



Implementation of Project Based Learning in Elementary Schools

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Abstract

This research aims to describe the implementation of project-based learning in the VA class of State Elementary School 131/IV Jambi City. This research was conducted at State Elementary School 131/IV Jambi City. This research is qualitative research with a phenomenological type of research. The data obtained in the research is in the form of descriptions or narratives regarding the implementation of project-based learning in elementary schools for class VA students. The data source in this research is the VA class teacher with the data collection techniques used are observation, interviews and documentation. The results of this research are in the form of a narrative regarding the implementation of project-based learning in elementary school VA classes. The implementation of project-based learning includes learning planning and learning implementation. The application of project-based learning has an impact on the learning process. Students participate directly in creating projects, finding out the use of the projects they create and displaying and explaining the projects in front of the class. Students look active, confident and enthusiastic. From the results of this research it can be concluded that project based learning in the VA class of State Elementary School 131/IV Jambi City in theme 6 subtheme 1 learning 2 science content, in Mathematics Chapter 1 content and theme 6 subtheme 2 learning 2 has been implemented. Project-based learning creates enthusiasm, enthusiasm, confidence and activeness in students during learning.

Keywords: Implementation; Project Based Learning; Elementary school

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INTRODUCTION

Education is closely related to life. In Roman, education is said to be educate, which means bringing out something that is within. In English, education is said to be to educate, which means improving morals and training intellectuals. Education is essentially guidance that children receive from adults to reach maturity (Saptono, 2016). Education must be able to encourage students to obtain everything they need for life in the future (Darmadi, 2015; Fujiawati, 2016). It can be interpreted that education is a conscious effort to bring out and develop one's potential including talents, skills and morals in order to meet human needs.

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals, and the skills needed by themselves, society, nation and state

(Kholis , 2014). In line with this, the Ministry of Education and Culture stated that the 21st century learning paradigm focuses on students' skills in finding out various sources, formulating problems, thinking critically and analytically, communicating, collaborating and collaborating in solving problems. The theory of cognitive development put forward by Piaget states that elementary school age children are generally at the concrete operational stage for children aged 7 to 11 years. At this stage students are able to reason logically for concrete things, but not yet for abstract things. Therefore, educators are expected to be able to determine the use of learning that allows students to be directly involved in the process so that learning objectives can be achieved optimally.

Furthermore, Minister of Education and Culture Regulation Number 22 of 2016 concerning process standards reveals that the characteristics of learning in each educational unit are closely related to Graduate Competency Standards and Content Standards. In accordance with the Graduate Competency Standards, learning targets include the development of attitudes, knowledge and skills that are elaborated for each educational unit. Competency characteristics along with differences in acquisition trajectories also influence the characteristics of process standards. Learning activities that should be carried out to fulfill the three domains of learning targets in the 2013 Curriculum are research-based learning, discovery learning, problem-based learning, and project-based learning. To stimulate students' ability to create contextual work, both independently and in groups, it is highly recommended to use a learning approach that produces project-based work.

Project-based learning is learning that focuses on contextual learning through complex activities (Farid & Pramukantoro, 2013). Project-based learning is a learning model that uses problems as an initial stage in collecting and integrating new knowledge based on students' experiences in real activities (Rajabi et al., 2015). This learning is very effectively implemented in elementary schools, in line with the previous explanation that students at elementary school age tend to be more interested in concrete activities, making project-based learning quickly accepted and absorbed into students' memories because they will play a direct role in the process. and make the material presented more memorable, enjoyable and appropriate to the needs of their age (Umi, 2015).

Project-based learning (Project Based Learning) is one of the learning models used at State Elementary School 131/IV Jambi City. Based on observations made in the VA class, it was found that educators used a project-based learning model in learning science content theme 5, sub-theme 2 about food webs, this can also be seen from the lesson documents in the form of lesson plans that educators use when teaching. Strengthened by interviews conducted by researchers with homeroom teacher VA, Ms. lasts longer and is more impressive than the activity of memorizing material as previously done.

The application of project-based learning makes students more enthusiastic in participating in the learning process. Project-based learning also really helps students with special needs in participating in learning, they seem happier and more enthusiastic during the product creation process due to their direct involvement in it. and their interactions with students in their groups make them more interested. Because project-based learning is a form of good combination of cognitive, psychomotor and affective students. Based on the explanation above, the background for researchers to conduct research is with the title: Implementation of Project Based Learning in Elementary Schools.

