Application of Canva-assisted CinQASE Model to Improve Students' Cognitive Learning Outcomes in Movement and Style Material for Grade VII SMP Negeri 4 Pekanbaru

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Abstract- This study aims to describe the improvement of students' cognitive learning outcomes on motion and style materials through the Canva-assisted CinQASE model and to find out the significant differences in students' cognitive learning outcomes through the application of the CinQASE model and the conventional learning model on motion and style materials. The research method used is a quasy experiment with a posttest-only control design. With a data collection technique in the form of a posttest. The sampling technique in this study uses random sampling. The sample in this study includes classes VII.1 and VII.2. The research instrument is a posttest question in the form of multiple choice as many as 20 questions. The results of descriptive analysis in the experimental class obtained an average cognitive learning outcome of 83.81 in the very good category. Meanwhile, in the control class, the average score of 74.17 was in the good category. The results of the hypothesis test were obtained at 0.000 which means less than 0.05. There was a significant difference in the cognitive learning outcomes of students who applied the Canva-assisted CinQASE model and those who applied conventional learning to motion and style materials in grade VII of SMP Negeri 4 Pekanbaru.

Keywords: *CinQASE Learning Model, Canva, Cognitive Learning Outcomes, Motion and Style*

1 Introduction

Education plays an important role in the development of the nation and state. In the 21st century, many countries in the world are competing to further improve the quality of education. The goal is to guarantee quality human resources and increase competitiveness. One way to improve the quality of a country's human resources is to develop a science-based education process (Jaya & Patasik, 2014). Various efforts are being made to ensure that education in the country undergoes a massive transformation to face the challenges of an increasingly dynamic future in improving the quality of education (Thana & Hanipah, 2023).

The low quality of education at all levels and educational units in Indonesia is one of the challenges we face in modern times. Improving the quality of education is a benchmark that must be achieved to maximize learning goals and is directly related to the government's efforts to solve problems in the world of education. (Permana & Sudrajat, 2022). The most basic problem in the world of education today is the low attention of students during the learning process, this is because the learning conditions are still conventional (Adawiyah, 2021). The ability and willingness of teachers to start learning plays a big role in the success of the learning process of students in all subjects, especially science subjects. One of the subjects that requires more attention in the learning process is the subject of Natural Sciences (IPA)

Science is a type of contextual learning in which learners receive a hands-on learning experience. So far, students' belief that science lessons are difficult to understand is the main problem with science learning that has not been completely completed. This happens because science learning is not connected to daily life (Husna et al., 2024). The quality of science education in Indonesia has not achieved the expected results. There are still many students who have difficulty understanding and following this lesson. The success of science learning can be seen from the creativity of teachers in applying the learning model applied in teaching science subjects that are appropriate and interesting. A conducive learning atmosphere has good interaction between teachers and students and students and students, thus affecting student learning outcomes (Sari & Koeswanti, 2023).

The learning outcome itself is the ability that students acquire after going through learning activities (Suprapti, 2021). Based on data on physics daily test scores on motion and force materials at SMP Negeri 4 Pekanbaru in 2023, the average is relatively low. Considering that students' low understanding of science is caused by a monotonous learning environment, this can be a reference for a teacher to improve student learning outcomes. That's why change is needed in the 21st century (Putri et al., 2023). The freedom to innovate in learning must be used by teachers as best as possible in order to achieve appropriate learning goals. These innovations can be in the form of applying learning models in classroom learning activities.

A learning model is a plan or pattern that can be used to shape a curriculum (long-term learning plan), design learning materials and guide learning in the classroom or vice versa (Mirdad, 2020). One of the appropriate learning models according to the researcher is the CinQASE model assisted by canva. The CinQASE model is a model that trains students' individual intelligence in solving problems, the ability to work together, the ability to listen to other students' opinions and communication skills. The CinQASE model consists of five phases, namely problem orientation, individual work, group work and collaboration, class discussion, evaluation and feedback. Each phase supports each other and is equally important in achieving learning goals.

