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The Influence of the Project Based Learning Model using Video on the Creativity Thinking Ability and IPAS Learning Outcomes for Elementary School Students

Siti Aminah[1], Nur Aini Dwi Setyowati[2]
[1] Faculty of Teaching and Education, Postgraduate, Universitas Terbuka, Jakarta, Indonesia
[2]College of Local Administration, Khon Kaen University, Muang District, Khon Kaen 40002,Thailand

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ABSTRACT

This research aims to analyze the significant differences in the Project Based Learning model with the use of videos and conventional learning in terms of creative thinking abilities and student learning outcomes, as well as analyzing the significant differences in increasing creative thinking abilities and students' science learning outcomes before and after being treated with the Project Based Learning model with use of video. The research method uses a quantitative type of experiment, Quasi Experimental Nonequivalent Control Group Design Pretest-Posttest. The research population was all students in class V (five) at Al Ikhlas Islamic Elementary School, Cipete, totaling 109 students. The results of the research show that there are significant differences in creative thinking abilities and student learning outcomes between those using the Project Based Learning model and those using videos using conventional learning. There was a significant increase in students' creative thinking abilities and IPAS learning outcomes after being treated with the application of the Project Based Learning model using different videos before being treated with the application of the Project Based Learning model using videos. In general, there is a positive and significant effect (2 tailed) 0.002 < 0.05 of the application of the Project Based Learning model with the use of videos on the creative thinking abilities and science learning outcomes of elementary school students.

Corresponding Author:

Siti Aminah
Faculty of Teaching and Education, Postgraduate, Universitas Terbuka, Jakarta, Indonesia
Jl. General Ahmad Yani No.43, RT.5/RW.4, Utan Kayu Selatan, Matraman, East Jakarta, Special Capital Region of Jakarta 13230
Email: siti.aminah710115@gmail.com

1. INTRODUCTION

Education is crucial for human life, as it allows individuals to reach their full potential. (Anasli, 2017). Education is very important for anyone who wants to train and develop their potential. By growing and developing, every individual can have creativity, broader knowledge, a good personality and become a responsible person. Education helps people reach their full potential so they can live better lives. Educated people are better able to make good decisions and gain knowledge about the world around them (Widoyo, 2023).

Indonesia is a country rich in culture and local wisdom. Through IPAS, students are expected to explore the wealth of local wisdom related to IPAS, including using it in solving problems. Considering that elementary

school age children still see things as they are, whole and integrated and in the concrete or simple, holistic, comprehensive and non-detailed thinking stage, learning in elementary schools needs to provide opportunities for students to carry out exploration and investigation as well as develop an understanding of the surrounding environment. Therefore, at this stage studying natural phenomena and human interactions with nature and between humans is very important (K. d. Standards Agency, 2022).

Learning is said to be successful when someone is able to repeat the material they have studied, then such learning is called "rote learning", then if it has been learned it can be conveyed and expressed in one's own language, it is called "over learning". Bloom, 2017 (Septian, 2020), explains that learning outcomes are changes in behavior that involve three domains, namely cognitive, affective and psychomotor. The cognitive domain includes learning objectives related to knowledge and intellectual development and skills. The affective domain includes learning objectives that explain changes in attitudes, interests and values. The psychomotor domain includes behavioral changes that indicate the student has learned certain physical manipulation skills.

There are several basic criteria for evaluating learning outcomes. 21st century learning is based on 4C, namely: 1) Creative Thinking, meaning that learning is a situation where students are creative and the teacher acts as a facilitator; 2) Critical Thinking, meaning that learning is a process that allows students to think critically by connecting contextual problems with what happens in everyday life; 3) Communicative (communication), meaning that teachers and students learn in many ways, then the teacher gives students the opportunity to express ideas through communication from their experiences; 4) Collaborative, meaning that learning is a process of creating conditions where students can learn together or in groups (Amri, at.el 2022)

Students who think creatively have a creative way of thinking, understand more, their learning outcomes are also maximized, and they can think differently. In other words, students who have creative thinking abilities have higher thinking patterns and understanding abilities compared to students who do not have creative thinking abilities. A student who thinks creatively can find ideas and solve problems, so creative thinking skills are very necessary in the learning process (Adiilah, at.el 2023). The ability to think creatively allows someone to create something new and different from previous findings, whether in the form of ideas or real work (Noviyana, 2017).

