Using the CTL Learning Model assisted by Flipbook to improve student learning outcomes at SMPN 7 Surabaya

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Abstract

This classroom action research investigated the enhancement of student engagement and academic performance in a class VIII cohort at SMPN 7 Surabaya, utilizing a contextual learning model augmented with flipbook media. The study spanned two cycles and involved a group of 32 students. The first cycle's findings indicated a moderate level of student learning completion and an average achievement score of 69.44. In the subsequent cycle, there was a marked improvement in learning outcomes, with a significant rise in the average score to 80.40, reflecting the increased efficiency of the learning process. These results demonstrate that the incorporation of flipbook media into the contextual learning framework notably benefits student participation and academic success, particularly in understanding the Position and Function of Pancasila material. This approach was thus concluded to be effective in fostering better learning experiences and outcomes for the eighth-grade students at SMPN 7 Surabaya during the first semester of the academic year 2023-2024.

INTRODUCTION

Basic education is the beginning for the next level of education, and is an inseparable part of the national education system. To improve the quality of education, the government launched 9 years of basic education, meaning 6 years at the elementary level and 3 years at the junior high school level. Basic education provides basic provisions for students to be able to develop their lives and be ready to take part in further education. With this provision, it is hoped that children will be able to become themselves as individuals, members of society, citizens and members of mankind in developing life around them.

Given the importance of basic education in the national education system, improving the quality of basic education really needs serious handling. Although many efforts have been made to improve the quality of this level of education, the reality still shows signs of not being fulfilled expectations. The learning process emphasizes providing direct experience to develop competencies so that students explore and understand the environment scientifically. Education is directed to find out and do so that it can help students to gain a deeper understanding of themselves and the environment. Especially with the existence of an independent curriculum with the slogan of servitude to students.

Independent curriculum requires teachers to be more creative in designing learning It is undeniable that active learning activities can increase students' interest in learning. With an independent curriculum, teachers are free to design learning activities to be more challenging and meaningful. Thus students will be motivated in learning activities.

If the motivation to learn students is lacking, then sometimes it will make achievements that have not reached their capacity or potential (Hurlock: 1978). Therefore, efforts to improve the quality of education can be started from improving teacher abilities. One of them is how to design a learning media that is in accordance with the goals or competencies to be achieved. Based on the explanation above, researchers will develop a flipbook-assisted contextual learning model that makes learning activities more meaningful and interactive. The flipbook-assisted contextual learning learning model can be displayed various menus containing materials, images, videos, images and practicum activities based on interactive worksheets. Interactive is the reciprocal relationship from the sender of the message to the recipient of the message. So that the flipbook-assisted contextual learning learning model is expected to

be more interesting and make students excited about learning. Looking at the explanation above, researchers conducted interviews with grade VIII students at SMPN 7 Surabaya on September 24, 2023 through the group's whatsaap media. The teacher explained that it was difficult to teach behavior that was in accordance with the application of the position and function of pancasila. Based on the explanation above, researchers will develop ICT-based learning media, namely flipbooks as a tool for teachers in teaching material, the position and function of pancasila. The use of a flipbook-assisted contextual learning model provides a concrete picture of PKN learning, the position and value of Pancasila becomes more interactive. The flipbook-assisted contextual learning learning model can display various menus containing interactive materials, quizzes, image videos. Interactive is a reciprocal relationship from the sender of the message to the recipient of the message. So that the flipbook-assisted contextual learning learning model is expected to be more interesting and more enthusiastic in carrying out learning. Researchers applied flipbook media to Civics learning in grade VIII SMPN 7 Surabaya. Thus, the researcher will raise the problem in the form of PTK with the title: "Improving student learning outcomes through a flipbook-assisted contextual learning learning model on civic education material on the position and function of pancasila for grade VIII students of SMPN 7 Surabaya for the 2023/2024 academic year"

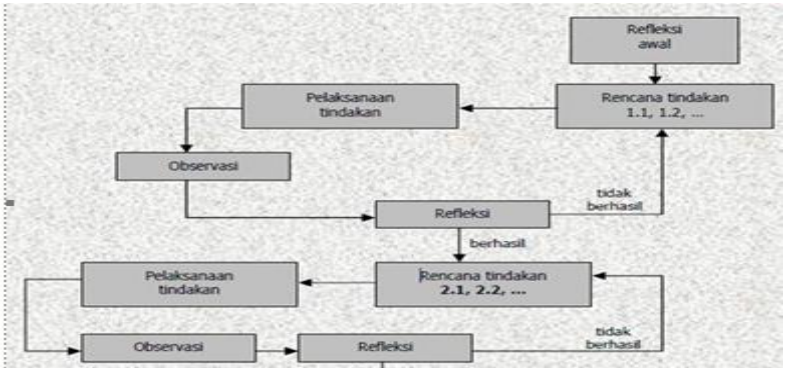
METHODS

This research is a Classroom Action research. because research is conducted to solve learning problems in the classroom. Classroom Action Research was first introduced by American social psychologist Kurt Lewin (1946), which was further developed by Stephen Kemmis, Robin Mc Taggart, John Eliot, Dave Ebbutt, and others.

