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THE INFLUENCE OF ANDROID STORY-BASED COOPERATIVE LEARNING MODEL ON LEARNING OUTCOMES

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Abstract. *Faced with the millennial generation in a digital era, conventional learning models that are not attractive tend to be individual and not supported by contemporary media cause passive, less critical, and uncreative learners. Then there needs to be learning that can encourage the improvement of student learning outcomes. Researchers conducted a study to analyse the influence of media-based cooperative learning models on elementary school fourth grades science learning outcomes. This study uses experimental research techniques through tests, observations, and documentation. The research population of 41 Public Elementary Schools and 2 Private Elementary Schools in Wonosalam District of Demak Regency with data on 355 teachers and 6,867 students with samples in the fourth grades students of SDN Mojo Demak 2, and SDN Trengguli 3. The research results on the Android illustrated story-based cooperative learning model on elementary school the fourth grades Science learning outcomes showed at the count of -7,223 and a table of -2,079 or in another sense -t count < -t tables with signification (2-tailed) values of 0.000 < 0.05. The results showed that this study accepted; namely, the android story-based cooperative learning model has a significant influence on learning outcomes. Based on research, teachers are advised to use a collaborative learning model based on android pictorial story media because it cooperates and inspires wishful thinking. Current, teachers are more effective in using a cooperative learning model based on android picture stories when compared to conventional.*

Keywords: *Cooperative, Android, learning results.*

Main provisions of the article. Based on descriptive results of the posttest value of the experiment, it can be concluded that the learning outcomes of cooperative learning models based on android stories succeeded by expectations or had significant influence. It is evidenced by the results of paired sample test data that shows that sig value. (2-tailed) of 0.000 < 0.05 and average posttest results of students of the fourth grades Public Primary School number 2 Mojo Demak who were able to reach 83.45 or higher than the middle pretest grade and 100% study completion rate.

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Introduction. The learning process is an effort to provide knowledge or transfer of knowledge. As the millennial generation develops in the digital era, educators are encouraged to innovate on the advancement of science and technology, including following learning strategies. Learning itself influences the quality of education [1]. Properly implemented learning will provide a dominant contribution for students. Conversely, improperly implemented knowledge will hinder the development of potential students.

One of the keys to success in the learning process, namely the acquisition of optimal learning outcomes. Every teacher is motivated to achieve these results, always preparing everything related to the learning process. Each teacher has a responsibility to master a learning method by the conditions of students and the material to be taught to motivate students to be more interested in the implementation of learning and influence their learning outcomes. However, elementary schools' reality is that most education is still conventional. In this case, knowledge is still done with lectures without combining other learning models that encourage students to achieve maximum learning outcomes [2].

Conventional learning models can hurt learners causes learners to be passive, less critical, and uncreative [3]. The knowledge obtained is only sourced from the teacher, including the child's limited point of view from himself. In comparison, we know that a heterogeneous class includes academic ability and different genders.

In learning in school, the teacher generally only uses makeshift media, namely APM (Cheap Props) that are not currently in the learning taught. Media should facilitate teachers in carrying out the learning process to deepen students' ability to receive the concept of the material introduced. However, even though the media had been prepared during the implementation, there were still many problems found during the learning process. Learning in school has not been maximal so that learning outcomes are not achieved.

Conceptual framework. It takes teachers who have a suitable model and media to improve learning outcomes, namely, initially conventional, unattractive, and individualised learning. A change in learning is needed with the application of learning models that can encourage students to be active and improve learning outcomes in students. One alternative learning model by actively involving students is cooperative [4]. This learning model maximises learning activities by grouping students in small groups and learning from each other. By applying this model, students listen and participate actively in every learning process so that the information or knowledge obtained is not quickly forgotten [5].

Arifin [6], in their findings, proved that there was a significant difference in learning achievement between students who used cooperative learning models and students who used conventional learning models. Overall, students who used the collaborative learning model had better grade point averages than students who used traditional learning.

In addition to the learning model factor, a teacher is also expected to apply suitable learning media to his students. Mubarok et al. [7] stated that learning media is all types that can convey messages from a source to obtain a conducive learning environment where the recipient can carry out the learning process effectively and efficiently. In addition, learning media is also helpful to stimulate students to think critically, hone their imagination, and be better at developing their attitudes, resulting in creativity and innovative work.

One media often in demand by students in elementary school is image media. An image will inspire students to dream, and with an idea, a message will be easier to understand. Therefore, image media can motivate students to be more excited, interested, and encouraged to learn.

According to Masruro & Gunansyah [8], several things can affect how students think other than a picture, namely a story. A story can make students think critically about the story

they hear. In this case, students can report learning new and true things. A simple picture story will make it easier for students to pour ideas at the same time, the reader will better understand what he is reading.

According to Nurlaili [9], pictorial stories can influence students' learning process in capturing an understanding of a learning object. Students can improve their knowledge of the living environment of wild animals by intervening in story instruction. The medium of pictorial stories is a medium with ideas, messages, images, and a story. The image and story can depend on each other to become an exciting storey unity. Media picture stories tell in detail what they want to know so that students can understand the content of the story presented from the media. It is evidenced by Khair et al. [10]; Masruro & Gunansyah [8] in their research that proves a significant influence between the medium of pictorial stories on learning outcomes in students. According to Khair et al. [10], visual story media is a very appropriate medium used in learning the theme of daily activities in the classroom because students can more easily understand the concept of the theme.

