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IMPLEMENTATION OF E-FLIPBOOK LEARNING MEDIA ON NATURAL AND SOCIAL SCIENCES' LEARNING OUTCOMES AT FOURTH-GRADE ELEMENTARY STUDENTS

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IMPLEMENTASI MEDIA PEMBELAJARAN E-FLIP BOOK TERHADAP HASIL BELAJAR IPAS DI KELAS IV SISWA SEKOLAH DASAR

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ABSTRACT

Abstract: *This paper discusses the implementation of E-Flip Book learning media through the Problem-Based Learning model on learning outcomes of Natural and Social Sciences (IPAS) for fourth-grade elementary students. The research was conducted on 24 fourth-grade students at SD Negeri Bantarjati 9 North Bogor in Bogor in the odd semester of the Academic Year 2022/2023. The research design was Classroom Action Research (PTK), which was carried out through four stages; planning, implementing, observing, and reflecting. The research consisted of the first cycle and second cycle. Data analysis techniques used descriptive statistical analysis to describe data that are related to the teacher's and students' activity observation. The research results indicate in the pre-cycle students who achieved complete criteria were 14% and those who did not complete were 86%. In addition, in cycle I it implies that students who obtained complete criteria were 45% and those who did not complete were 55%. In cycle II, the students who achieved the criteria of completion were 88% and those who did not complete were 13%. Thus, the implementation of the E-Flip Book learning media through the Problem-Based Learning model reveals a significant improvement and success to increase students' learning outcomes at a percentage of 74%.*

Keywords: e-flip book, problem-based learning, natural and social science (IPAS)

Abstrak: Artikel ini membahas implementasi media pembelajaran *E-Flip Book* melalui model pembelajaran *Problem Based Learning* terhadap hasil belajar Ilmu Pengetahuan Alam dan Sosial (IPAS) pada peserta didik kelas IV sekolah dasar. Penelitian dilaksanakan pada peserta didik kelas IV SD Negeri Bantarjati 9 Bogor Utara, Kota Bogor, pada semester ganjil Tahun Ajaran 2022/2023, dengan jumlah peserta didik 24 orang. Desain penelitian pada penelitian menggunakan Penelitian Tindakan Kelas (PTK) yang dilakukan melalui empat tahap, perencanaan, pelaksanaan, pengamatan, dan refleksi. Penelitian terdiri dari siklus pertama dan siklus kedua. Teknik analisis data menggunakan analisis statistis deskriptif untuk mendeskripsikan data-data yang berkaitan dengan aktifitas guru dan peserta didik yang diamati. Hasil penelitian menunjukkan pada pra siklus peserta didik yang memeperoleh nilai dengan kriteria tuntas sebesar 14% dan yang tidak tuntas sebesar 86%. Selanjutnya, pada siklus I menunjukkan peserta didik yang memeperoleh nilai dengan kriteria tuntas sebesar 45% dan yang tidak tuntas sebesar 55%, kemudian pada siklus II peserta didik yang memperoleh nilai dengan kriteria tuntas sebesar 88% dan yang tidak tuntas sebesar 13%. Dengan demikian, implementasi media pembelajaran *E-Flip Book* melalui model pembelajaran *Problem Based Learning* menunjukkan peningkatan yang signifikan dan berhasil dalam meningkatkan hasil belajar peserta didik sebesar 74%.

Kata Kunci: e-flip book, problem-based learning, ilmu pengetahuan alam dan sosial (IPAS)

CITATION

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INTRODUCTION

The issuance of the Decree of the Minister of Education, Culture, Research and Technology of the Republic of Indonesia Number 56/M/2022 concerning Guidelines for Curriculum Implementation in the Context of Recovery, Learning, and Development (Daga, 2020) as a form of full support for curriculum improvement in Indonesia to realize an advanced Indonesia, sovereign, independent, and have personality through the creation of Pancasila students who think critically, creatively, independently, have faith, fear God Almighty, and have a noble character, work together and have global diversity through the implementation of the Independent Curriculum (Zainuri, 2022). The independent learning curriculum is a program launched by the Minister of Education and Culture, which is regulated in *Permendikbudristek* Number 5 of 2022 concerning guidelines for curriculum implementation in the context of learning recovery, also related to learning outcomes at the basic education level (Zainuri, Yunita, Ibrahim, Zulfi, & Mulyadi, 2023).

