

CANVA-ASSISTED CONTEXTUAL TEACHING AND LEARNING MODEL TO IMPROVE NUMERACY LITERACY AND LEARNING MOTIVATION OF ELEMENTARY SCHOOL STUDENTS: A DEVELOPMENT STUDY

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ABSTRACT

This study aims to analyze the effectiveness of the Contextual Teaching and Learning (CTL) model assisted by the Canva application in improving students' numeracy literacy skills and learning motivation during the learning process. Canva, as a digital graphic design platform, offers various features that support contextual learning by providing tools for creating engaging visual content that is relevant to students' real-life experiences. This study employed a Research and Development (R&D) approach adapted from the Borg and Gall model. In the limited trial, ten students participated as research subjects. The field trial involved 30 students, while the product testing stage included 60 students, divided into an experimental group of 30 students and a control group of 30 students. The experimental group received CTL instruction assisted by the Canva application, whereas the control group was taught using conventional instructional methods. Data were collected through numeracy literacy tests, observations of students' learning activities, and learning motivation questionnaires. The results indicated that the use of Canva within the CTL model had a significant positive effect on students' numeracy literacy skills, with an average score improvement of 35.65%. Students also demonstrated enhanced numeracy literacy skills and higher learning motivation. The study concludes that the Canva application is an effective tool for supporting the CTL learning model, as it improves students' numeracy literacy skills and learning motivation.

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Penelitian ini bertujuan untuk menganalisis efektivitas penggunaan model CTL berbantuan aplikasi Canva dalam implementasi dalam meningkatkan kemampuan literasi numerasi dan motivasi Belajar pada proses pembelajaran. Aplikasi Canva sebagai platform desain grafis digital menawarkan berbagai fitur yang dapat mendukung pembelajaran kontekstual dengan tools untuk membuat konten Visual yang menarik dan relevan dengan kehidupan nyata siswa. Metode penelitian ini menggunakan pendekatan *research and development* (R&D) diadopsi dari Borg and Gall. Pada uji Coba terbatas, ada 10 siswa menjadi subjek penelitian. Pada uji luas subjek 30 siswa, Uji coba produk subjek 60 siswa yang dibagi menjadi 30 siswa kelompok eksperimen dan 30 siswa kontrol. Kelompok eksperimen menggunakan aplikasi Canva dalam pembelajaran CTL, sedangkan kelompok kontrol menggunakan metode pembelajaran biasa. Data dikumpulkan melalui tes literasi numerasi, observasi aktifitas siswa, dan angket motivasi belajar. Hasil penelitian menunjukkan bahwa penggunaan aplikasi Canva dalam model pembelajaran CTL memberikan dampak positif yang signifikan terhadap kemampuan literasi numerasi dengan peningkatan rata-rata skor sebesar 35,65%. Siswa menunjukkan peningkatan kemampuan literasi numerasi, dan motivasi belajar yang lebih tinggi. Kesimpulan Penelitian ini adalah aplikasi canva efektif digunakan dalam model CTL karena dapat meningkatkan kemampuan literasi numerasi dan motivasi belajar siswa.

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INTRODUCTION

Education today is experiencing a rapid development and is based on education in the 21st century which is characterized by digitalization so that there is a transformation in learning methods and media that are always developed by teachers. Technological advances in the field of education are integrated with the new government policy from the Ministry of Education and Education, which leads to an in-depth learning approach that demands to create meaningful learning for students, more interactive and interesting. However, we must realize that this integration is not enough just by presenting digital devices, good school facilities, but there is a need to combine it with the selection of the right learning model, according to the teaching material, student characteristics in order to optimize student learning outcomes.

The CTL model is one of the right approaches that emphasizes meaningful and in-depth learning that is in line with the latest Ministry of Education policy's in-depth learning approach by linking learning materials with the real-life context of students. This model is based on the theory of constructivism which views that students build knowledge through active, creative, and reflective experiences of those experiences. In its implementation, CTL encourages students to find the relationship between academic knowledge and application in daily life, so that learning becomes more directed, meaningful and deep.