Based on the results of initial observations on 20 October 2023 conducted by researchers on students in class V (Five) semester 1 of the 2023/2024 Academic Year at Al Ikhlas Cipete Islamic Elementary School, it was found that there were still low creative thinking abilities and the results of interviews with teachers who taught class V (five) that students' science and science learning outcomes are below the KKM. This is proven by the document of the assessment results obtained by students in the "less creative" category for creative thinking abilities and the results of the written test, the average value of science and science learning outcomes is 68 below the Minimum Completeness Criteria (KKM), while the KKM for science and science subjects is 75. Assessments are carried out to determine students' mastery of predetermined learning outcomes (Julaeha, at.el 2016). Hanna, 1993 (Suryanto, 2009), has explained that assessment is an activity to collect information about student learning outcomes from various types of assignments. This information is then processed to assess student learning outcomes and development.

Based on the findings above, it is believed that to overcome these problems, the application of the Project Based Learning model using video media is able to develop students' creative thinking abilities and IPAS learning outcomes. Sugiyanto (2008), stated that many learning models have been developed by experts to optimize student learning outcomes. These models reflect different approaches and strategies that can be used to achieve learning goals. As an educator, a deep understanding of various learning models is essential to choose the most effective method based on student needs and characteristics.

The Project Based Learning (*PjBL*) model can be used when educators want to create active, student-centred learning where students have a more interesting learning experience and produce work based on real (contextual) problems that occur in everyday life. The PjBL model can also be used when educators want to place more emphasis on science skills, namely observing activities, using materials, interpreting, planning projects, applying concepts, asking questions and communicating well. Project Based Learning focuses on the main concepts and principles of a discipline, involves students in problem solving activities and other meaningful tasks, and provides opportunities for students to work autonomously to construct their own learning. This is different from traditional or conventional learning models which are generally characterized by short duration, isolated or freelance classroom practices, and teacher-centred learning activities. According to (Fahrudin, at.el 2021), conventional learning has characteristics, namely: First, students do not know the purpose of their study that day. Second, teachers usually teach based on books. Third, tests or evaluations are usually summative in nature with the aim of knowing student progress.

Entering the 21st century, many changes occur, information exchange takes place quickly, without being hindered by the dimensions of space and time. Every student in the modern era is anticipated to possess critical thinking skills, problem-solving abilities, creativity, innovation, communication, collaboration, as well as information and media skills essential for present and future learning (Dasna, 2019). This era of technological progress entails that teachers must enhance their skills by incorporating new competencies, such as utilizing modern technology in education. This will enable them to leverage technology effectively as a means to inspire

students in reaching their educational objectives. One effective method to overcome boredom during learning is to incorporate technology as a learning resource in digital format, offering a fresh and engaging approach that allows for increased efficiency and flexibility (Aslamiah at el, 2020 in Wibowo, at. el 2023).

The application of learning media has urgency in improving the quality of learning. learning process, so it is hoped that it will influence improving learning outcomes (Batubara, 2020). Apart from the effectiveness of using learning models and media, another factor that can influence students' creative thinking abilities and science learning outcomes is the performance of the teacher himself. The role of the teacher as a facilitator in education carried out formally in educational institutions such as schools has a very large role and influence in achieving learning goals and student learning success (Fauzi, at el 2022). According to Hikmawati, et. el 2021 (Dharma, at. el 2024) the use of YouTube videos in class is very helpful for the learning process; Not only does it come from books, YouTube can also help the internet generation who are familiar with various sources of information to better understand learning material. The application of YouTube video-based learning media can inspire children to be creative and develop their creative skills. Interesting and innovative educational videos can make learning more visual and challenging, and also provide practical solutions to support classroom creative initiatives and understand living things in their environment and cultural diversity.

2. METHOD

The research method used is a quantitative approach of the Quasi Experimental Nonequivalent Control Group Design type. Quasi Experimental Nonequivalent Control Group Design is almost the same as Pretest-Posttest Control Group Design, only in this design the experimental group and control group are not chosen randomly (Sugiyono, 2013). The effect of treatment was obtained by comparing the difference between the pretest and posttest in the experimental class (O1 – O2) and the difference between the pretest and posttest in the control class (O3 – O4). The research method used is a quantitative approach of the Quasi Experimental Nonequivalent Control Group Design type.