The independent curriculum has various intra-curricular learning where the content will be more optimal, giving students enough time to explore concepts and strengthen competence. Teachers can choose various teaching tools so that learning can be adapted to students' learning needs and interests. Projects to strengthen the achievement of Pancasila student profiles are developed based on specific themes set by the government. The project is not directed to achieve specific learning achievement targets, so it is not tied to subject content (Kemendikbud, 2022). In addition, the independent curriculum is also interpreted as a learning design that provides opportunities for students to learn in a calm, relaxed, enjoyable, stress-free, and pressure-free way to show their natural talents and focus on freedom and creative thinking (Rahayu, Rosita, Rahayuningsih, Hernawan, & Prihantini, 2022). One of the characteristics of the independent curriculum is that it combines Natural Sciences (IPA) and Social Sciences (IPS) subjects into Natural and Social Sciences (IPAS) subjects at the elementary school level. These subjects merge because elementary school-age children tend to see everything as a whole and integrated. They are still in the concrete/simple, holistic, and comprehensive thinking stage, but not in detail. The combination of science and social studies lessons will trigger children to be able to manage the natural and social environment in one unit (Kemendikbud, 2022).

Over the past decades, Natural and Social Sciences education has significantly evolved following societal demands, educational system requirements, and new educational approaches that have emerged. In addition to the teacher himself and the educational resources used in the classroom, the latter plays an essential role in the learning process and teaching strategies to achieve specific goals. Today, it is widely accepted that learner-centered and active learning strategies (for example, inquiry-based learning, problem- and project-based learning, or cooperative learning, and others) are essential for engaging learners in building deep scientific understanding and developing inquiry skills (Arends, 2011). In such an active learning community, teachers need to select and use practical, accurate tools and materials that can support learners' thinking in ways that are different from traditional classrooms (Corrochano, Gómez-Gonçalves, Sánchez-Barbero, & Martín-Pastor, 2019).

The breadth of learning material IPAS and the tendency to memorize material have an impact on students who are lazy to study and do not do their assignments well. This is a problem of the need for more attention to student learning styles during the learning process. The teacher's occasional use of

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instructional media also resulted in learning outcomes IPAS under the Minimum Completeness Criteria (KKM) (Astiti, Mahadewi, & Suarjana, 2021).

One strategy to improve IPAS results can use a problem-based learning model with the help of Flip Book learning media. The combination of problem-based learning models with the help of learning media such as Flip Books has various advantages, one of which is making learning more interactive, interesting and meaningful for students compared to using conventional media (Damayanti, Handoyo, & Suratno, 2022). Various kinds of research related to improving learning outcomes using problem-based learning models with the help of Flip Book learning media have been carried out by many academics, such as the research of Friska, Nurhalida, and Susilawati (2022) which examined the development of Science e-modules with six sub-themes two themes. animal-based problem-based learning life cycle material assisted by flipbook makers in grade IV of elementary school, this research was conducted using the ADDIE model and resulted that problem-based learning-based Flip Book learning media is challenging and feasible to apply to students because it can improve students' learning abilities. Further research was conducted by Hasbulloh, Arief, and Waspodo (2022) who examined the development of problem-based learning (PBL) Flip Book media in science learning at SDIT Ar-Rohmaniyah Bogor City, research using the Borg, Gall, and assurance development models. produce a proper and effective problem-based learning-based Flip Book media for use in fifth grade science subjects at SDIT Ar Rohmaniyah Bogor City. In contrast to previous research, the development of Flip Book media was also carried out by Sari and Ahmad (2021) who developed Flip Book learning media for social studies learning in grade IV Elementary Schools, the research was carried out using Research and Development (R&D) research. this design results in the development of Flip Book media that is feasible to apply in the learning process. However, from the abundant literature, there has been no research that discusses the application of problem-based learning models with the help of Flip Book learning media in improving IPAS learning outcomes for fourth grade students through classroom action research designs.