This research only focuses on the implementation of project-based learning (Project Based Learning) in the VA class of State Elementary School 131/IV Jambi City on learning Theme 6 Subtheme 1 Learning 1 Science Content, Learning in Chapter 1 Mathematics Content and Theme 6 Subtheme 2 Learning 2 Content IPA. Based on the description of the background of the problem above, the formulation in this research is: How is Project Based Learning implemented in elementary schools? Based on the problem formulation that has been described, the aim of this research is: To describe the implementation of Project Based Learning in Elementary Schools.

RESEARCH METHODS

Research Design

The approach used in this research is a qualitative approach. A qualitative approach is a research mechanism that manifests data described in the form of descriptions of words based on observing people's behavior and words (Nuraeni, 2015). The results of research using a qualitative approach are descriptive data in the form of written and verbal information obtained from sources. This research emphasizes understanding problems in life based on reality conditions.

This research uses a type of research using the phenomenological method, where research is carried out by looking at phenomena or symptoms that are visible from the object being studied. The phenomenological approach is research that identifies the essence or essence of human experience which is seen as a phenomenon (Ikhwan, 2015). The phenomenological approach seeks to understand the meaning of an event that has a mutual influence on humans in a particular situation. This situation refers to the experience experienced by the VA class educator at State Elementary School 131/IV Jambi City, namely Mrs. N, in implementing project-based learning (Project Based Learning) in learning.

Research Target/Subject

The research was conducted in the VA class of State Elementary School 131/IV Pematang Sulur, Telanaipura District, Jambi City. The research time was carried out in the even semester. Research subjects are respondents or informants whose information and data will be extracted. Researchers will determine the criteria for research subjects regarding the implementation of project-based learning (Project Based Learning) in the VA class. The researcher selects certain people who are considered to provide the necessary data. In this study, the researcher chose the VA class teacher as the research subject. Basically, the research object is the problem topic studied in the research. The topic of the problem in this research is the implementation of project-based learning in elementary schools.

Research Procedure

The preparation stage begins with preparing instruments based on research objectives and the type of data used as research sources. The instruments used include observation sheets, interview sheets and documentation. After the preparation of the instrument is complete, the researcher must visit the informant directly or adjust it to the existing situation to provide valid information to the informant. The stages of research implementation are the stages of data collection in accordance with the research instruments that have been prepared, namely observation, interviews and documentation. After the preparation and implementation stages of the research have been carried out, the data that has been obtained from the informants is processed and then the data is analyzed in the form of a research report.

Instruments, and Data Collection Techniques

Observation is a way of collecting materials in the form of data obtained by systematically observing and recording phenomena that are used as suggestions (Zahro, 2015). Based on the observation activities that researchers have carried out, the teaching and learning process has been carried out, but there have been changes to the teaching and learning process during the pandemic, learning is carried out by dividing students into two sessions and cutting the learning time from 5 hours to just 3 hours.

Table 1. Observation Instrument Grid

Variable	Indicator	Description
Implementation of Project Based Learning in Elementary Schools		Start with the essential question
		Design a plan for the project
		Create a schedule
		Monitor the students and the progress of te project

Assess the outcome

Evaluate the experiences

An interview is a face-to-face conversation in which one party seeks information from the other person. Interviews are a data collection technique as a preliminary to research, interviews are also used if researchers want to find out more about things from respondents and the number of respondents is small. In this research, the researcher used unstructured interviews, namely free interviews where the researcher did not use an interview guide that had been arranged systematically but only outlined the problems being asked. The interview was carried out at a place agreed upon by the researcher and the informant, the interview was conducted at the State Elementary School 131/IV Jambi City.

Table 2. Interview Instrument grid

Variable	Indicator	Description
Implementation of Project Based Learning in Elementary Schools	How do you raise questions that can inform students' assignments in carrying out project creation activities?	
	What planning is done before creating a project?	
	What do you determine/do in preparing the project creation schedule?	
	What do you do when monitoring students in making projects?	
	In results testing activities, what aspects are assessed?	
	What things are done in evaluation activities?	

Documentation is a search for data regarding the Implementation of Project Based Learning in Elementary Schools in class VA State Elementary School 131/IV Jambi City with most of the data in the form of photos and videos.

Data analysis technique

The validity test in this research uses triangulation techniques to verify data where the data collection technique combines data from various existing data collection techniques and data sources. With three techniques, namely observation of Project Based Learning, interviews with VA class teachers and documentation in the form of photos and videos during learning.

