of 1 with the criteria of each activity being incompletely and not systematically documented. In this phase, it can be seen that students are able to propose ideas, problem solving ideas that are different from others, have a strong imagination, and can work by trying new things.

Meanwhile, the fifth phase of project based learning is assessing the outcome. The lecturer asks a representative from each group to come forward and present the results of their project (in the form of a presentation with the presentation of a food menu). From the presentation of each group representative, the lecturer provides feedback or feedback to other students. During the fifth phase, it is seen that students have their own opinions and can express them and are not influenced by others. Finally, the project based learning phase is evaluating the experiences. At the end of the lecture, lecturer and student reflect on the activities which have been carried out and the results of the project. The reflection process is carried out individually or in groups. Students express their feelings and experiences as they complete projects. Students are able to develop or detail an idea (elaboration ability).

Impact of implementing Project Based Learning on Optimizing Student Creativity

Student creativity in creating balanced menu for school children through project based learning produces a variety of menus. The balanced menu assessment as a student project is assessed on a creative thinking scale. The average creativity of students in making balanced menus can be seen in table 3 below.

Table 3. Average student creativity

No	Poin kreativitas	Mean Data	Category
1	Menu idea (idea development)	81	Very High
2	Creativity (skilled in presenting menu)	88	Very High
3	Report (appropriate and neat report)	79	High
4	Presentation (presenting with own language idea development)	92	Very High
Presentation average		85	Very High

From table 3, it can be seen that the creativity of students is in the very high category with an average of 85. The very high category is shown in the points of menu idea, creativity, and presentation. For menu idea, it looks like the menus are varied and have nutritional value. Aspects of finding idea in making menus, students create idea in making menus that they think are different from others. In the aspect of creativity, students are skilled in presenting menus. Students try to present small changes to work projects. In line with A. Chaedar (Widiastuti et al., 2018), explaining creativity is the competence to create new forms of structures and products (dalam Widiastuti et al., 2018). Creativity leads to the competence of students to take advantage of new ideas that are unusual or even strange but still make sense in the scope of learning (Gunawan et al., 2017).

Furthermore, when presenting, students are able to develop in their own and simpler language so that it is clear and easy to understand. Meanwhile, the acquisition of the high category is found in the report aspect with an average score of 79. Reports made by students showed conformity with the project menu which is created, systematic, and very neat. This is proof that project based learning can improve students' critical thinking skill. It is needed in the 21st century to be creative and innovative to solve various problems (Izzatin Kamala, 2019).

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Aspects of creativity in presenting menu, students are able to develop creative idea in presenting varied and interesting menus. Likewise, the results of the reports written by students show the contents of the reports which are in accordance with what has been done and produced and the reports written are arranged in a systematic and neat manner. Furthermore, the presentation aspect shows that students are more open in conveying their own idea where in the project-based learning process, students are given the opportunity to express creativity flexibly or think flexibly (flexibility), students are encouraged to create idea, answer, or question that different people who see problems from different perspectives and use different approach and idea. Creative people are people who are used to flexible thinking.

Based on the overall activities carried out in the learning process, project based learning shows that this learning can have a high impact on aspects of student creativity. Project based learning that begins with essential questions stimulates students' creative answers in solving problems until the final stage of producing a project which is the result of problem solving. In line with L.I Sari (Ismuwardani et al., 2019), it is explained that project based learning equips students to become creative students because in the learning process, they will produce projects which have been set at the beginning of learning. This creates students will try to produce the best project. In addition, through project based learning, students are able to work together and be better than before, help each other, explain each other, think creatively, and show patience with one another (Yustina et al., 2020).

The impact that students obtained from implementing project-based learning is that students initially only get an explanation of the material so that they do not respond to the lessons delivered. Furthermore, students who do not get the opportunity to find concept and respond to questions in the learning process so that students who are less active and creative become students who actively ask and respond to the results of their friends' presentations and convey the results of their group discussions. Students also become more creative in developing their ideas. Students who are initially lazy to do observations and investigations became students who are able to explore their cognitive abilities through the projects they are working on. Students who are usually shy about expressing their work have become accustomed to expressing their work in front of the class in their own and simpler language. These facts are evidence that the use of project based learning can optimize student creativity in the learning process.

CONCLUSION

Project based learning is one of the learning models which should be adapted and developed further. In fact, the use of this project-based learning model is effective in optimizing student creativity. As the findings in this study, the use of the project based learning model is in the very high category for its effectiveness to optimize student creativity. Even during presentations, students are able to develop innovative ideas and can explain them in their own language which is simpler so that it is clear and easy to understand. Another impact of the implementation of project based learning is that students become active and creative both when looking for ideas and when conveying these ideas. The results of the research can be used as a basis for strengthening learning practices by implementing project based learning, especially at the Higher Education level. However, this study has a limited sample of research which is only for students of teacher training for Islamic elementary school. Therefore, subsequent studies can be carried out on a wider sample, on students in various study programs to create it more comprehensive.

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