Based on the description above, this research is focused on analyzing the implementation of E-Flip Book learning media through the Problem-Based Learning model for Natural and Social Sciences (IPAS) learning outcomes, which are arranged in the form of questions, namely: How are student learning outcomes in the implementation of learning media E-Flip Book through the Problem-Based Learning model?

THEORITICAL FRAME WORK

Natural and Social Sciences (IPAS)

IPAS is a subject in the Merdeka curriculum structure. Science and Social Sciences (IPAS) is a field of knowledge that examines living organisms and inanimate objects in the universe and their interactions. It also studies human life as individuals and as social beings who interact with their environment (Nurhayati & Fairuz, 2023). IPAS is a new subject initiated by the Ministry of Education and Culture and is only available in the elementary school's Merdeka curriculum structure (Marwa, Usman, & Qodriani, 2023). The integration of science (IPA) and social studies (IPS) in primary schools is based on the decision of the head of BKSAP with reference number 033/H/KR/2022 regarding the learning outcomes of the IPAS subject due to the increasing challenges faced by humanity over time (Jannah & Setyawan, 2023). The integration is based on the consideration that primary school students tend to see everything as a whole and in an integrated manner. Additionally, they are still in the stage of concrete/simple, holistic, and comprehensive

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thinking, but not detailed (Purnawanto, 2022). The current problems are no longer the same as those faced a decade or even a century ago. Science and technology are continuously developed to address every challenge encountered. Therefore, the education system needs to adapt the Science and Social Sciences (IPAS) curriculum so that the younger generation can respond to and overcome the challenges they will face in the future (Adnyana & Yudaparmita, 2023). Thus, Science and Social Sciences in Elementary School is a subject aimed at providing students with an integrated learning experience that is connected to their daily lives and environment.

E-Flip Book

Flip Book is a program designed to create online and offline digital books (Prasakti & Purwatiningsih, 2022), where book pages can be opened and read on computer or smartphone screens (Ahmadi, 2019). Interactive means acting with each other, between relations, or mutually active. Based on this understanding, interactive learning media is a teaching delivery system where the presentation of the material is combined with elements of text, video, images, and graphics to sound with computer control. This makes students hear and see videos and provide active and engaging responses during learning (Fadillah, Nopitasari, & Bilda, 2021). Flip Book learning media is a type of computer software that can create animated displays to create interactive learning media for students. One of the advantages of Flip Book media is that it looks like a book when turning the pages, so it gives a more interesting impression. Flip Book is an interactive learning media because it can display multimedia illustrations. Therefore, looking at the effectiveness of Flip Book learning media needs to be done (E. Wibowo & Pratiwi, 2018), because Flip Book media can improve students' memory (Budiarti et al., 2022).

Flip Books differ from textbooks or ordinary books (M. H. Wibowo & Purnamasari, 2019). Flip Book will support student learning independence in developing analytical thinking skills because it is more accessible and more suitable for all-digital learning in the current era of society 5.0 (Susiaty, Oktaviana, & Firdaus, 2022). However, Flip Book also has advantages and disadvantages. The advantages of Flip Books, according to Simatupang, Purnama, and Simatupang (2020) are (1) In terms of prices, they are cheaper than ordinary book teaching materials, (2) Flip Books are also environmentally friendly, using Flip Books saves paper produced from trees, and it also saves ink because Flip Book does not use ink, (3) Flip Book is not damaged as long as it is not infected with a virus, (4) Flip Book is easy to carry and has a relatively small size. With gadget facilities that you already have, you can carry hundreds or even thousands of Flip Book teaching materials needed during the learning process inside and outside school. (5) Can save time and space. (6) The Flip Book delivery system is so fast that it can deliver Flip Books in minutes (Mardikaningsih & Kurniasari, 2018). Meanwhile, the weakness of Flip Book is that the information presented needs to get more attention from readers. Readers, of course, aim to get the desired information from the e-book and are not amazed by the multimedia effects of the e-book (Asmi & Surbakti, 2018).