Based on the results of the study Rukman & Samsudin (2022) that the contextual learning model is appropriate when implemented in mathematics learning activities because students will be able to apply what they learn in their lives and gain knowledge that will make it easier for them to understand the material and make meaningful connections in their daily lives. A learning model is a plan or pattern that can be used to create a curriculum, also called a curriculum. By utilizing the learning model effectively, we will understand the model of the teacher's plan applied to students, so that we can understand the personality of the students Khoerunnisa et al., (2020).

The CTL learning model is a model that designs learning that allows educators to connect the material to students' daily lives. Hasibuan (2014) It is revealed that the CTL learning model is a holistic educational approach that aims to help students understand the meaning of educational content and its relation to the context of daily life (personal, social, and cultural contexts, so that students can dynamically improve their adaptability to build their understanding.

Learning media are all tools used in the learning process that act as a liaison in providing information between the giver and other parties, especially from the teacher to the recipient or student which aims to motivate students so that they can follow the learning process in a complete and meaningful way (Hasan et al., 2021). Bell & Loon, (2016) Say that students' adaptive abilities that develop due to the habit of critical thinking are the ability to determine concepts. So that critical thinking skills are highly valued in modern education due to their high relevance in facing life's challenges in the 21st century, this ability involves a series of skills such as analyzing information, evaluating arguments, solving complex problems and making good decisions.

Agama & Amlapura, (2025) In his research using CTL with the help of Canva, there are still less than optimal results because teachers must still be able to choose learning models and media that suit the characteristics of students so that the learning process becomes more meaningful, interactive, and fun which is supported by the school is expected to provide support through the provision of adequate infrastructure. Perdana & Suswandari, (2021) The problem of students who have not been able to complete learning based on numeracy literacy is that teachers have not been accustomed to questions based on numeracy literacy. By paying attention to previous research, Yang only used Canva, the CTL model that was not developed in the syntax, the lack of development of a more attractive device, so that it could not measure the desired success and measure the learning motivation and literacy.

Based on initial observations and interviews with teachers, there are problems that affect the results of numeracy literacy, namely the use of media in mathematics subjects in the classroom usually uses ordinary learning media, package books and lecture methods so that students get bored quickly and quickly become sleepy, especially in the last hour. Even the average score of the Student test is 80% below the KKM. A good learning process uses teaching aids in the form of media to increase students' motivation to learn, so that the learning outcomes obtained can also increase.

With the various problems that have been explained earlier, special treatment is needed to improve better learning outcomes. The effort that needs to be made to improve student learning outcomes is to create a comfortable and fun learning atmosphere, by using learning media. According to Myori et al., (2019) Learning media is a component of the teaching delivery system that can be used to support the learning process. Therefore, the author applies the CTL model with the Canva application by developing the entire CTL syntax by adding presentations as a strategic requirement that meets the needs of students and the development of digital LKPD that is more interesting, challenging, and fun, so as to be able to improve students' ability to learn, the results of the evaluation increase which are able to support learning media that are effectively used in the learning process so as to improve students' numeracy literacy. Effectiveness is a measure of the level of success in achieving goals that have been measured by quantity, quality and time.

The rapid development of technology can be used by teachers in choosing learning media, one of the many applications that have developed in the world of technology is Canva. According to Kharissidqi et al., (2022) Canva is an application or website that provides online graphic design that makes it easier for teachers to create learning media by utilizing technology to attract students in the learning process. Various considerations and on the other hand, the Canva application is one of the widely used and popular graphic design platforms in the world of education today. Canva provides convenience and offers with a variety of features and templates that make it easy for users, including students and teachers, to create visual content that challenges students' curiosity, engaging without the need for professional graphic design skills. The Canva app provides a variety of output formats such as infographics, presentations, posters, videos, and other visual media that can be used to help, support and provide a more meaningful, conscious experience in the learning process.

METHOD

The method used in this study is a *Research and Development* (R&D) research method with a focus on the Borg & Gall model and is carried out through 8 stages of procedures, namely: 1) Research and initial information collection; 2) Planning; 3) Early development; 4) Initial trial

(limited test); 5) Product revision; 6) Field trials; 7) Revision of operational products; and 8) Main field trials. The research sample in the limited test consisted of 10 students, the field test was 1 class consisting of 30 students and the main field test was grade 5 students in two public elementary schools in Talegong District totaling 30 and 30 students. The data collection techniques used are observation, tests, learning outcomes, and documentation. The hypothesis test used was using an independent sample test and an N-Gain score test. The independent sample t test was used to find out if there was an average difference between two unpaired samples. The N-Gain test was used to determine the effectiveness of using the CTL Learning Model with the help of the Canva application in improving students' numeracy literacy.