Table 1. Research Design *Nonequivalent Control Group*

Class	Pretest	Treatment	Posttest
Experiment	O1	X	O2
Control	O3		O4

Sumber: Sugiyono, (2008:79)

Information
O1 = Initial test before treatment in the experimental class
O2 = Final test after treatment in the experimental class
O3 = Initial test in the control class
O4 = Final test in the control class
X = Treatment in the form of a Project Based Learning model using video

This research was carried out from September 2023 to February 2024. The population in this research was class fifth grade students at Al Ikhlas Islamic Elementary School, Cipete, Cilandak District, South Jakarta, Academic Year 2023/2024 has 109 students. Sampling was carried out using purposive sampling. After considering certain characteristics, the classes that became the research sample were class VA as an experimental group with 27 students and class VB as a control group with 28 students. Data collection techniques using interviews, observation, documentation, multiple choice tests and questionnaires. The validity and reliability of the research instrument prerequisites were tested with the help of the SPSS program.

The collected research data was then analyzed using descriptive analysis as a description of the research object. The results of descriptive statistical analysis include mode, mean, standard deviation, maximum and minimum values. The next step is to carry out normality and homogeneity tests. The results of normality testing using the Kolmogorov-Smirnov Tests of Normality have a significance value of > 0.05, the experimental class is 0.056 and the control class is 0.006, indicating that the variable data is normally distributed. The homogeneity test was carried out to find out whether the samples used in the research had the same variance. If both groups have the same two variants, then the group is declared homogeneous. The results of the homogeneity test obtained a significance value of 0.632 > 0.05, so the variable data was declared homogeneous. Next, the researcher tested the hypothesis using the t-test (t-test) and the normalized gain test (N-Gain). This test was carried out to show the difference in average pretest and posttest scores so that an increase in creative thinking abilities and student learning outcomes could be seen.

3. RESULTS AND DISCUSSION

3.1. Description of Research Results

3.1.1. Pretest Posttest Analysis of Subjects IPAS

The results of the analysis show that the average pretest and posttest scores for the subject IPAS on Living Creatures and their Environment and Cultural Diversity are used to measure creative thinking abilities and student learning outcomes. Can be seen in the table below:

Table 2. Descriptive Research Statistics

Class	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Experiment	27	50.00	85.00	67.0370	10.94209
Posttest Experiment	27	60.00	100.00	83.1481	11.27865
Pretest Control	28	50.00	90.00	64.2857	10.94720
Posttest Control	28	60.00	100.00	73.5714	11.04344
Valid N	27				

Based on the table above, it is known that the experimental class has an average pretest score of 67.04; minimum score 50; maximum value 85; standard deviation 10.94. Meanwhile, the average posttest score for the experimental class was 83.15; minimum score 60; maximum value 100; standard deviation 11.27. The control class had an average pretest score of 64.29; minimum score 50; maximum value 90; standard deviation 10.94. Meanwhile the average posttest score was 73.57; minimum score 60; maximum value 100; standard deviation 11.04.

3.1.2. Analysis of N Gain Score Results

Descriptive analysis of the N Gain Score results can be seen in the table below:

Table 3. Descriptive N Gain Score Data

Descriptive Analysis	Experiment Class	Control Class
Mean	44.8310	30.3515
Median	33.3333	25.0000
Minimum	-25	.00
Maximum	100.00	100.00
Standard Deviation	35.06505	19.31652
Variant	1229.558	373.128

Based on the table above, it can be seen that the N Gain Score results for science learning outcomes in the experimental class have an average of 0.44 or 44%; median 0.33; minimum score 0.25; maximum score 1.00; standard deviation 0.35; and variance 0.122. The control class has an average of 0.30 or 30%; median 0.25; minimum score 0.00; maximum score 1.00; standard deviation 0.19 and variance 0.37.

3.1.3. Data from Questionnaire Results on Students' Creative Thinking Ability

Questionnaires were given to students after the IPAS learning process in the experimental class totaling 27 students and the control class totaling 28 students with 8 statements from 4 indicators. The results of the questionnaire analysis to measure students' creative thinking abilities are as follows:

Table 4. Descriptive Statistics of Student Questionnaires

Class	N	Mean	Std. Deviation	Std. Error Mean
Experiment	27	24.1481	4.52092	.87005
Control	28	22.7500	3.27307	.61855

Based on the table above, the questionnaire in the experimental class has an average score of 24.14; standard deviation 4.52. Meanwhile, the control class had an average score of 22.75 with a standard deviation of 3.27. The student questionnaire uses a Likert scale model.