E-Flip Book is a learning medium that packages books or teaching materials for digital-based students that can convey learning information interestingly and efficiently and is easy for anyone to use at any time.

METHOD

This study uses a qualitative approach with a Classroom Action Research research design (Kemmis, McTaggart, & Nixon, 2014). This classroom action research is a popular design that is widely used in research in the

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field of education (Edwards-Groves & Kemmis, 2016; Meesuk, Sramoon, & Wongrugsa, 2020; Vogelzang & Admiraal, 2017). Apart from these reasons, classroom action research allows researchers to find new efforts to make changes according to conditions and needs (Darwis, 2016).

This classroom action research was chosen because it offers a means for staff development, for developing teachers as professionals, and for addressing problems in education (Allen & Calhoun, 1998). The most distinctive aspect of this design is that improvements can be made by the problem solver (Bozkuş & Bayrak, 2019). Classroom Action research is a design that seeks to explore problems to find solutions (Creswell, 2015).

In addition, the action research design in this study is an attempt to understand self-practice to enable improvement in every action taken (Kemmis & McTaggart, 2005; Kemmis et al., 2014; McTaggart, 1994). Through action research, planning, implementation, and reflection at each step can occur (McTaggart, 2003). Therefore this study aims to analyze the implementation of E-Flip Book learning media through the Problem-Based Learning model on learning outcomes of Natural and Social Sciences (IPAS) at fourth-grade elementary school students through classroom action research designs.

This research was conducted on fourth-grade students at SD Negeri Bantarjati 9 North Bogor, Bogor City, West Java, in the odd semester of the 2022/2023 school year, with 24 students. The stages and procedures used in this study refer to the action research procedure reference proposed by Creswell (2015, pp. 1205-1209) dan Kemmis et al. (2014, p. 18). The stages of implementing classroom action research are as follows:

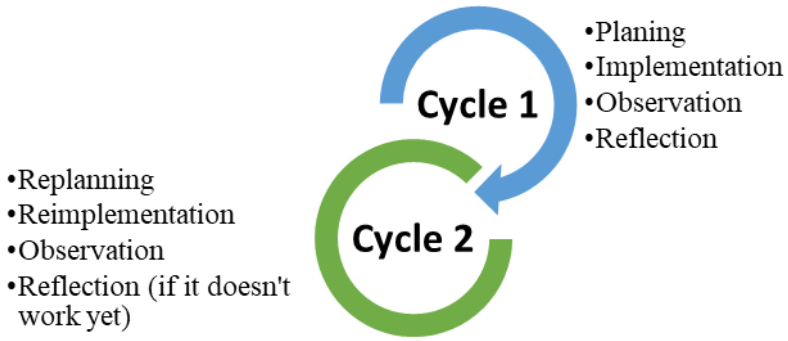

Figure 1. Class Action Research Procedures Kemmis et al. (2014)

This action planning activity has several stages, namely 1) a survey related to students' knowledge in IPAS, 2) Making E-Flip Book learning media, and 3) Developing Problem Based Learning tools. This action planning activity is intended to prepare for action based on field observations that have been made..

In giving action, the researcher provides IPAS by using E-Flip Book learning media based on the Problem Based Learning model. In the final stage of learning, an evaluation question is given to find out the achievement of student learning outcomes after being given an action using the E-Flip Book learning media based on the researcher's Problem Based Learning model.

At the observation stage, the researcher observed the students' characters and expressions when given the E-Flip Book learning media based on the Problem Based Learning model and observed the process of working on the evaluation given at the end of the lesson.

Reflection activity is a step to determine the success of the E-Flip Book

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learning media based on the Problem Based Learning model for student learning outcomes in IPAS learning. This reflection stage is carried out in 2 stages, namely 1) reflection on lesson planning and development of learning media and 2) reflection on student learning outcomes in IPAS learning. If the student's score is still not satisfactory, the action planning preparation must be re-planned for a new cycle. However, if the student's score is satisfactory, proceed to the analysis and reporting stage of the development of student learning outcomes.

The instruments used in the research consisted of test instruments, observation guidelines, and documentation guidelines. This test instrument only requires answers to multiple choice questions (Lestari & Yudhanegara, 2018).