Meanwhile, Masruro & Gunansyah [8] also showed similar results that visual story media in first semester IPS material about the natural and artificial environment had a significant difference to the learning outcomes of YPI Grade III students Darussalam, Cerme, Gresik. The class value graphs show a considerable difference between class values that use visual story media without optical story media. Other researchers showed similar results. Sahronih, Purwanto, & Sumantri [11] proved that students' learning outcomes improved when using picture stories compared to students who did not use media.

Science and technology evolve leads to increasingly significant and practical changes. In the education sector, the increasingly varied use of media becomes a challenge for teachers in carrying out their duties as teachers in schools to achieve learning goals. Online learning that utilises internet facilities as a learning method is considered a solution. Smartphones that are reasonably easy to carry, access, and affordable as a learning medium will significantly provide tremendous impact and potential for students in helping the learning process. Modern facilities make students more interested in learning.

According to Kalsum [13], android-based learning media significantly influences students' learning outcomes. In addition, android-based learning media used can have a positive influence on the learning process. Therefore, the author is interested in collaborating the medium of picture stories and android applications into android picture story media in the learning process [13].

In this study, the authors applied these learning models and media in Science lessons. Science is essentially a collection of knowledge in facts, concepts, principles, laws, theories, and models [14]. In addition to providing knowledge to students, science is also a means to cultivate the ability to think and solve problems in everyday life [15-17]. In addition, the utilisation of learning models and media in Science learning is still rare and not optimal.

The description above encourages the author to research with the title "The Influence of Android Story-Based Cooperative Learning Model on Learning Outcomes".

Research objectives. This research was conducted to analyse the influence of cooperative learning models based on android pictorial story media on the outcome of fourth-grade elementary school Science learning. The data collected will be used to propose models and media to improve student learning outcomes.

Methodology

Research design. This research approach is quantitative. This study uses quantitative research because the observed symptoms can be measured and altered in numbers, thus enabling statistical analysis [6].

This research uses experimental research methods. Experimental research is research that tests causal relationships. This type of research is an actual experiment with the pretest-posttest of control group design. True Experimental is an experiment that is carried out. The characteristics in this design are the existence of groups divided into exhibition classes and control classes.

Respondents of the study. In this study, the population was all students of Wonosalam District Elementary School of Demak Regency amounted to 41 Public Elementary Schools and 2 Private Elementary Schools. With data from 355 teachers, 6,867 students, the data was sourced from the Wonosalam District Korwil office. Two elementary schools are from the fourth grades Public Primary School number 2 Mojo Demak as an experimental class and Public Primary School number 3 Trengguli control class. Purposive sampling was used in taking a slingshot in this study. Purposive sampling is another name of consideration sampling; in sampling or determination of samples for specific purposes, researchers use sampling techniques in considerations in their research [18]. The model in this study included 22 students from Public Primary School number 4 Mojo Demak and 42 students from Public Primary School number 3 Trengguli Wonosalam District of Demak Regency. Considering students from the same subdistrict, Wonosalam subdistrict, the average student comes from a middle family, most of the livelihoods of parents as private employees, and the academic ability of students above average compared to other elementary schools in Wonosalam district of Demak regency.

Findings and discussion

Normalise Gain Test (N-Gain)

Table 1. Normalise Gain Test Results Control Classes and Experiments

No.	Class	Average N-Gain	N-Gain Minimal	Maximum N-Gain	Category
1	Control (Conventional)	29.98	10.45	67.50	Ineffective
2	Experiments (Cooperative Learning Model with Cergam Android)	58.29	35.00	75.00	Effective enough

Source: SPSS 23 data processing results

Based on the normalised test calculation (N-gain) in the table, the average N-Gain score for practical classes (Cooperative learning method with android learning media) of 58.29%, with a minimum value of 35% and a maximum of 75%. It shows that the experimental class is quite effective. The control class falls into the category of ineffective. It is indicated by an average N-gain score of 29.98%, with a minimum value of 10.45% and a maximum of 67.50%.

Test the Influence of Android Story Media-Based Cooperative Learning Model on Learning Outcomes. The experimental class uses cooperative learning with the help of android pictorial story media. This experiment was conducted in class IV Public Primary School number 2 Mojo Demak. The students in this experiment are 22 students. After the posttest, a distribution of values from 15 multiple choice questions is obtained. The results of this distri-

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bution are held descriptive analysis that is analysed using statistical methods to get a pattern of several studies, summarise it, and continue to present information in the desired form.