3.2. Discussion

Researchers conducted a preliminary study at Al Ikhlas Cipete Islamic Elementary School to obtain initial research data. There are low creative thinking abilities and outcomes learning IPAS for class V students. This research aims to compare Project Based Learning model learning with the use of videos in terms of creative thinking abilities and student learning outcomes in subjects IPAS for elementary school students. Researchers chose two groups in class V (five) of elementary school. One group was selected as the experimental group which received treatment in the form of Project Based Learning model using videos for 27 students. Another group was chosen as a control group which received regular or conventional learning without electronic media as many as 28 students. The learning process IPAS of each group is measured by their creative thinking abilities and learning outcomes by being given a pretest or test before learning and a posttest or test after learning on subjects IPAS regarding living things and their environment and cultural diversity.

There are differences in students' creative thinking abilities between the experimental class which uses the Project Based Learning model with the use of video and the control class which uses conventional learning. The creative thinking abilities of students in classes that use the Project Based Learning model with the use of video differ significantly by 0.047 < 0.05 from students who take conventional learning. Based on the average score of students who took part in the Project Based Learning model using video, it was 83.15, superior to students who took part in conventional learning, the average score was 73.57. The creative thinking abilities of students in classes that use the Project Based Learning model with the use of video are significantly different from students who take part in conventional learning. Based on the average questionnaire score of students who took part in the Project Based Learning model using video, it was 24.15, better than students who took conventional learning, the average score was 22.75. Based on the average results of the N Gain Score test in the experimental class which used the Project Based Learning model with the use of video, it got a score of 0.44, which is in the medium category, and the control class without electronic media got a score of 0.30, which is in the low category. The effectiveness category of the Project Based Learning model with video utilization of 0.16310 or 60% is in the quite effective category.

Thus, learning using the Project Based Learning model with the use of video is better than conventional learning, as can be seen from the large increase that occurs in statistical test results. The experimental class that used the Project Based Learning model with the use of video obtained an average score of 83.15; The questionnaire score is 24.15 and the normalized gain calculation score is 0.44, which is included in the medium category. The control class that used conventional learning obtained a test result of 73.57; The questionnaire score was 22.75 and the N Gain score was 0.30, which was included in the low category, as proven by the research results.

Student learning outcomes are different between the experimental class which uses the Project Based Learning model and the use of videos from the control class which uses conventional learning. The test results show that the learning outcomes of class students who use the Project Based Learning model with the use of video are significantly different from students who receive conventional learning, namely 0.002 < 0.05. Based on the average outcomes learning IPAS, it can be seen that students who took part in the Project Based Learning model using video obtained a score of 83.15 which was superior to students who took part in conventional learning with an average score of 73.57.

According to Asrori (2020), creative thinking can be defined as the act of generating new ideas or thoughts. New ideas emerge from the combination of old ideas and ideas that have not yet emerged. This can be done by combining other people's ideas to stimulate the emergence of ideas in the aspects of flexibility, flexibility, originality and detail or elaboration. Creative thinking is the ability to create new ideas and is an ability that comes from the cognitive aspect of students. Creative thinking is a thinking skill to produce new ideas, useful ideas and alternative ideas that can be used to solve problems (Abidin, Y, 2016).

There was a difference in the increase in students' creative thinking abilities in the experimental class before and after treatment using the Project Based Learning model with the use of videos. The results of the hypothesis test show that after treatment using the Project Based Learning model with the use of video media there is a significant difference in creative thinking abilities 0.001 < 0.05. The ability to think creatively was better after being treated with the Project Based Learning model using video media, with an average score of 83.15, including the "Creative" criteria, compared to students' creative thinking ability before being treated with the Project Based Learning model using video media, which obtained an average score of - an average of 67.04 is included in the "Quite Creative" criteria.