The instruments used in data collection in this study include validation sheets for material experts and model experts to measure product feasibility, student learning motivation questionnaires, and test instruments used to measure how to increase the effectiveness of the learning process and have an impact on improving students' numeracy literacy learning outcomes. The data was analyzed so that the effectiveness of the use of Canva in improving numeracy literacy ability could be objectively measured and calculated later using the Normalized Gain (N-Gain) formula as follows:

$$N\text{-Gain} = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{IMS} - \text{Pretest Score}}$$

Description :

IMS: Ideal Maximum Score

Criteria

High ($N\text{-Gain} \geq 0.7$,

Medium ($0.3 < N\text{-Gain} < 0.7$

Low ($N\text{-Gain} \leq 0.3$).

Effectiveness criteria refer to the classification Hake (1999), where the values of $g > 0.7$ (High), $0.3 \leq 0.7$ (moderate), and $g < 0.3$ (low). To test the significance of the difference in student learning outcomes statistically before and after treatment, a Paired Sample T-Test was carried out using SPSS 26 software with a significance of 0.05.

RESULTS AND DISCUSSION

Result

Preliminary studies (research and collection of initial information) are the first stage in this study. At this stage, the researcher conducted interviews and learning observations in two elementary schools in the Talegong District, Garut Regency. During the interview, the researcher's observation found that many students had a low understanding of the concept of subtraction material, the sum of fractions in grade 5 student activities were still relatively low, and the results of the 2024 Education Report Card showed that the domain of numeracy literacy experienced a less significant increase than the 2024 education report card and a lack of motivation to learn when learning mathematics.

After conducting the preliminary study stage, the researcher proceeded to the data collection stage (information) the researcher conducted interviews with grade 5 teachers and made observations to students, related to the understanding of the concept of addition and subtraction of fractions during the learning process. From the results of the research conducted, it was found

that students' weak understanding of the concept of addition and subtraction of fractions was caused by students' failure to understand basic concepts, low learning motivation, and still lack of use of visual and interactive media to support the learning process.

The third stage carried out in this study is product design (development). In the product design stage, the researcher drafted a learning model development product using the Canva-assisted CTL learning model. The fourth stage is the expert validation process for the development of the CTL model and learning tools. After the product plan is made, it is validated by a validator, namely two lecturers as validation, material and media experts and one teacher. Validation is carried out to ensure the feasibility of the materials and learning tools before the product is tested. The results of expert validation are presented in Table 1 below:

Table 1. Expert Validation Results

Validator	Assessment Aspects	Percentages	Category
Material Expert	Content, Concept and Instructional	84.66 %	Very Decent
Media Member	Visuals, Fun Interactions	86.68 %	Eligible

Based on Table 1, it can be seen that the results of expert validation provide assessments both on the development of the draft model and learning tools and the materials developed and included in the feasible category, this at the same time proves that the materials and learning tools in the form of teaching modules developed have excellent quality and are ready to be used. After the expert validation process is completed, then proceed to the fifth stage, namely the product revision stage, based on the validator's input. At this stage, the researcher also conducted a test instrument test, this test instrument test was given to the first grade above the target class of 30 people. The results of this test trial were analyzed using the SPSS 26 application and also Microsoft excel so that the data results were more accurate. The data analysis in the test instrument test includes validity, reliability, difficulty, and differentiating power. The data on the test instrument test results is presented in Table 2 as follows:

Table 2. Test Instrument Test Results

Parameter Uji	Analysis	Conclusion
Validity of Items	5 Questions have a Sig value. $0,05 <$	All items are declared valid
Feasibility	Cronbach's Alpha value is 0.526	Reliable (medium category)
Difficulty Level	1 Easy Question, 2 Medium Questions and 2 Hard Questions	Proportional question proportions
Differentiating Power	2 Very Good Questions, 2 Good Questions, 1 Poor Question	The majority of questions are able to distinguish students' abilities