List of Frequency Distributions. Pretest and Posttest results

Table 2 - Pretest and posttest results for Class IV Public Primary School number 2 Mojo Demak (experimental class) and class IV Public Primary School number 3 Trengguli (control class)

No	Parameter	Pre-test		Post-test	
		Experiment Class	Control class	Experiment Class	Control Class
1	The number of students	22	42	22	42
2	The highest score	87	80	93	87
3	Lowest value	20	20	73	40
4	Average value	54.68	47.45	83.45	63.14
5	Completed student	5	4	22	19
	Qualification	Very less	Very less	Very good	Not enough

Table 2 shows that before applying the cooperative learning model and using the android picture story media, the average class score was lower than the courses that applied the collaborative learning model and the use of android picture story media. It means that the application of cooperative learning models and Android illustrated story media affect student achievement, especially in science subjects.

Paired Sample Test. The results of the paired sample test obtained the following results.

Table 3. Paired Sample Test Experiment (Pictorial Android Story)

N0	Information		Value
1.	Average	Pretest	54.68
		Posttest	83.45
2.	Sig (2-tailed)		0.000
3.	t Count		-7.223
4.	N		22

Source: spss data processing results 23

Based on the paired sample test results, it can be known that there is a significant influence between before the pretest of the cooperative learning model with the learning media and after the posttest of the cooperative learning model based on the learning of students in science. The sig value indicates this. (2-tailed) of 0.000 < 0.05 with t count of -7.223 and t table of -2.079 or in another sense -t count < -t table. In addition, significant differences can also be seen from the average values between posttest that are higher than pretest values.

Concludes the influence of cooperative learning model based on android pictorial story media on science learning outcomes the fourth grades elementary school. Based on the de-

scriptive results of the posttest value of the experiment, it can be concluded that the learning results of the story-based learning model with android stories succeeded by expectations or significant influence. It is evidenced by the paired sample test data results that show that sig value. (2-tailed) of 0.000 < 0.05 and average posttest results of students of the fourth grades Public Primary School number 2 Mojo Demak who were able to reach 83.45 or higher than the middle pretest grade and 100% study completion rate.

Conclusions and recommendations. Based on descriptive results of the posttest value of the experiment, it can be concluded that the learning outcomes of cooperative learning models based on android stories succeeded by expectations or had significant influence. It is evidenced by the results of paired sample test data that shows that sig value. (2-tailed) of 0.000 < 0.05 and average posttest results of students of the fourth grades Public Primary School number 2 Mojo Demak who were able to reach 83.45 or higher than the middle pretest grade and 100% study completion rate.

This study indicates that the cooperative learning model based on android picture story media positively impacts student learning outcomes. Between students can work together and support fellow members in the group in solving problems or achieving group success. That way, the material to be conveyed by the teacher is more easily absorbed and understood by students. In addition, the use of illustrated story media and contemporary technology such as Android encourages students to be more interested and enthusiastic in learning, which will positively affect their learning outcomes.

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ANDROID ӘҢГІМЕЛЕРІНЕ НЕГІЗДЕЛГЕН БІРЛЕСКЕН ОҚЫТУ МОДЕЛІНІҢ ОҚУ НӘТИЖЕЛЕРІНЕ ӘСЕРІ

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Түйін. *Цифрлық дәуірдегі мыңжылдық ұрпақпен бетпе-бет келген кезде, тартымды емес дәстүрлі оқыту үлгілері индивидуалды болып келеді және қазіргі заманғы БАҚ қолдау көрсетпейді. Содан кейін оқушылардың оқу нәтижелерін жақсартуға ынталандыратын оқу болуы керек. Зерттеушілер бастауыш мектептің төртінші сыныптарының жаратылыстану пәндерін оқыту нәтижелеріне медиа негізіндегі бірлескен оқыту үлгілерінің әсерін талдау үшін зерттеу жүргізді. Зерттеулерге сүйене отырып, мұғалімдерге андроид бейнелі сюжеттік медиа негізіндегі бірлескен оқу үлгісін пайдалану ұсынылады. Қазіргі уақытта мұғалімдер әдеттегіге қарағанда андроид суреттеріне негізделген бірлескен оқыту моделін пайдалануда тиімдірек болып табылады.*

Түйін сөздер: *Кооператив, Android, оқу нәтижелері.*

ВЛИЯНИЕ МОДЕЛИ СОВМЕСТНОГО ОБУЧЕНИЯ РАССКАЗОВ ANDROID НА РЕЗУЛЬТАТЫ ОБУЧЕНИЯ

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Резюме.*Столкнувшись с тысячелетним поколением в цифровую эпоху, традиционные модели обучения, которые не являются привлекательными, как правило, индивидуальны и не поддерживаются современными средствами массовой информации, приводят к пассивным, менее критичным и нетворческим учащимся. Затем необходимо обучение, которое может способствовать улучшению результатов обучения учащихся. Результаты показали, что это исследование принято; а именно, модель совместного обучения, основанная на истории Android, оказывает значительное влияние на результаты обучения.Основываясь на исследованиях, учителям рекомендуется использовать модель совместного обучения, основанную на графических рассказах Android, потому что она сотрудничает и вдохновляет на принятие желаемого за действительное. В настоящее время учителя более эффективно используют модель совместного обучения, основанную на историях с картинками Android, по сравнению с традиционной.*

Ключевые слова: *Кооператив, Android, результаты обучения.*

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