In the data analysis stage, the calculation of the completeness of learning outcomes in this study uses the formula carried out by Aqib and Chotibuddin (2018):

$$P = \frac{\Sigma \text{ Students complete learning}}{\Sigma \text{ All students}} \text{ x } 100\%$$

In this research, the implementation of e-flip book learning media on the learning outcomes of IPAS in fourth-grade class is considered effective if the observation results show that students' learning abilities meet the learning mastery criteria, which is at least 80%.

RESULT AND DISCUSSION

Pre Cycle

This research is based on the results of observations at fourth-grade SD Negeri Bantarjati 9 North Bogor, where the researcher found several problem identifications, including the learning media provided were not by the learning styles of students and the teacher's teaching strategies were not by the needs and development of students so that it had an impact on the low score of students in the subject of Natural and Social Sciences (IPAS) is below the KKM (Minimum Completeness Criteria) score of 65 (sixty-five). The learning outcomes of students in the IPAS subject before applying the Problem-Based Learning (PBL) learning model using e-flip book learning media at fourth-grade SD Negeri Bantarjati 9 can be known at the first meeting when students are given ten pre-test questions. This Pre Test was conducted to determine students' level of understanding before the implementation of Cycle I and Cycle II. Students are given a test in the form of multiple choices. The pre-cycle results show the following results:

Table 1. Learning Outcomes Student in Pre Cycle

Data Type	Indicator of Success	Result of Actions			
		Number of Students	Percentage	Average	Counclucion
Learning outcomes	80% of students in the class successfully achieved the mastery criteria, which is above 65.	3 students completed from 24 students	14%	58,64	Success indicators have not been reached

The table above shows the achievement of student learning outcomes in the pre-cycle. The pre-cycle results indicate that only 3 out of 24 students, or only 14% of students, were able to obtain scores above 65 with a passing category. In this pre-cycle, the average score obtained was 58,64, so planning needs to be done for the learning in Cycle I.

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Cycle I

1. Planning

The first cycle begins with the planning stage. The things that were done at the planning stage of the cycle I were as follows: a) Prepare a lesson plan that will be implemented in the IPAS subject on Economic Activity material; b) Designing Economic Activity material into the E-Flip Book; c) Create learning scenarios for implementing e-flip books through problem-based learning models; d) Make a diagnostic assessment sheet; e) Make a performance assessment sheet; f) Make an individual assessment sheet in the form of an evaluation sheet.

2. Implementation

At the implementation stage, it begins with preliminary activities, including: a) opening the lesson by greeting and praying; b) asking for news and checking attendance; c) singing the obligatory national anthem; d) doing apperception; e) conveying learning objectives; f) conduct a pre-diagnostic assessment.

Then proceed to the core activities carried out in 5 stages. The first stage is an orientation which consists of a) students watching videos of economic activity problems; b) identifying economic activities through e-flip book media. The second stage is organizing, which consists of a) creating five groups; b) choosing a theme card of economic activity. The third stage is guiding, which consists of: a) providing opportunities for students to carry out discussions; b) solving the problem by attaching the card and writing the statement according to the scheme of economic activity; c) competing to complete the LKPD. The fourth stage is developing and presenting students' work by presenting the results of the schematic flow of economic activities in groups in front of the class. The fifth stage is analyzing and evaluating the problem-solving process, which consists of: a) summarizing the results of the understanding related to the discussions carried out; and b) appreciating the results of discussion activities.

At the final stage, the implementation ends with closing activities which consist of: a) concluding the material that has been studied; b) completing evaluation questions independently; c) teachers and students reflecting; and d) the teacher informs learning for the next meeting.