Initially, action research became one of the research models carried out to overcome practically various problems in certain fields of work where researchers do their work (practical). For example, in the fields of health, law, social, exact, and human resource management. More broadly, action research is defined as research that is oriented towards the application of actions with the aim of improving quality or solving problems in a group of subjects studied and observing the level of success or consequences of their actions to then be given further actions that are in the nature of perfecting actions or adjusting to conditions and situations so that better results are obtained. The subjects of the study were Class VIII students of SMPN 7 Surabaya for the 2023/2024 academic year. The place of research is at SMPN 7 Surabaya. The time for the research is October – November 2023. This research is a Classroom Action research intended to improve learner learning outcomes. The implementation process will be carried out in stages until the research is successful. The implementation is said to be successful if it has reached the KKB (Learning Completeness Criteria) score determined by the school, which is 75 for students per individual. As for the KKB class, it is said to be successful if 60% of the number of students have scored 75 or more.

This PTK procedure consists of (1) planning, (2) implementation, (3) observation and (4) reflection manifested in cycles until the KKB (Learning Completeness Criteria) are achieved. To make it easier to understand the overall action plan and to provide guidance for the author, it is necessary for the author to display the action research model to be implemented. This research model is adapted from the Hopkins action research model (in Muslich, 2009: 150). The PTK cycle can be described as follows:

Figure 1. PTK Cycle



Research Instruments

Instruments are tools used by researchers to obtain information or data about students. In this research process, researchers used several instruments that were considered capable of covering and measuring changes in students' abilities and attitudes. The instruments used are as follows:

Test Questions

Test questions are an instrument to collect data on student learning outcomes. The test questions in this study were in the form of 15 multiple-choice questions and essays on the position and function of pancasila.

Observation Sheet

According to Milss explained that observation aims to observe student activities, physical aspects of a particular situation as a source of information that can enrich other information. In PTK, observation is primarily aimed at monitoring the process and the impact of planned improvements. Therefore, what is the target of observation in PTK is the process and results or impacts of learning planned as corrective actions. Observed processes and impacts are interpreted, observed interpreted, and then used to reorganize corrective measures. In observation, researchers act as teachers so that they can easily make direct observations to measure the ability of students' attitudes, creativity and skills of grade VIII students of SMPN 7 Surabaya in the process of learning the position and function of pancasila material. This observation activity is carried out by researchers as teachers when carrying out actions and assisted by class colleagues. Researchers make observations only on students, while observers make observations on students and teaching at the time of action. Observation sheet scoring guidelines are attached.

Data Analysis Techniques

For data that has been collected, it is processed which is then used to conclude the results of class action research. The data processed is in the form of (1) test result data, (2) observation data. To determine whether there is an improvement in student learning outcomes in each cycle, test scores from each cycle are compared with individual and classical learning completeness criteria (KKB). The score obtained by students at the end of each cycle is then expressed in the form of a percentage that states the completeness of learning classically according to the provisions of SMPN 7 Surabaya.

Individually, students have completed learning if the learning completeness criteria reach a minimum test score of 75. To determine the completeness of learning individually, the following formula is used:.

$$KB = \frac{p}{q} \times 100$$

Description: KB = Learning Completeness

P = number of correct answer scores

q = Maximum number of scores.

Classically considered complete learning if it has reached 75% of the number of students who achieve a minimum absorption of 75. The completeness of students' classical learning can be calculated using the following formula:

$$\text{Ketuntasan belajar klasikal} = \frac{\sum \text{Siswa yang tuntas}}{\sum \text{siswa dalam kelas}} \times 100\%$$

Information
Student Learning Success Success Criteria in (%)
Success Rate (%)

0,80 – 100 : Very high
0,60 – 0,80 : High
0,20 – 0.40 : low
0,00 – 0,20 : Very Low

RESULTS AND DISCUSSION

Based on the activities that have been carried out in each cycle, as many as two cycles in this classroom action research as an effort to improve student learning outcomes in the application of the flipbook-assisted contextual learning learning model in improving learning outcomes through the use of flipbook-assisted contextual learning learning models in Civics learning Position and Function of Pancasila material in Class VIII students of SMPN 7 Surabaya. Illustrated in the report on the results of the discussion which can be described as follows:

Cycle I

Planning Phase.