The problem of lack of creativity in learning, students are less able to create good Pancasila Student Profile class creations, lack the courage to choose and use various kinds of creations, most students prefer to buy sketches, are less creative in completing other assignments, and students lack the ability to express ideas, opinions or idea. After utilizing YouTube video learning media using cellphones or laptops to find varied class creations, students' creative thinking abilities increased in making better Pancasila Student Profile class creations in class V. The characteristics of the Pancasila Student Profile in the independent curriculum are: 1) Faithful & Pious, 2) Global Diversity, 3) Mutual Cooperation, 4) Independent, 5) Critical Reasoning, 6) Creative, in the aspects of fluency, flexibility, originality and elaboration. The improvements can be seen in the image below:

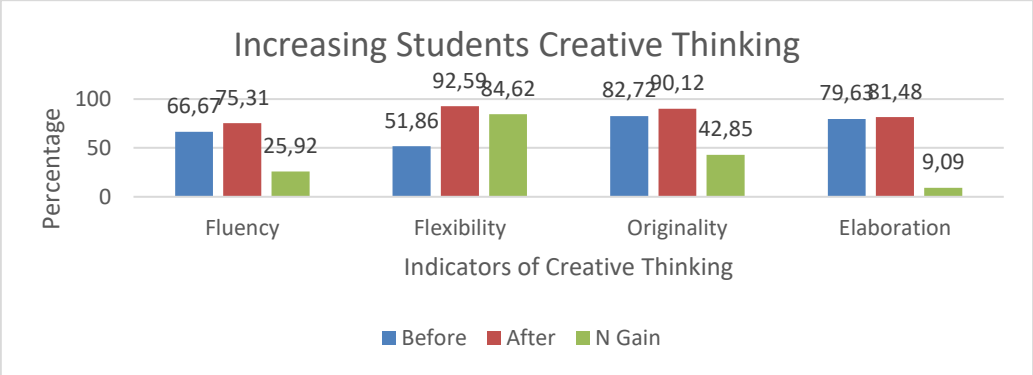

Figure 1. Improving Each Aspect of Creative Thinking Ability

Based on Figure 1, from the four aspects of creative thinking ability, before being treated, the percentage was 70.22%, including the "Quite Creative" criteria, and after being treated, the average percentage was 84.88, including the "Creative" criteria and N Gain 40. 62% in the "Medium" category, detailed thinking (Elaboration) got the lowest score. This shows that there are still many students who are not able to respond seriously to questions that express thoughts, opinions or ideas in an activity or project.

Learning outcomes are changes in student behavior that can be seen and measured in terms of knowledge, attitudes and abilities (Laili, at.el 2024). IPAS education will contribute to the implementation of the Pancasila Student Profile as the ideals of Indonesian students. IPAS helps students increase their interest in situations that affect them. This curiosity drives students to understand how the world works and interact with human life on Earth. This understanding can be used to identify the various problems we face and find solutions to achieve sustainable development goals. The basic principles of the scientific method in IPAS learning will train scientific attitudes (high curiosity, critical and analytical thinking skills and the ability to draw appropriate conclusions) to understand students (K…. Standards Agency, 2022).

There is a difference in the increase in students' IPAS learning outcomes in the experimental class between before and after being treated with the Project Based Learning model using video media. The results of the analysis show that the average value of students' IPAS learning outcomes after being given significant treatment is more than 75, namely 83.15. The average value of students' science learning outcomes is higher, different from before being treated with an average value of 67.04. This shows that there are still many students who are not able to understand material about living things and their environment and cultural diversity, most students still have low cognitive abilities, there are 20 students or 74.07% who have not completed it and 7 students or 25.93% who have completed it. The science and science learning results of elementary school students before being treated with the Project Based Learning model using video media had an average score of 67.04, still below the Minimum Completeness Criteria (KKM).

After students were given the Project Based Learning model treatment using YouTube video learning media, the results showed that students' IPAS learning outcomes had improved. Students can understand and master the material of living things in their environment and cultural diversity. The average score of the 27 students was 83.15, 23 students or 85.19% completed and 4 students or 14.81% did not complete, this shows an increase in students' science learning outcomes from the previous ones to now being better or increasing. Based on the Minimum Completion Criteria, more than 75 have been achieved in the "Very Satisfactory" or "With Commendations" category. The increase in the completeness of IPAS learning outcomes can be seen in the picture below:

