



The Analysis of Guided Inquiry Learning Model Influence towards Primary School Students Science Learning Outcomes

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ABSTRAK

Penelitian yang mengkaji pengaruh model pembelajaran inkuiri terbimbing terhadap hasil belajar IPA sudah banyak dilakukan, namun hasil-hasil penelitian tersebut belum mendapat kajian lebih lanjut untuk dirangkum dan diuji kembali efektifitas pengaruh model pembelajaran yang digunakan. Penelitian ini bertujuan untuk mengetahui besar pengaruh model pembelajaran inkuiri terbimbing terhadap hasil belajar IPA siswa SD. Penelitian ini merupakan *library research* dengan teknik analisis data meta-analisis. Subjek penelitian ini adalah artikel penelitian yang berjumlah 7 artikel dari berbagai jurnal penelitian terakreditasi Sinta. Pengumpulan data menggunakan teknik studi pustaka dilanjutkan dengan melakukan kajian pada artikel yang berkaitan dengan topik penelitian. Penelitian ini menganalisis *effect size* pada masing-masing artikel. Hasil analisis nilai pada setiap artikel penelitian diperoleh nilai

tertinggi 1,34 yang termasuk dalam kategori besar dan ada artikel penelitian memperoleh nilai 0,78 yang memiliki kategori sedang. Berdasarkan hasil analisis tersebut, disimpulkan bahwa model pembelajaran inkuiri terbimbing memberikan pengaruh yang besar terhadap peningkatan hasil belajar IPA siswa sekolah dasar. Hal tersebut juga menguatkan hasil penelitian sebelumnya yang menyatakan model pembelajaran inkuiri terbimbing memiliki pengaruh positif terhadap peningkatan hasil belajar IPA siswa sekolah dasar.

ABSTRACT

The research that examines the effect of guided inquiry learning models on science learning outcomes has been done a lot, but the results of these studies have not received further study to be summarized and re-tested the effectiveness of the effects of the learning model used. This study aimed to determine the effect of guided inquiry learning models on the science learning outcomes of elementary students. This research was library research with meta-analysis data analysis techniques. The subjects of this study were 7 research articles from various Sinta accredited research journals. Data collection used literature study techniques which were followed by reviewing articles related to the research topic. This study analyzed the effect size of each article. The results of the analysis of the value of each research article obtained the highest value of 1.34, which is included in the large category and there is a research article obtaining a value of 0.78 which has a medium category. Based on the results of the analysis, it was concluded that the guided inquiry learning model has a great influence on improving the learning outcomes of elementary school science students. It also reinforces the results of previous research which states the guided inquiry learning model has a positive effect on improving science learning outcomes of elementary school students.

1. Introduction

2013 curriculum becomes guidance for the education system which is used in Indonesia right now. The implementation of curriculum 2013 uses an integrative thematic system that combines some subjects of learning into one theme. One of the integrated subjects is a science subject. Science is a knowledge that learns about events or phenomena that occur in nature through a series of scientific methods by investigating, arranging, and presenting ideas (Wedyawati & Lisa, 2019; Yulandra & Pujiastuti, 2019). So, science emphasizes students to study natural events by observing the surrounding environment and trying to solve problems related to natural phenomena that occur. Science learning in elementary schools should focus on fostering interest and developing students' knowledge of the environment in which they live (Samatowa, 2016). The implementation of learning that occurs emphasizes the process of real experiences or is contextual for students. Science learning will be more meaningful when students learn to find problems themselves and provide solutions to problems or natural phenomena that occur. To create meaningful science learning, teachers have a very important role in managing the learning process. Learning that takes place should be active as well as innovative. It aims to make learning take place effectively, efficiently, and be able to make student learning outcomes better. (Jalaludin, 2019; Astuti et al., 2019; Wulandari, 2013) stated that learning outcomes are a measure or level of success that can be achieved by a student based on the experience obtained after an evaluation in the form of tests and are usually manifested by certain values or numbers and cause cognitive, affective, and psychomotor changes. The learning outcomes obtained by students do not only focus on understanding and theoretical knowledge but must also pay attention to aspects of attitudes and skills possessed by students. also states that learning outcomes are the ability or level of success achieved by a person after participating in the learning process that causes changes in behavior. This statement explains that learning outcomes become benchmarks or reflect students' abilities and successes in learning which have an impact on changes in one's behavior.