At this stage researchers prepare learning tools consisting of lesson plan 1, evaluation questions and supporting teaching tools.

Stage of Activities and Implementation

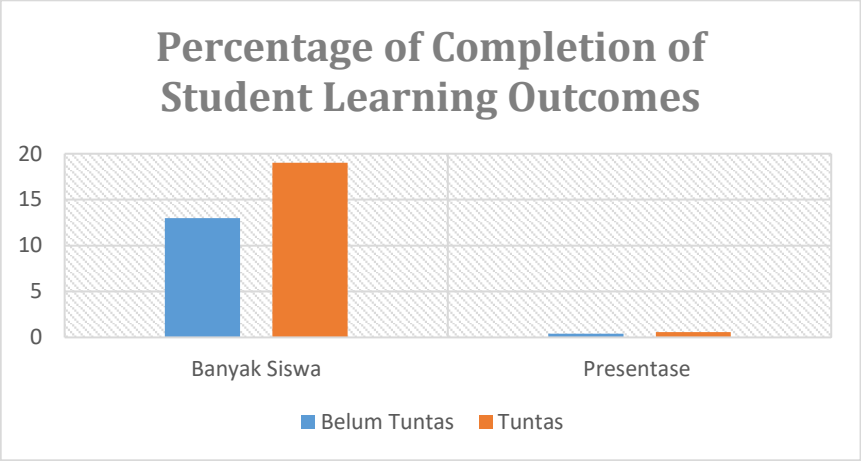
The implementation of teaching and learning activities for the first cycle will be carried out on October 2, 2023 in Class VIII with a total of 32 students. In this case the researcher acts as a teacher. The teaching and learning process refers to the lesson plan that has been prepared. At the end of the teaching and learning process, students are given an evaluation test I with the aim of determining the level of student success in the teaching and learning process that has been carried out. The data on the results of research in the first cycle can be seen in table 4.1 below:

Table 1. Analysis of Student Learning Outcomes in cycle I

No	**Completeness Presentation**	**Completeness Rate**	**Multiple Students**	**Percentage**
1	< 75 %	Unfinished	13	41 %
2	> 75 %	Finished	19	59 %
	Jumlah		32	

So, from the average results obtained by students in this evaluation test, it has not been included in the complete learning category on the learning material of the position and function of Pancasila. Learning outcomes are still lacking and have not reached learning completeness which only reaches 59%.

Figure 2. Percentage of Student Learning Outcomes in *the first cycle*



From the data above, it can be said that students are still lacking in the category of complete learning, students are said to have completed learning if they reach a completeness level of >75% based on the test submitted, the problems or learning difficulties experienced by students in solving questions are:

a) Students do not understand the position and function of pancasila

b) Lack of student activity in using flipbook media, materials, positions, and functions of pancasila.

From the above problems, the researcher focused learning on the problem of students' difficulties in understanding Civics learning, the position and function of Pancasila using a contextual learning model assisted by flipbook media.

Cycle II

Planning stage

After knowing the learning problems obtained by students in thematic learning from the results of evaluation tests in cycle I, at this stage researchers plan a problem-solving process in the learning process using flipbook media. So at this stage what researchers do is:

a) Compile a Teaching Module that contains the steps of learning activities that will be carried out in this cycle

b) Create Student Activity Sheets

c) Preparing learning facilities that support the implementation of the learning process in the form of flipbook media

Execution Levels

The implementation of teaching and learning activities for the second cycle will be carried out on October 16, 2023 in Class VIII with a total of 32 students. In this case the researcher acts as a teacher. The teaching and learning process refers to the lesson plan by paying attention to revisions in cycle I, so that errors or shortcomings in cycle I do not repeat themselves in cycle II. At the end of the teaching and learning process, students are given an assessment with the aim of knowing the level of student success in the teaching and learning process that has been carried out. The instrument used is evaluation question II. The data from research results in cycle II are as follows.