In addition to the use of the CinQASE learning model to improve student learning outcomes, it can also be assisted by the use of media in learning that can attract students' attention. Learning media is defined as all objects that are intermediaries in the occurrence of learning, one of which is canva media. Canva is one of the many applications that teachers can use to create learning media. Canva media is designed in the form of animation in conveying the problem to be learned.

Canva-assisted CinQASE model learning is the presentation of learning to create an effective environment with canva media in the form of animation. In this study, the use of the canva-assisted CinQASE model can deepen students' knowledge in concluding science learning materials. Movement and style are one of the science materials learned by grade VII students in odd semesters for junior high school students/equivalent students of the Independent Learning Curriculum. The researcher chooses motion and style materials so that students can analyze the events around them and connect them with science concepts.

Based on the description above, the author is interested in conducting a research entitled "The Application of the Canva-assisted CinQASE Model to Improve the Cognitive Learning Outcomes of Grade VII Movement and Style Materials of SMP Negeri 4 Pekanbaru.

2 Research Methodology

The research used is a combination of experiments with posttest only control group design. Sugiyono stated in (Alamsyah & Nugroho, 2022) the effect of exclusive treatment of others in controlled situations can be studied using experimental research methods. This study used two sample groups, namely the experimental group and the control group. The experimental group received the treatment, while the control group did not receive it (Mimin, 2019).

The characteristic of the research design used is a posttest only control group design, which means that in this researcher, a pretest is not carried out but a posttest. This design will compare the experimental and

control classes. The experimental class received treatment with the CinQASE mode, while the control class did not receive treatment with the conventional learning model. The research design can be seen in Table 1 as follows:

Table 1. Research Design

Group	Treatment	Posttest
Eksperimen	X_1	O_1
Control	-	O_2

(Sugiyono, 2022)

Information:

  X = Treatment with canva-assisted CinQASE model
  O_1 = Posttest results of the experimental class
  O_2 = Control class posttest results

Based on Table 1, the research sample was divided into 2 groups, namely the experimental class (received treatment) and the control class (did not receive treatment). In the experimental class, learning was applied with the CinQASE model with the help of Canva. The learning instruments used are ATP, Modules, and LKPD. After learning is carried out in both groups, students are given a posttest to find out the improvement of students' learning outcomes in substance material and its changes.

This research was carried out at SMP Negeri 4 Pekanbaru grade VII in the odd semester of the 2024/2025 Academic Year in November-December 2024. The research population is all students in grade VII of SMP Negeri 4 Pekanbaru. Sampling was based on the normality test and homogeneity test of the daily repetition of the previous material which was a prerequisite before the study was carried out using SPSS Statistics 26. The normality and homogeneity tests were carried out to see if the two classes were equal so that they could be used as samples for research, namely to determine which class was the experiment and which class would be the control. Determining the experimental class and control class to be used as a sample is by simple random sampling technique in a homogeneous class. So that the final results obtained were class VII.1 as an experimental class of 42 people and class VII.2 as a control class of 42 people.

The data collection method used in this study is using a test or posttest technique. The data needed in this study are primary data and secondary data. The primary data in question is the posttest score obtained after the researcher applied the canva-assisted CinQASE model in the experimental class and conventional learning in the control class. Meanwhile, secondary data was obtained from the students' tests in the previous chapter, namely temperature, heat and expansion obtained from science subject teachers of SMP Negeri 4 Pekanbaru. Then the data was analyzed using descriptive analysis techniques and inferential analysis techniques. Descriptive data analysis was carried out after getting students' scores from the results of the posttest that had been carried out. The results of obtaining student scores based on the category of cognitive learning outcomes and the application of the learning model can be seen in Table 2 below.