3. Observation

Observation activities in cycle I am aimed at researchers and students to assess the success of the learning process implemented by implementing e-flip book learning media to improve IPAS learning outcomes through problem-based learning models. To see the completeness of students in cycle I, at the end of the lesson, a formative test was held with 14 questions in multiple-choice form. The results of the cycle I was learning can be seen in the following table:

Table 2. Learning Outcomes Student in Cycle I

Data Type	Indicator of Success	Result of Actions			Counclucion
		Number of Students	Percentage	Average	
Learning outcomes	80% of students in the class successfully achieved the mastery criteria, which is above 65.	10 students completed from 24 students	45%	69,94	Success indicators have not been reached

The table above shows the achievement of student learning outcomes in Cycle I. The results of Cycle I indicate that only 10 out of 24 students, or only 45% of students, were able to obtain scores above 65 with a passing category. In Cycle I, the

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average score obtained was 69,94. In this cycle, the students' grades have generally improved compared to the pre-test results. However, based on the indicator of successful student learning outcomes, it is necessary to revise the planning for Cycle II in order to ensure that the students achieve the minimum 80% target for learning mastery.

4. Reflection

After the learning process in Cycle I was implemented, researchers and teacher observers discussed the results of observations to find weaknesses or deficiencies in Cycle I. The things that needed to be improved from Cycle I were as follows: a) researchers were still lacking in the mastery of the class due to low electricity conditions suddenly going out, so the class was not conducive; b) researchers are lacking in selecting members in each group; c) researchers are still unclear in explaining the material and learning objectives; d) still obtained student scores that have not been completed. Therefore, there are still results that have not been achieved, and they will be re-planned for cycle II.

Cycle II

1. Planning

The second cycle begins with the planning stage. The things that were done at the planning stage of cycle II were as follows: a) Prepare a lesson plan that will be implemented in the IPAS subject on the material Types of Functions of Money; b) Design material for Types of Money Functions into the E-Flip Book; c) Create learning scenarios for implementing e-flip books through problem-based learning models; d) Make a diagnostic assessment sheet; e) Make a performance assessment sheet; f) Make an individual assessment sheet in the form of an evaluation sheet.

2. Implementation

At the implementation stage, it begins with preliminary activities including: a) Open the lesson with greetings and prayer; b) asking news and check attendance; c) sing the obligatory national anthem; d) do apperception; e) convey learning objectives; f) conduct a pre-diagnostic assessment.

Then proceed to the core activities carried out in 5 stages. The first stage is the orientation which consists of a) students watching the video on the problem of the Types of Functions of Money; b) identifying economic activities through e-flip book media. The second stage is organizing by instructing students to make five groups. The third stage is guiding, which consists of: a) providing opportunities for students to carry out discussions to write, answer and determine the type of function of money in the picture; b) solving the problem by sticking the card and writing the description according to the scheme of the type of function of money. The fourth stage is developing and presenting students' work by presenting the results of discussions on the types of functions of money in groups in front of the class. The fifth stage is analyzing and evaluating the problem-solving process, which consists of: a) concluding the results of the understanding related to the discussions carried out; and b) appreciating the results of discussion activities.

At the final stage, the implementation ends with closing activities which consist of: a) concluding the material that has been studied; b) completing evaluation questions independently; c) teachers and students reflecting; and d) the teacher informs learning for the next meeting.

3. Observation

Observation activities in cycle II are aimed at researchers and students to assess the success of the learning process implemented by implementing e-flip book learning media to improve IPAS learning outcomes through problem-based learning models. To see the completeness of students in cycle II, at the end of the lesson, a formative test was held with 18 questions in multiple-choice form. The learning outcomes of cycle II can be seen in the following table:

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Table 3. Learning Outcomes Student in Cycle II

Data Type	Indicator of Success	Result of Actions			Counclucion
		Number of Students	Percentage	Average	
Learning outcomes	80% of students in the class successfully achieved the mastery criteria, which is above 65.	21 students completed from 24 students	88%	81,94	Indicators of success achieved

The table above shows the achievement of student learning outcomes in Cycle II. The results of Cycle II indicate that there are 21 out of 24 students, or 88% of students, who have successfully obtained scores above 65 with a passing category. In Cycle II, the average score obtained was 81.94. This indicates that the IPAS learning outcomes using e-flip book learning media through problem-based learning model have met the satisfactory criteria or can be considered successful.