Based on Table 2, the test instrument test results show that of the 5 questions developed, 5 questions (in all) are declared statistically valid so that it is concluded that the 5 questions that are declared to meet the test parameters will be used as test instruments. The results of this experiment use Cronbach's Alpha which shows a value of 0.526 which shows that the instrument has a moderate level of reliability and is suitable to be used as a measuring tool in measuring the effectiveness of the CTL learning model on students' ability to understand

concepts. After all product revision processes are carried out, the device is declared ready for use for the next stage of testing.

The next stage of research enters the sixth stage, namely a limited test. This limited test was carried out in two elementary schools in the Talegong District area, Garut Regency with 10 subjects. This trial stage is carried out in order to ensure and see the practicality of the learning tools, identify technical obstacles that students may experience when using the learning tools that have been developed. The limited field test phase is conducted after the Canva app-assisted CTL model product is declared valid by experts. The limited trial was carried out on 10 grade V students of SDN 1 Mekarwangi. The purpose of this limited trial is to 1) measure the practicality of the developed learning model, 2) Determine the response of teachers and students to the implementation of the Canva-assisted CTL model, 3) identify product shortcomings before conducting a broader field test. Data collection techniques are carried out through teacher response questionnaires, student response questionnaires, and observation of learning implementation. The data is analyzed using percentage techniques to determine the category of product practicality. The following is a recapitulation of the teacher's response questionnaire to the implementation of the Canva-assisted CTL model in a limited trial.

Table 3. Results of Teacher Practicality Test in Limited Trials

No	Aspects Assessed	Total Score	Percentage
1	Benefits	45	94%
2	Practicality and Convenience	42	88%
3	The Attractiveness of Learning	40	83%
4	Boil pan	44	92%
5	Feasibility of Implementation	41	85 %
Average			88 %

Based on the results of the calculation of the teacher's response questionnaire, an average percentage of 88% was obtained with the category of very practical. The aspects of usefulness and feasibility of implementation obtained the highest score (94%). This shows that the Canva-assisted CTL model is considered to be able to 1) help students develop their minds with better learning abilities Contruktivism, Inquiry, Question, Learning Community, Modeling, Reflection,, authentic assessment; 2) Increase students' collaborative activities in group discussions; 3) Easy to apply in grade V math learning. Teachers also stated that the use of Canva as an interactive visual medium helps students pour out ideas in a more systematic and creative way. The following is a recap of the student response questionnaire to the implementation of the Canva-assisted CTL model.

Table 4. Results of Student Practicality Test in Limited Trials

Num	Aspects Assessed	Percentage
1	Fun learning	92%
2	Canva helps you understand the material	86%
3	Group discussions make it more active	90%
4	It's easier to put ideas into writing	88%
5	Be bolder to express your opinion	85%
6	Teaming up with friends is easier	94%
7	Don't feel bored during learning	90 %

8	Want to relearn this way	96%
	Average	90,1%

Based on the results of the calculation of the student response questionnaire, an average percentage of 90.1% was obtained with the category of very practical. The majority of students stated that learning with the Canva-assisted CTL model was more enjoyable than the conventional method, group discussions helped them understand the material more deeply, and the use of Canva made it easier for them to organize and write down ideas in sequence. The collaboration aspect obtained a high score (96%), which shows that question stage in the CTL model is effective in improving cooperation and communication between students. The seventh stage after the limited trial is the researcher revises the product after the limited trial. Limited trial revisions are carried out based on inputs, findings and results of limited trial evaluation. Based on observations, observations, problem findings, namely the steps to solve the problem that are adjusted to the steps understood by themselves.