Table 2. Categories of Cognitive Learning Outcomes Score Acquisition Scale

No	Value	Category
1	$81 \leq x < 100$	Excellent
2	$61 \leq x < 81$	Good
3	$41 \leq x < 61$	Pretty Good
4	$21 \leq x < 41$	Not Good
5	$0 \leq x < 21$	Very Less

(Hapid. A, 2021: 232)

Inferential data analysis was carried out to determine the difference in students' learning outcomes after applying the CinQASE model with canva in the experimental class and the conventional application

in the control class through hypothesis testing. Before conducting a hypothesis test, a normality test and a homogeneity test are carried out first. Normality testing is carried out to determine whether a data distribution is normal or not. This is important to know related to the accuracy of the selection of statistical tests to be used (Supardi, 2013). The normality test used in this study is the Shapiro-Wilk test using the SPSS 26 application.

Homogeneity test is a statistical test procedure that aims to show that two or more groups of sample data that have been taken come from populations that have the same variation. In other words, the homogeneity test is a test that is carried out to find out whether the data of the dataset being studied has the same characteristics or not.

After the preliminary test is carried out and it is proven that the processed data are normally distributed and homogeneous, then it is continued with the testing of the hypothesis that the proposed hypothesis can be accepted or rejected. Hypothesis testing in this study uses the Independent T-Test test. The T-Test Independent Test was used to determine the significant differences between the experimental class and the control class.

After the analysis is carried out, conclusions will be drawn from the results of the research conducted. If the average score of the posttest results in the class applying the canva-assisted CinQASE model is higher than the average score of the posttest results of the class that applies conventional learning, then it can be concluded that there is an increase in students' cognitive learning outcomes after applying the canva-assisted CinQASE model. After the analysis is carried out, conclusions will be drawn from the results of the research conducted. If the average score of the posttest results in the class applying the canva-assisted CinQASE model is higher than the average score of the posttest results of the class that applies conventional learning, then it can be concluded that there is an increase in students' cognitive learning outcomes after applying the canva-assisted CinQASE model.

3   Results and Discussion

The result data used in this study is learning outcome data obtained from the results of the students' posttest after the application of the CinQASE model and Canva media on grade VII motion and style materials at SMP Negeri 4 Pekanbaru. Students' cognitive learning outcomes on motion and style materials were analyzed using learning outcomes. Therefore, the interpretation of students' cognitive learning outcomes for each category on motion and style materials in the experimental class that applies the Canva-assisted CinQASE model and in the control class that applies conventional can be seen in Table 3.

Table 3. Analysis of students' cognitive learning outcomes.

Percentage (%)	Category	Experimental Classes		Control Classes	
		%	Number of Student	%	Number of Student
$85 \leq x \leq 100$	Excellent	57,1	24	16,7	7
$70 \leq x < 85$	Good	38,1	16	57,1	24
$55 \leq x < 70$	Pretty Good	4,8	2	26,2	11
$30 \leq x < 55$	Not Good	-	-	-	-
$0 \leq x < 30$	Very Less	-	-	-	-
Average cognitive learning outcomes		83,81		74,17	
Category		Excellent		Good	

(Sumber: Data Olahan)

Based on Table 3, it shows that the number of cognitive learning outcomes obtained by students in the experimental class with the very good category is 57.1%, while the cognitive learning outcomes of students in the control class in the very good category are 16.7%. The difference in average score between the ex perimental class and the control class was 9.64 points. So that the average score in the experimental class and the control class showed much different values. This can be seen from the average score obtained

by the experimental class, which is 83.81 with the very good category, while in the control class, the average score obtained is 74.17 with the good category. Therefore, the overall value obtained shows that the experimental class has a higher score compared to the control class.

The difference between the scores in the experimental class and the control class was 40.4% with a very good percentage for the experimental class, it can be concluded that learning with the canva-assisted CinQASE model on motion and style materials is proven to be effective in improving students' cognitive learning outcomes. This is in line with the research conducted by Wahyuni et al. (2023) on the Application of the Canva-Assisted CinQASE Learning Model to Improve the Learning Outcomes of Static Fluid Material Students in Class XI of SMA Negeri 1 Kulisusu.