Qualitative data analysis is inductive, namely an analysis based on the data obtained which is then developed into a hypothesis. The data analysis used is qualitative data analysis, namely describing the data collected in the form of information, words and not numbers. Data analysis consists of three types, namely: data reduction, data presentation, and drawing conclusions. In reducing data, it will be directed at the research objectives to be achieved. Data reduction is the process of selecting data by sorting out important data and deleting what is not important. At this stage the researcher summarizes through filtering the data that has been obtained from the research which leads to the research objectives. After the data has been reduced, the data is presented. In qualitative research, data presentation is carried out in the form of narrative text. In this study, researchers present data regarding the implementation of Project Based Learning in learning in the VA class.

The next step in analyzing qualitative data is drawing conclusions. The conclusions given by researchers must be able to provide answers to the existing problem formulation. The researcher drew conclusions from observations and interviews as well as documentation that the researcher conducted to

obtain actual data regarding the Implementation of Project Based Learning in Elementary Schools in class VA of State Elementary School 131/IV Jambi City. Researchers see directly the processes that occur in the field but are not involved in them. The place that will be used for observation is State Elementary School 131/IV Jambi City.

RESULTS AND DISCUSSION

The research was carried out at State Elementary School 131/IV Jambi City with the VA class teacher as the subject of this research. Learning during the pandemic was carried out on a limited basis. The focus of this research is to find out how project-based learning is implemented by educators. Data collection was carried out through observation activities carried out during pre-research and ongoing research. The data was obtained during the classroom learning process.

Based on the results of research regarding the implementation of project-based learning (Project Based Learning) which was carried out in the VA class of State Elementary School 131/IV Jambi City through several activity steps, namely observation, interviews, and conducting documentation observations with the problem formulation "How to Implement Project-Based Learning (Project Based Learning) in Elementary Schools?". With this, researchers found that learning was carried out simultaneously by teachers using an alternating or rolling system in each class to prevent the transmission of Covid-19. The research findings in the VA class of State Elementary School 131/IV Jambi City refer to the six steps of project-based learning explained by Shobirin (2016) in his book. The steps for implementing project-based learning are as follows:

1. Start with the essential question

Project-based learning begins with basic questions that can give students assignments in carrying out activities or it could be said that before product creation begins, educators will ask a question that can arouse students' curiosity about the material being studied which is related to the product to be made. In the learning plans that have been prepared by educators, there are no activities where the teacher will raise questions that provoke assignments in making projects. However, in practice educators have carried out activities to determine this basic question. As in the lesson in Theme 6, Subtheme 1, Lesson 2, science content, temperature and heat, before starting a simple thermometer project, the teacher first raises the initial question, namely "what happens to the water in the bottle when the surface of the bottle is covered with warm water?" . In Mathematics learning, learning to build space. Before the building project begins, the teacher first asks the question, "Does anyone know what kind of building our classroom is shaped like?" how many edges, vertices and sides?"

In the lesson on Theme 6, Subtheme 2, Lesson 2, material on heat transfer around us, before making a simple steamer product begins, the teacher asks questions that can raise students' curiosity about the material being studied and the product that will be made, as for the question "Does heat transfer have an effect? about the steamboat that we will build later? And would a simple steamboat be able to move if it only used candles and tin cans?". Based on the explanation above, it can be seen that even though educators do not include determining basic questions in learning planning, educators have applied them to the implementation of learning in the classroom.

2. Design a plan for the project

Project planning contains work rules, selecting activities that can support answering existing essential questions, as well as determining the tools and materials needed to make the project. In planning and implementing learning, educators have implemented the three points above. After raising initial questions, the educator explains the work rules for making a project as in Theme 6, Subtheme 1, Learning 2, science content, material on temperature and heat, the educator explains how to make a simple thermometer project, such as how much water to pour into the bottle which will function as the body of the thermometer, how much many dyes will be dissolved in bottles

filled with water, as well as the use of plasticine which functions not only as a bottle cover but also as an object that can prevent air from entering.

In the Mathematics content lesson on spatial shapes, educators also explain the work rules for making spatial shapes and provide suggestions for the activities carried out, such as directions for rounding the plasticine so that it is not too small and not too big so that it can function well as a corner point and is able to support the ribs. ribs build space. In learning Theme 6, Subtheme 2, Learning 2, Science Content, Heat Transfer Around Us, the educator explains the working rules for making a simple steamer product and provides input on the steps in making the product, such as when cutting a tapered cork on one side to make it easier to move the steamer. simply created. Determining the tools and materials that will be used in making the project is done in the VA class WhatsApp group the day before learning starts.

3. Create a schedule

Preparing a project creation schedule includes determining the time for product completion, guiding students to carry out activities related to the product, and assigning students to make reasons for choosing a way to make the product.