Based on the results of the limited field test and input from observers, several improvements were made as follows, (1) simplification of LKPD Instructions the instructions on the worksheet are clarified and simplified to better suit the characteristics of grade V students. (2) Optimization of the *Inquiry Stage*: a lighter question (HOTS) was added to strengthen critical thinking indicators such as recognizing problems, identifying problems, so that they can answer questions. (3) strengthening Collaboration: the division of roles in groups is clarified (chairperson, author, speaker, Canva designer). The discussion time is extended for all members to actively participate. (4) time Management: the duration of Canva's use is set so as not to reduce the time for reflection and drawing conclusions. The results of the limited field test showed that the Canva app-assisted CTL model was in the very practical category based on both teacher and student responses. This model is easy for teachers to implement, engaging and fun for students, supports the improvement of numeracy literacy skills, encourages active collaboration in groups. Thus, the product is feasible to proceed to a wider field test stage after revision and refinement.

The eighth stage in this study is the trial of use. A wide-ranging trial was applied to 30 Elementary School Students through 6 meetings. The last stage is the product trial stage consisting of 2 classes. The experimental class used the Canva-assisted CTL model, while the control class used conventional learning. Data was collected through numeracy literacy ability tests (pretests and posttest), student collaboration questionnaires, and observation of learning implementation. The results of the product trial were then analyzed to see the effectiveness of the model in improving students' numeracy literacy and collaboration skills. The findings from this stage are the basis for making final improvements to the developed learning tools. As such, the Canva-assisted CTL model development process has gone through systematic stages ranging from needs analysis, design, expert validation, product revision, to limited trials and effectiveness tests. The first meeting is the giving of a Pre-test, the second, third meeting to the fifth meeting is an experimental trial using the CTL model with the help of the Canva application which is designed in the teaching module which is designed to be inserted by the Canva application on the CTL model

In the sixth meeting, a posttest was carried out which aimed to be able to measure how the level of students' understanding of the addition material, subtraction of fractions and measure the effectiveness of the application of the CTL model with the help of the Canva application which has been developed in improving students' numeracy literacy achievements. In addition, students are also asked to fill out a student learning motivation questionnaire which aims to

measure how the level of learning motivation is after participating in learning with the help of the Canva application. The results of the posttest and the learning motivation questionnaire are then used as a basis for drawing conclusions about the success of the learning that has been implemented. The effectiveness of the Canva-assisted CTL model that has been developed is measured through a Pre-test and Post-test comparison process. The value of the pre-test and post-test results is presented in Table 5 below.

Table 5. Comparison Results of Pretest and Posttest

Num	Category /Class	Highest Score	Lowest Score	Average score
1	Experiments pretest	14	6	9,60
2	Experiments Posttest	20	12	16,93
3	Control Pretest	13	4	9,40
4	Control Posttest	18	12	14,23

Remarks : Ideal Maximum Score (IMS) = 20

Based on Table 5 presented, it can be seen that there was an increase in the pretest score of the experimental class that received treatment, originally the lowest score of 6 and the highest score of 14 and the average score of 9.60 increased to the lowest score of 12, the highest score of 20 and the average score of 16.93 and the pretest score of the control class which was originally the lowest score of 4, the highest score of 13 and the average score of 9.40 increased to the lowest score of 12, The highest score was 18 and the average score was 14.23 even though the control class was only a comparison and did not receive treatment. The improvement in this experimental class shows that the teaching modules developed using the Canva-assisted CTL model are able to help students better understand the concepts of addition and subtraction of fractions related to everyday problems. In order to strengthen these findings, the researchers proceeded to further analysis to test the quality and effectiveness of the use of the modules designed through the development of this Canva-assisted CTL model, which has been developed using three stages of analysis.

The normality test is taken in order to determine the type of statistics to be used, as a condition for the use of parametric statistics, a Shapiro-Wilk normality test is carried out because $n=30$ is carried out. The results of the normality test are presented in the following Table 6:

Table 6. Normality Test Results

Data	Statistics	Df	Sig	Conclusion
Pretest of Experiment	0,954	30	0,23	Normal
Pretest of control	0,951	30	0,18	Normal
Posttest of Experimen	0,943	30	0,11	Normal
Posttest of control	0,938	30	0,80	Normal

Based on Table 6, it can be seen that the pretest and posttest have a Sig. > 0.05 , so the data is said to be normally distributed. After the normality and homogeneity test, the analysis was continued with the next test, namely the Paired Sample T-Test.