4. Reflection

After the learning process in cycle II had been carried out, the results of learning IPAS with the help of e-flip book learning media through Problem-Based Learning had succeeded in achieving student learning completeness. However, 13% of students still did not complete the material. Thus, the results of the application of e-flip book learning media through Problem-Based Learning obtained responses from students as follows: a) The spirit of working together in solving a problem appears; b) There is activeness and joy in learning such as asking and responding; and c) Active discussion with colleagues.

Based on data acquisition from the pre-cycle, cycle I and cycle II, the development of students after receiving the treatment of implementing e-flip book learning media to improve IPAS learning outcomes through problem-based learning models, can be visualized as follows:

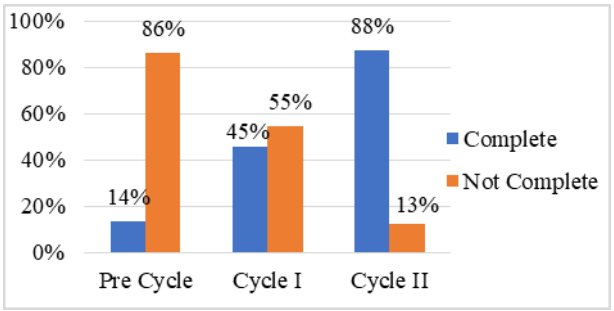

Figure 2. Percentage of Development of Student Learning Outcomes

The picture above shows that 14% of students completed and 86% did not complete the pre-cycle because they had yet to be given treatment. After being given treatment in cycle I, there was an increase in the number of students' completeness to 45%, and still, 55% of students did not complete it. Thus, given treatment again, the treatment results in cycle II showed an increase in the completeness of student learning outcomes to 88%, and there were still 13% of students who did not complete. This happens because students still

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need exceptional guidance from the teacher. The results of the increase based on the average can be seen in the following figure:

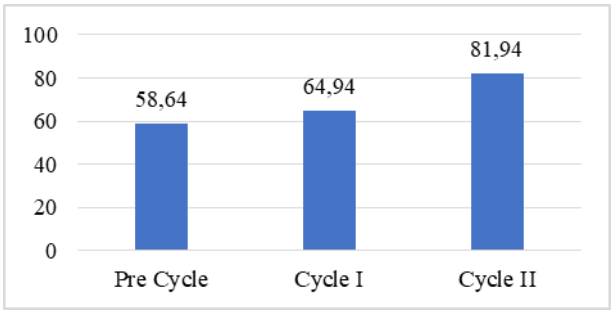

Figure 3. Development of Average Student Learning Outcomes

The picture above shows the average development of student learning outcomes in cycles I and II. In the pre-cycle, students only obtained an average of 57.64. In the first cycle, students experienced an increase by obtaining an average of 64.94, and a significant increase occurred in cycle II. Namely students obtained an average of 81.94%. This is proven that students are enthusiastic and enthusiastic when given the E-Flip Book as teaching material.

The application of the e-flip book shows its significance in the classroom, where there is an increase in initial abilities and after being given learning treatment related to the implementation of e-flip book learning media to improve IPAS learning outcomes through problem-based learning models. Multimedia e-flip book consists of a combination of text, animation, video, sound, and so on so that it can provide audio and visual stimulation to increase students' memory and comprehension, making it easier for students to understand the material (Manurung, 2020; Mulyadi & Wahyuni, 2016). There is compatibility between the theory and the facts obtained in the field that learning with flip book media through the problem-based learning model can make students more enthusiastic about learning because there is an increase after treatment. Thus, implementing the e-flip book through the problem-based learning model can improve student learning outcomes in IPAS subjects..

CONCLUSIONS AND RECOMMENDATIONS

Based on the results and discussion of the research, it can be concluded that the level of mastery of student learning outcomes before and after treatment increased by 74%. In addition, the average score of students before being given treatment and after being given treatment increased by 23.3%. Thus, implementing the e-flip book through the problem-based learning model can significantly improve the learning outcomes of students at fourth-grade SDN Bantarjati 9 North Bogor, Bogor City, and can be said to be successful.

This study provides recommendations including a) for teachers to develop flip book designs creatively because they can increase students' enthusiasm; b) for schools to fully support the implementation of learning development innovations by using multimedia to create active students.

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