In planning and implementation, educators determine the time for product completion according to lesson time, time determination is not carried out in detail in planning and implementation. Educators guide students in carrying out activities related to products, such as the correct way to cover the surface of bottles containing colored water and plastic straws with a warm cloth so that the thermometer can work, in making room shapes, educators model how to put thread on the frame of a room shape so that it can show the diagonal sides and sides. space diagonal and in making a simple steamer, the teacher shows an example of how to attach a can that functions as the body of a steamboat with a skewer as a support.

4. Monitor the students and the progress of the project

Educators serve as mentors, namely facilitating students in each process. In the planning and implementation, educators have carried out their role as monitors of this project-based learning. During the project creation process, the educator always goes around to each group to see the progress of the product that has been created, the educator provides direction in helping to create the project.

5. Assess the outcome

Assessment activities are carried out with the aim of assisting educators in measuring student achievement, evaluating student progress and providing feedback regarding the understanding that students have achieved. In planning and implementing learning, testing results have been applied in learning. After the product is finished, students will be instructed in groups to present the results of the product and worksheet in the form of a report in front of the class. Students will explain the contents of the report and explain the product that has been created.

As in Theme 6, Subtheme 1, Learning 2, science content, temperature and heat material, after completing the product, students in groups will come forward with their thermometer product and explain the tools and materials used in making a simple thermometer, the initial hypothesis before starting to make the product, steps for making a simple thermometer and conclusions from this activity. In the Mathematics content about spatial shapes, students in groups will explain the tools and materials used, initial hypothesis, steps for making spatial shapes and conclusions from this activity. Likewise in their Theme 6 Subtheme 2 Learning 2 lesson and explained the tools and

materials used in making a simple steamboat, initial hypotheses before product manufacture began, the steps for making a simple steamboat and the conclusion of this activity.

6. Evaluate the experiences

Educators and students reflect on the activities and results of the products that have been created. In planning and implementation, evaluation has been carried out by students and educators. At the end of the lesson the teacher will show the students' work products such as space structures, simple thermometers and simple steamers. Educators will ask again how to make the product, what tools and materials are needed, educators will also ask about the material studied based on the product that has been made, such as how a simple thermometer works, the building elements of the space that has been made and how a simple steamer works. Finally, the educator will provide an explanation of the material being studied as reinforcement.

Based on the above, researchers see educators implementing project-based learning (Project Based Learning). In project-based learning carried out in the VA class, it can be seen that implementing learning using a group system is considered to be a solution in implementing learning. Although there are still obstacles in its implementation, educators must be able to control each student and work together in the product making process and ensure that students do not carry out activities that are not related to the lesson.

Project-based learning is able to increase student activity during the teaching and learning process because in this learning students are required to work directly in determining the project to be created, the process of creating the project and the involvement of students in explaining the results of their products during presentations in front of the class. In the process of making products, students will work in real time in making specified products, such as making simple thermometers, space structures and simple steamers. Apart from that, students' activeness was also seen when making presentations in front of the class. In groups, students will explain the tools and materials needed to make a product, the initial hypothesis, the purpose of making a product, the steps in making a product, and conclusions from product making activities, and if there is time, students will be given the opportunity to ask questions or answer questions related to the products that have been made.

Project-based learning makes students braver and more confident in asking questions and giving opinions about the material and the steps in making products (Mulyadi, 2015). Project-based learning makes students more focused on learning, which can be proven when educators ask several questions regarding the material presented. Students are able to answer the questions given (Winarso, 2014).

Project-based learning makes educators function as managers and managers. Educators must position themselves as learning leaders, learning facilitators, learning moderators, learning motivators and learning evaluators. In project-based learning carried out in the VA class of State Elementary School 131/IV Jambi City, it can be found that educators have played a role as: First, learning leaders, in the sense that educators act as planners, organizers, implementers, and controllers of students' learning activities during the teaching and learning process. taking place. In project-based learning, educators carry out planning before the implementation of learning begins. Educators also act as controllers of each student's activities in making projects. Second, learning facilitators, educators make it easier for students to carry out learning activities. In project-based learning that has been implemented, educators act as facilitators, where educators always facilitate students in every step of project creation. Educators provide explanations, provide direction and help students in creating projects.

The third is the learning moderator, the educator's duty is to regulate the flow of students' learning activities. In project-based learning, educators act as learning moderators, educators control learning activities from the initial project creation activities to the final project creation activities. Educators are tasked with explaining the stages of project creation, starting from explaining the material, how to create a project, the project creation process, presentations to evaluation activities. Fourth, learning motivator, educators as incentives for students to want to carry out learning activities. Educators create classroom conditions that stimulate students to want to carry out learning activities, both individually and in groups. In project-based learning, educators act as motivators in learning, educators motivate students in making projects, educators create a fun learning atmosphere, namely making a product that is worked on in groups. the five learning evaluators, educators as objective and comprehensive assessors. In project-based learning, educators assess each student's activities including making projects, reports, presentations and resulting products objectively and comprehensively.