The percentage of each level of cognitive domain differed between the experimental class and the control class obtained based on the cognitive learning outcomes of students. The analysis of cognitive learning outcomes in the experimental class and control class can be seen in Figure 1.
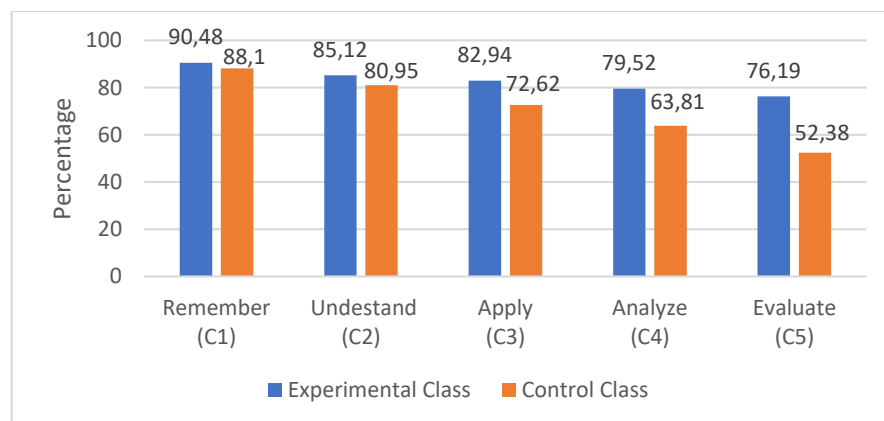

Figure 1. Comparative diagram of cognitive learning outcome analysis

Based on figure 1, it shows that the application of the canva-assisted CinQASE model affects the learning outcomes of physics science at several levels of cognitive domains. The learning outcomes of students at the cognitive realm levels of C1, C2, C3, C4, and C5 in the experimental class obtained a better percentage than the control class.

This study conducted an inferential analysis using SPSS 26. The inferential analysis conducted in this study consisted of a normality test, a homogeneity test and a hypothesis test. The normality test in this study uses the Shapiro-Wilk test technique. Based on the results of the Shapiro-Wilk test, the significance result in the experimental class was 0.134, while the significance result in the control class was 0.094. Based on these results, the test data in the experimental class and control class are normally distributed. Then a homogeneity test was carried out using the Levene technique. The significance result between the experimental class and the control class was obtained of 0.05. Based on these results, it can be seen that the data of the experimental class and the control class are homogeneous. After the test conditions are met, a hypothesis test can be carried out. This hypothesis test was carried out using an independent sample t-test. Testing this hypothesis was carried out with the aim of finding out whether there was a difference in cognitive learning outcomes between the experimental class and the control class. Based on the output results of the tests that have been carried out, a value of t = 3.317 with a significance (sig.2-tailed) of 0.000 was obtained. Therefore, in accordance with the provisions of decision-making, if the significance < 0.05 H0 is rejected and Ha is accepted, it means that there is a significant difference in student learning outcomes between the experimental class that applies the canva-assisted CinQASE model and the control class that applies conventional moLearning to motion and style materials in grade VII of SMP Negeri 4 Pekanbaru.

4   Conclusion

Based on the results of research conducted in grade VII of SMP Negeri 4 Pekanbaru with the application of the CinQASE learning model assisted by canva media to improve students' cognitive learning outcomes on motion and style materials, the conclusions that can be drawn are as follows: The cognitive learning outcomes of class students who use the CinQASE learning model assisted by canva media on motion and style materials are in the Very Good category, while classes that use conventional learning are in the Good category. There was a difference in the learning outcomes of class students who used the CinQASE learning model assisted by canva media with classes that used conventional learning on motion and style materials. Thus, the use of the CinQASE learning model assisted by canva media can improve learning outcomes on motion and style materials.

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