Next, a hypothesis test was carried out using the parametric statistical test Paired Sample T-test. The purpose of the Paired Sample T-Test is to prove statistically whether there is a

significant average difference between the ability to understand concepts before and after the CTL Learning Model with the help of the Canva Application which is inserted into the model syntax in the Teaching Module and used as well as providing an answer whether H_1 in this study is rejected or accepted. The hypotheses in this study are as follows:

H_0 : There is no significant difference between the average ability of students in the pre-test and post-test through the use of the Learning Model that has been developed

H_1 : There is a significant difference between the average ability of students in the pre-test and post-test through the use of the Learning Model that has been developed.

The results of the T-Test Sample Paired Test are presented in Table 7 below:

Table 7. Paired Sample T-Test Results

Pasangan Data	Mean Selisih	T	Df	Sig.(2-tailed)
Pretest-Posttest	0,66	-5,64	58	0,000
Pretest-Posttest	0,36	-5,64	53,68	0,000

Based on Table 7, the Sig.2-tailed value is 0.000 0.05. Because the Sig.2-tailed value is less than 0.05, H_0 is rejected and H_1 is accepted, meaning that there is a significant difference between the average ability of students to understand concepts in the Pre-test and post-test through the use of the Learning Model that has been developed.

After the hypothesis is answered, there is a difference between the average ability to understand students' concepts in the pre-test and post-test. The next step is to conduct the N-Gain test with the aim of measuring the level of effectiveness of improving students' understanding of concepts. The results of the N-Gain calculation are presented in Table 8:

Table 8. N-Gain Score and N-Gain Percent Recapitulation

Indicator Statistics	Value	Category
Overnight N-Gain Score	0,6908	Medium
N-Gain Percentage(%)	69,08 %	Medium

Based on Table 8, the calculation results show that there is an average N-Gain Score of 0.6908 which has been included in the "medium" category. This is also strengthened by the acquisition of a value of *N-Gain* percent of 69.08% which is included in the "Medium" category. This data shows that using the Canva-assisted CTL Model makes a real contribution to improving the understanding of the concept of addition and fraction reduction related to daily life in fifth grade students. Although categorically at the "moderate" level, if associated with an increase in students' average scores from 14.00 to 18.00, it is proven to be able to help students overcome the barriers of learning obstacles in materials that are considered difficult.

Furthermore, in order to provide a more in-depth picture of how effective the CTL learning model assisted by the Canva application that has been developed, the researcher conducted further analysis on each aspect of numeracy literacy. This is done to identify what aspects are

experiencing optimal improvement and which aspects still need strengthening. The percentage of achievement in each aspect is presented in Table 9 below.

Table 9. Percentage of Achievement of Numeracy Literacy Aspect

Data	Statistics	Percentage	Classes	Category
1	Count	92 %	Experiment	Excellent
2	Numbering Relations	86 %	Experiment	Good
3	Arithmetic Operations	85 %	Experiment	Good
4	Count	70 %	Control	Enough
5	Numerical Relations	65 %	Control	Enough
6	Arithmetic Operations	62 %	Control	Enough

Based on the data in Table 9, it can be seen that the use of the CTL model assisted by the Canva application has a significant impact on every aspect of the Numeracy Literacy Indicator in the Numeracy Experiment class which reaches 92% (Excellent), Numerical Relations reaches 86% (Good) and Arhythmic operations reaches 85% (Good). On the other hand, in the aspect of Counting in the control class reached 70% (Sufficient), Numerical Relations 65% (Enough) and Numerical Operations 62% (Enough) that carried out ordinary learning without using *the CTL learning model* without the help of the Canva application, without this treatment showed less than optimal results, so it is important to use the CTL model with the help of the Canva application which can improve the results of numeracy literacy skills.

4). Student Learning Motivation Analysis

Students' affective responses to the Canva-assisted CTL learning model were measured through a motivational questionnaire that included 8 indicators.

Table 10. Results of Analysis of Achievement of Student Learning Motivation Indicators

Num	Motivation Indicators	Percentage Score	Category
1	Concentration	88 %	Very High
2	Curiosity	92,45%	Very High
3	Spirit	87,25%	Very High
4	Independence in learning	86,56%	Very High
5	Never give up	90,94%	Very High
6	Confidence	91,78%	Very High
7	Feel satisfied in learning	94,35%	Very High
8	The Desire to Succeed	90,56%	Very High
Average Learning motivation		90,24%	Very High

The results of the analysis of Table 10 show that the average percentage score results are 90.24%, this shows that the learning model developed in the experimental class that is the focus of this study is able to increase student motivation with a very high motivation category.