The implication of this research is that it can support the quality of education in Indonesia and can promote project-based learning. Apart from that, this research can be used as a reference and benchmark in implementing the project-based learning model.

CONCLUSION

Based on the results of research carried out in the VA class of State Elementary School 131/IV Jambi City, it was concluded that there were two findings in the implementation of project-based learning, namely learning planning and learning implementation. Project-based learning planning, namely, determining themes, sub-themes and basic competencies as well as project-based learning skills and activity design. The implementation of learning, namely in lessons 1, 2 and 3, resulted in very meaningful learning outcomes for students. Furthermore, from the results of observations and interviews conducted by researchers, it can be concluded that the implementation of project-based learning (Project Based Learning) in the classroom has been implemented in the VA class of State Elementary School 131/IV Jambi City, this can be seen during the teaching and learning process where educators are able to apply project-based learning syntax even though there are still shortcomings in its application. Researchers see that with the use of project-based learning used by educators, students become more active and more focused on learning which can be proven when educators ask several questions regarding the material presented during reflection and evaluation. Students are able to answer the questions given. Students also dare to ask educators about learning materials and the steps for creating a product. Students are also more confident in making presentations in front of the class with group members.

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REFERENCES

- Darmadi, H. (2015). Tugas, peran, kompetensi, dan tanggung jawab menjadi guru profesional. *Edukasi: Jurnal Pendidikan*, 13(2), 161-174.
- Farid, M., & Pramukantoro, J. A. (2013). Pengaruh penerapan pembelajaran berbasis proyek terhadap hasil belajar siswa pada standar kompetensi menerapkan dasar-dasar teknik digital di SMKN 2 Surabaya. *Jurnal Pendidikan Teknik Elektro*, 2(2), 737-743.
- Fujiawati, F. S. (2016). Pemahaman konsep kurikulum dan pembelajaran dengan peta konsep bagi mahasiswa pendidikan seni. *JPKS (Jurnal Pendidikan dan Kajian Seni)*, 1(1).

- Ikhwan, A. (2015). Teori Dasar Metode Studi Islam. *At-Tasyrih: jurnal pendidikan dan hukum Islam*, 1(1), 82-110.
- Kholis, N. (2014). Paradigma Pendidikan Islam Dalam Undang-undang Sisdiknas 2003. *Jurnal Kependidikan*, 2(1), 71-85.
- Mulyadi, E. (2015). Penerapan model project based learning untuk meningkatkan kinerja dan prestasi belajar Fisika siswa SMK. *Jurnal pendidikan teknologi dan kejuruan*, 22(4), 385-395.
- Nuraeni, L. (2015). Pemerolehan morfologi (verba) pada anak usia 3, 4 dan 5 tahun (suatu kajian neuro psikolinguistik). *Tunas Siliwangi: Jurnal Program Studi Pendidikan Guru PAUD STKIP Siliwangi Bandung*, 1(1), 13-30.
- Rajabi, M., Ekohariadi, E., & Buditjahjanto, I. (2015). Pengembangan perangkat pembelajaran instalasi sistem Operasi dengan model pembelajaran berbasis proyek. *Jurnal Pendidikan Vokasi UNESA*, 3(01), 247005.
- Saptono, Y. J. (2016). Motivasi dan keberhasilan belajar siswa. *REGULA FIDEI: Jurnal Pendidikan Agama Kristen*, 1(1), 181-204.
- Shobirin, Ma'as. 2016. *Konsep Dan Implementasi Kurikulum 2013 Di Sekolah Dasar*. Yogyakarta: Deepublish.
- Umi, U. (2015). Penerapan pendekatan saintifik melalui model project based learning untuk meningkatkan ketrampilan proses dan hasil belajar siswa kelas IV SD negeri seworan, Wonosegoro. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 5(1), 24-38.
- Winarso, W. (2014). Membangun kemampuan berfikir matematika tingkat tinggi melalui pendekatan induktif, deduktif dan induktif-deduktif dalam pembelajaran matematika. *EduMa: Mathematics education learning and teaching*, 3(2).
- Zahro, I. F. (2015). Penilaian dalam pembelajaran anak usia dini. *Tunas Siliwangi: Jurnal Program Studi Pendidikan Guru PAUD STKIP Siliwangi Bandung*, 1(1), 92-111.