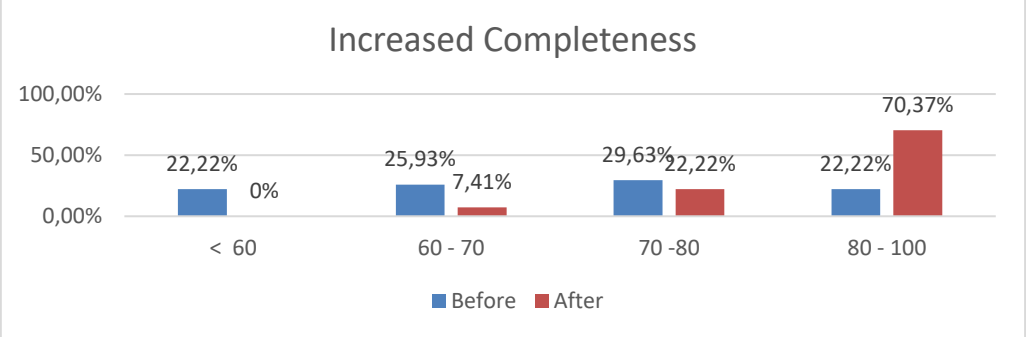

Figure 2. Increasing the Completeness of IPAS Learning Outcomes for Experimental Class Elementary School

Students

Based on Figure 2, the increase in mastery of IPAS learning outcomes from 27 students is: The pretest score obtained a score of less than 60 as many as 6 students or 22.22%, obtained a score of 60-70 as many as 7 students or 25.93%, obtained a score of 70-80 as many as 8 students or 29.63%, 6 students or 22.22% got a score of 80-100. Meanwhile, in the posttest score, no one got a score less than 60, 2 students got a score of 60-70 or 7.41%, 6 students got a score of 70-80 or 22.22%, and 19 students got a score of 80-100. or 70.37%. So it is stated that the students' IPAS learning results have reached the Minimum Completeness Criteria (KKM).

Project-Based Learning is a strategy that can improve various competencies such as academic achievement, level of thinking, critical thinking, problem solving abilities, creativity, independence, as well as providing the ability to see situations from a better perspective. It also offers a deeper understanding of learning, a more positive attitude towards studies, supportive relationships between peers, flexibility in communication, and motivation to learn (R. Mursid, at.el 2022). Videos can be used as a fun and interactive medium to introduce concepts, present material, and demonstrate craft steps as part of the learning process. This can help increase children's creativity in making handicrafts, because they can see and follow instructions intuitively. Apart from that, learning videos can be accessed anytime and anywhere, so that children can learn independently and flexibly (Dharma, at.el 2024).

This is done to show the difference in average pretest and posttest scores so that it can be seen that there is an increase in creative thinking abilities and student learning outcomes.

4. CONCLUSION

Based on the research results, it can be concluded that the Project Based Learning model using video is better than conventional learning in terms of creative thinking abilities and student learning outcomes. Increased creative thinking abilities and higher IPAS learning outcomes for students after being treated using the Project Based Learning model with the use of videos is different from before being treated with the *PjBl* model. In general, the Project Based Learning model using video has a positive and significant effect on the creative thinking abilities and IPAS learning outcomes of fifth grade students at Al Ikhlas Cipete Islamic Elementary School, Semester 1 Academic Year 2023/2024. Students should utilize YouTube video learning media at PjBL because it allows students to acquire 21st century skills and improve student learning outcomes.

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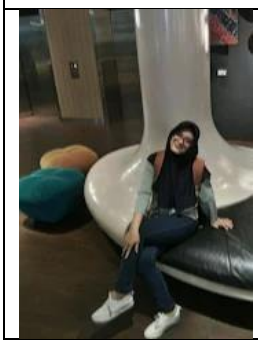
BIOGRAPHIES OF AUTHORS

	**Siti Aminah** is a Permanent Foundation Employee (PTY) and educator at the Assa,adah West Cilandak Foundation, South Jakarta and an Equal Education Tutor (Pursue Packages A, B and C) at the Bina Insan Madani Foundation Cinangka Sawangan Depok. Graduated with a Bachelor's degree in Primary School Teacher Education (PGSD) from the Open University, Jakarta and continued his postgraduate studies in the basic education study program or Master of Basic Education (MPDr) at the Open University, Jakarta. He has a passion for improving the quality of 21st century teaching and learning as well as student development in schools and in non-school educational environments. Siti Aminah's research interests lie in student skills in the 21st century, learning outcomes, teacher performance and school-based assessment. She can be contacted at email: siti.aminah710115@gmail.com ,
	**Nur Aini Dwi Setyowati** is a student at the College of Local Administration, Khon Kaen University, with a strong background in application development. Her research and projects include the Laravel Framework-Based Parenting Application, the Development of CodeIgniter-Based E-Office Applications, and the Android-Based Internal Quality Audit Application Development. She is passionate about leveraging technology to create practical and efficient software solutions. She can be reached at ainidwis75@gmail.com.