However, student science learning outcomes in Indonesia today need to be improved. The fact shows that science learning outcomes in Indonesia are currently in the low category based on the PISA study. PISA (Program for International Student Assessment) is a study developed to conduct academic assessments or evaluations of school children in countries in the world that are members of the Organization for Economic Cooperation and Development (OECD). This PISA study measures students' cognitive knowledge, students' mastery of science concepts, science processes, and students' science attitudes. PISA results from 2000 to 2018 show that Indonesia has a low scientific literacy rating with a score of 403 below the average science score in OECD countries, namely 493 (Narut & Supradi, 2019). These results indicate that the quality of science learning in Indonesia needs to be developed to be able to improve science performance in students. Science learning that is currently happening is not related to the real-life context, actual problems are rarely used in the learning process, science learning in elementary schools is not to meet the main learning objectives and needs of students but rather tends to only focus on the subject matter, and science learning which goes on as if only in anticipation of the student for the exam (Yuliati, 2017; Oviana, 2016). This opinion indicates that current science learning tends to be less effective, causing student learning outcomes in elementary schools below. This indicates the need for improvement and improvement in the science learning process in elementary schools. Although currently there are many types of research and innovative methods in the learning process, this condition can occur because the learning process that takes place does not maximize the ability of students in critical thinking to explore, understand and solve problems experienced in real life even though they apply a learning model. If this is allowed to happen, it will harm the output obtained by students, especially on understanding and learning outcomes of Science. Improving the quality and effectiveness of science learning in elementary schools can be done with a variety of efforts, one of which is through the application of the guided inquiry learning model (Desstya, 2014; Yuliati, 2017) states that the application of the guided inquiry learning model is in accordance with the science concept. This learning model is based on constructivism theory which directs students to be able to construct their knowledge through the discovery process. The statement explains that this guided inquiry model can make students build their understanding or knowledge through discoveries created from learning activities.

The guided inquiry learning model is a learning model that prioritizes student activity in the learning process to find a concept with teacher guidance (Muliani & Wibawa 2019; Astuti & Setiawan, 2013). The guided inquiry learning model emphasizes the ability of students to find a concept through teacher guidance so that students will be actively involved and better understand the material being taught. Learning activities that take place also direct students to be able to participate actively in a group.

Students are also trained to interact with their group friends to produce a conclusion or concept. (Sukma & Ibrahim 2016; Aulia et al., 2018) also states that guided inquiry learning is a scientific process of exploring and studying science actively using students' skills in logical, critical, and creative thinking to answer questions through teacher guidance. This statement shows that in the learning process using the guided inquiry model students will actively think critically, creatively, and based on logic in solving a problem through teacher guidance. Winarni also shared a similar opinion (Kurniawan, 2013; Margunayasa et al., 2019) which in his research states that through guided inquiry learning students learn to make maximum use of their abilities in finding out and solving problems systematically, critically, logically and analytically so that they are more confident in formulating and answering questions. Other opinions were also conveyed by (Sukma & Ibrahim, 2016; Leonard & Nwanekezi, 2018) in his research revealed that guided inquiry learning is a student-centered learning model that directs student activities so that they can develop ideas, knowledge and conceptual understanding by engaging in assignments, while in learning activities the teacher acts as a facilitator. Student-centered learning activities require the ability of the teacher to be a good facilitator in applying the guided inquiry model. Teachers must be able to manage learning and guide students properly so that the ideas, knowledge, and conceptual understanding that students get are in accordance with the learning objectives.

The guided inquiry learning model is also a model that can affect student learning outcomes. Research conducted by (Masruri et al., 2019; Nurhabibah et al., 2018; Putra et al., 2017) states that there is a positive influence on student science learning outcomes after applying the guided inquiry learning model. It can be seen from the science learning outcomes that are applied to the guided inquiry learning model higher than the science learning outcomes of students who do not use the guided inquiry learning model. Research data regarding the guided inquiry learning model have been widely published, however, further research on the research data has not been widely carried out. The research data requires further research to be summarized and reassessed for its effectiveness so that it can strengthen or create new studies from the results of previous research. The research was conducted using a meta-analysis method. Several meta-analysis studies have been carried out at various levels of education with various fields of study. However, until now there has been no meta-analysis research on the effect of guided inquiry learning models on science learning outcomes at the elementary school level. Based on these descriptions and problems, the researcher will examine the effect of the guided inquiry learning model on student science learning outcomes in elementary schools. This study aims to determine the influence of guided inquiry learning models on student science learning outcomes in elementary schools. Therefore, this study entitled "The Effect of Guided Inquiry Learning Model on Science Learning Outcomes of Elementary School Students".