Discussion

The effectiveness of Canva's CTL model to improve numeracy literacy and learning motivation in grade 5 elementary schools. Before conducting the research, the researcher designed learning with the CTL learning model with the help of Canva through the creation of independent curriculum modules. In accordance with the learning in the module, the researcher carried out research as many as six meetings Rohmah & Hidayati, (2021). At the first meeting, the researcher conducted a *pretest* to find out the initial abilities of the students. In the second, third, fourth and fifth meetings, the researcher carried out learning according to design using a cooperative learning model with the CTL model (Damayanti et al., 2025). Furthermore, the sixth meeting of researchers conducted a *posttest* to find out the learning results after being treated.

Previous research has shown the effective impact of the CTL model on mathematics learning outcomes (Lestari et al., 2023). Other research results also show that mathematics learning outcomes have increased due to the application of the CTL learning model compared to the conventional learning model (Saaroh et al., 2021). CTL learning model can improve mathematics learning outcomes (Sekaryanti et al., 2022). Other research also shows that applying a contextual learning model improves students' mathematics learning outcomes (Nurdin & Yusuf, 2020). Other research results also stated that there was an increase in learning outcomes by using the cooperative learning method with CTL in mathematics learning (Lestari et al., 2023).

After using the CTL Model with the help of Canva application learning media, there was an improvement in student learning outcomes. This can be seen from the Independent T Test sample of Grade 5 State Elementary School A and grade 5 State Elementary School B in Talegong District *posttest* results. The results show that the significance value is 0.000 which means less than 0.05. Thus, it can be said that there is an increase in differences in student learning outcomes after using the Canva app learning media. In addition, it can also be seen from the N-Gain Score test that the average result of the *pretest* and *post-test* difference in the experimental class was 69.08 (77.51%) including the effective category. Meanwhile, the average difference between *pretest* and *post-test* in the control class was 69.6469 (69.64%) in the category of quite effective. So, it is concluded that the use of canva application learning media is effective compared to using conventional media in the learning process.

Canva application learning media can improve learning outcomes and encourage teachers' creativity in teaching, the use of learning media is effectively used in improving student learning outcomes. Based on research Nur et al., (2023). Based on the effectiveness test using the N-Gain Score formula, a result of 0.9 was obtained with a high category or presented as 90. In accordance with the conversion of the achievement rate of the results of the N-Gain score review with a value of > 69 is categorized as effective, the use of a learning model with canva-based learning media is effective in improving learning outcomes (Hutajulu et al., 2023). Based on research Rosdiana et al., (2018) The results of *pretest* and *posttest* data analysis with technology-based applications in the form of Canva can improve literacy. Based on the effectiveness test using the N-Gain Score formula, a result of 0.9 was obtained with a high category or a percentage of 90. In accordance with the conversion of the achievement rate of the results of the N-Gain score review with a value of >76 categorized as effective, the use of a canva-based learning model is effective in improving student learning outcomes with an effectiveness level of 90.

CONCLUSION

Based on the results of the research carried out, it can be concluded that the results of the Independent sample t test show that there is a significant difference between the learning outcomes of students who use the Canva application and those who do not, this shows that the difference is not caused by chance. As well as the results of the N-Gain Score test, the use of canva application learning media is effective in improving the cognitive learning outcomes of Grade 5 students of State Elementary School A in Talegong District in mathematics subjects. This research shows that the Canva application is effective in supporting the implementation of the CTL model. Canva integrations can increase student engagement, facilitate the contextualization of materials, develop 21st-century skills, and encourage constructive collaboration. Significant improvements in learning outcomes indicate that the right combination of technology and pedagogy can create a more meaningful learning experience. However, successful implementation requires adequate infrastructure support, ongoing teacher training, and adaptation strategies to address technical challenges. Canva is not just a technology tool, but a medium that enriches the CTL learning process by providing a space for students to express their understanding creatively and contextually.

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