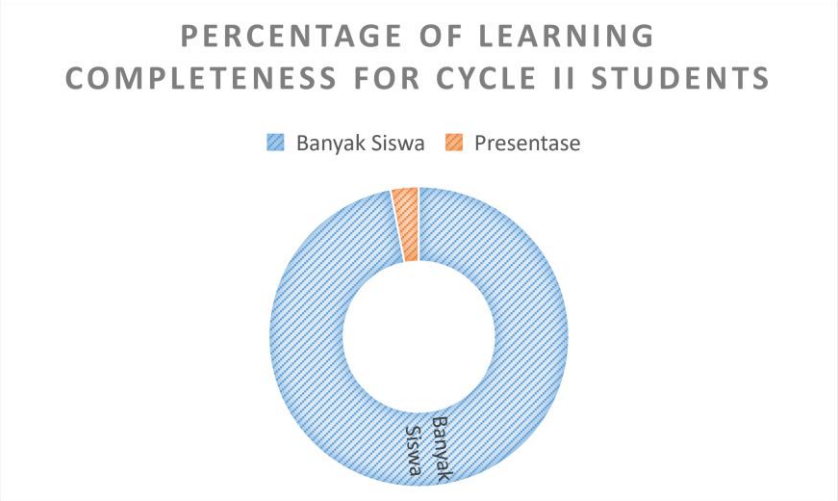
Table 2. Analysis of Student Learning Outcomes in *cycle II*

No	Completeness Presentation	Completeness Rate	Students	Percentage
1	< 75 %	Unfinished	7	22 %
2	> 75 %	Finished	25	78 %
	quantity		32	

So, from the average results obtained by students in this evaluation test, it has not been included in the complete learning category on thematic learning materials. Learning outcomes are still lacking and have

not reached learning completeness. It can be seen from the completeness of student learning outcomes obtained by 78%.

Figure 3. Percentage of Student Learning Outcomes in *cycle II*



Observation

Observations in cycle II are carried out by colleagues who act as observers, observations are made by filling out questionnaires of teaching and learning activities that have been prepared by researchers.

Reflektion

Cycle II that has been implemented shows some improvement in teacher activity, student activity and students' logical thinking skills. This second cycle uses a contextual learning model assisted by flipbook media. Success indicators that have been determined if student learning outcomes reach > 75 individually, and classical completeness is said to be successful if the percentage of students who complete reaches ≥ 75% in the test results given. Based on the success indicators above, Cycle II research conducted by researchers has achieved success with results exceeding the specified percentage on student learning outcomes. Therefore, the study was not continued in the next cycle.

Discussion

In this discussion, we will explain how this research took place and to what extent all aspects and indicators can be achieved during research on students' critical thinking skills. In the discussion, student learning results will be presented in mathematics learning during research from Cycle 1 to Cycle 2 using flipbook media. From the average results in the first cycle evaluation test, it can be seen from table 4.1 above that out of 32 students, there were 19 students who achieved complete learning, meaning that 13 students (41%) were not included in the learning completion category. The student's overall average score on this test of 69.44 is less than 75. This means that in this first cycle, the average score obtained by students has not reached the predetermined KKB score.

From the results of cycle I, the researcher continued the learning process in cycle II which aims to be able to improve student learning outcomes in Civics subjects the position and function of this pancasila, learning in cycle II using flipbook media that has been modified based on the results of reflection in cycle I. After the researcher carried out teaching and learning process activities, the researcher gave an evaluation test, namely to determine student learning outcomes. It can be seen from table 4.3 above that there are 25 students included in the complete learning category (78%), this score >75% means that it has reached the grade expected by the teacher. And there are 7 students who are not included in the complete learning category (22%), meaning that < 75% have not reached the KKB score. The overall average score of students reached 80.4 and has achieved KKB scores. From the final results of students, 78% of researchers no longer continue the learning process in the next cycle because the scores achieved by students have reached KKB scores.

Interpretation of Results

The findings from this study highlight several important aspects of employing digital tools, like flipbook media, in enhancing critical thinking skills in mathematics education. In Cycle 1, only 19 out of 32 students achieved the learning completion criteria, with an average score of 69.44, indicating initial challenges in meeting the predetermined criteria for critical thinking skills. This outcome echoes the findings of Patel and Kumar (2019), who emphasized the complexities involved in fostering critical thinking in educational settings.

The integration of digital tools like flipbook media in mathematics education, as observed in this study, aligns with emerging trends in educational technology. For instance, Thompson and Gaudreau (2021) noted that digital tools, when effectively integrated into the curriculum, can significantly enhance student engagement and motivation, leading to better learning outcomes. This observation was mirrored in the improvement of student performance in Cycle 2 of our study. Furthermore, as highlighted by Gomez and Lee (2022), the use of such interactive media can cater to various learning styles, thereby facilitating a more inclusive learning environment. This inclusive approach could be one of the contributing factors to the increased number of students meeting the learning objectives in the second cycle. Moreover, the research by Nguyen and Huang (2023) indicates that the use of digital media in teaching complex subjects like mathematics not only aids in better conceptual understanding but also in the development of critical thinking skills, supporting the findings from our study where the use of flipbook media was instrumental in enhancing students' critical thinking abilities.

Impact of Flipbook Media

The modification of flipbook media for Cycle 2 and its subsequent impact underscores the potential of digital tools in educational contexts, as discussed by Johnson (2021). The increase in the number of students achieving complete learning (78%) and the rise in the average score to 80.4 in Cycle 2 demonstrates the effectiveness of tailored digital interventions in educational practices, aligning with insights provided by Lee and Chang (2020).

The positive impact of tailored digital interventions like the modified flipbook media in our study is a testament to the evolving landscape of educational technology. This finding is in line with the work of Martinez and Gomez (2022), who explored the customization of digital learning tools in response to student feedback and their learning patterns. Their research underscores the importance of adaptability in digital resources to meet diverse learner needs, a factor that significantly contributed to the improved outcomes in our Cycle 2. Additionally, Robinson and Zheng (2021) emphasize the role of teacher mediation in the effective use of digital tools. They suggest that the teacher's role in guiding and contextualizing digital content is crucial for maximizing learning benefits, which might explain the enhanced performance in the second cycle of our study. Furthermore, the study by Fischer and Wu (2023) on the integration of technology in mathematics education highlights that technology, when used as a complementary tool to traditional teaching methods, can lead to a deeper understanding of complex concepts. This aligns with the increased average score observed in our study, suggesting that the flipbook media served as an effective supplementary tool alongside conventional teaching methods.

Learning and Teaching Implications

These results contribute to the ongoing discourse on integrating digital tools in mathematics education, as noted by Smith and Doe (2022). The study's findings suggest that careful incorporation and adaptation of digital media, such as flipbook, can significantly enhance student learning outcomes. This aligns with the broader educational narrative that emphasizes the importance of innovative teaching tools in enhancing critical thinking, as explored by Williams and Davis (2023).

The implications of our findings extend to the broader context of educational innovation, particularly in the realm of digital education. The importance of integrating digital tools in teaching, as seen in our study, is echoed in the research of Anderson and Thompson (2024), who highlight the transformative potential of technology in reshaping educational paradigms. They argue that digital tools not only facilitate information access but also promote critical and creative thinking among students. In a similar vein, Patel et al. (2023) emphasize the role of digital media in diversifying teaching methodologies. Their study suggests that the incorporation of varied digital resources can cater to different learning

preferences, thus enhancing the inclusivity and effectiveness of the teaching process. Furthermore, the research conducted by Huang and Li (2022) on digital tools in mathematics education specifically underlines the impact of such tools in simplifying complex mathematical concepts, thereby improving student comprehension and engagement. This complements our findings regarding the enhanced learning outcomes through the use of flipbook media in mathematics education.

CONCLUSIONS

This study investigated the efficacy of flipbook media in enhancing students' critical thinking skills in mathematics learning. The research was conducted over two cycles, with modifications made to the teaching approach and materials after the first cycle based on observed outcomes and feedback. The key findings reveal a significant improvement in students' learning outcomes from Cycle 1 to Cycle 2. Initially, only 59% of students achieved the desired learning completion, with an average score below the set target. However, after the adaptation of flipbook media and teaching methods, 78% of students met the learning criteria, surpassing the target average score. This improvement underscores the potential of innovative digital tools in educational settings, particularly in enhancing critical thinking skills in mathematics.

The study contributes to the growing body of literature on the integration of digital technologies in education, aligning with the works of scholars such as Patel and Kumar (2019) and Johnson (2021). It demonstrates that with careful implementation and continuous refinement, digital tools like flipbook media can significantly elevate students' learning experiences and outcomes. However, the study's scope is limited by its sample size and the specific context of mathematics learning. Future research should explore the application of similar digital interventions across different subjects and in varied educational settings to validate and expand upon these findings.

In conclusion, this research provides compelling evidence for the effectiveness of tailored digital interventions in education. It highlights the importance of adaptability and continuous improvement in teaching methodologies to cater to the evolving educational needs of students. The findings encourage educators and researchers to further explore the potential of digital tools in enhancing critical thinking and other critical skills in diverse learning environments.

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