2. Methodology

This study used a quantitative descriptive research approach. This research approach used the results of statistical data analysis from the results of previous studies. The statistical data used relates to the effect of guided inquiry learning models on student science learning outcomes in elementary schools. The research subjects in this study were articles from journals published nationally with characteristics, namely; (1) written by students and general researchers; (2) research was carried out in Indonesia; (3) the research was conducted at the primary school level; (4) the research used was from 2010-2019; (5) research subjects in the form of the influence of guided inquiry learning models on science learning outcomes of elementary students; (6) the articles used must include research data such as the mean, median, mode, and standard deviation; (7) articles published in a journal accredited by Sinta. This study used two variables, namely the independent variable and the dependent variable. The independent variable in this study was the guided inquiry learning model, while the dependent variable in this study was the science learning outcome. The steps of the guided inquiry learning model were: (1) orientation, students find problems based on stimuli from the teacher, (2) formulate problems, students formulate research problems based on the events and phenomena they present with teacher guidance, (3) propose hypotheses, students learn to formulate provisional estimates, (4) plan problem solving, students design procedures and prepare tools and materials, (5) carry out research/experiments, students carry out research, (6) make observations and collect data, students make observations and collect data about experiments that have been carried out, (7) data analysis, students test the hypothesis that has been submitted, (8) concluding, students formulate conclusions. Meanwhile, the science learning outcomes to be achieved are students' understanding of the subject matter being taught and students' ability to think critically to find answers to problems that occur in their natural environment through discovery activities. In this study, science learning outcomes would be measured by tests that focus on cognitive aspects only. Data collection in this research used literature study techniques by conducting studies on articles related

to the research topic. Data collection began with finding and collecting relevant articles according to topics to be discussed in various journals that have been accredited by Sinta with search keywords, namely the effect of guided inquiry learning models on learning outcomes of elementary school students. From these various journals, the researcher found sixteen articles related to the theme to be studied, but only seven articles met the criteria. Data analysis in this study used a large meta-analysis technique of the effect size (ES). Calculating the effect size value uses Cohen's formula presented by Becker (in Tela, Yulian, & Budianingsih, 2019) namely as follows.

$$d = \frac{x_1 - x_2}{S_{gab}} \tag{1}$$

Information:

- d = effect size cohen
- \bar{x}_1 = experimental group mean
- \bar{x}_2 = control group mean
- S_{comb} = combined standard deviation

As for the formula for finding S_{comb} yang disampaikan Becker (dalam Tela, Yulian, & Budianingsih, 2019) yaitu sebagai berikut.

$$S_{gab} = \sqrt{\frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1 + n_2 - 2}} \tag{2}$$

Information:

- n_1 = the number of samples in the experimental group
- n_2 = the number of samples in the control group
- S_1^2 = the variance of the experimental group
- S_2^2 = variance of the control group

The results of the effect size calculation are classified into several categories using the Cohen classification presented by Becker (Tela, Yulian, & Budianingsih, 2019) as follows.

Table 1. Category Effect Size Value

Amount of d	Interpretation
$0,8 \leq d \leq 2,0$	Big
$0,5 \leq d < 0,8$	Moderate
$0,2 \leq d < 0,5$	Small

3. Finding and Discussion

This study used articles relating to the influence of guided inquiry learning models on science learning outcomes in elementary schools. The research articles analyzed were 7 articles from journals published nationally and were relevant to the predetermined criteria. The title, mean and standard deviation of the articles used are as follows.

Table 2. Research Article

No	Title	Researcher	Experiment		Control	
			M	SD	M	SD
1	The Effect of Guided Inquiry Learning Model on Science Learning Outcomes and Scientific Attitudes in Class V SD Cluster I Elementary School Students in Nusa Penida District	Widani, Sudana, & Agustiana (2019)	21,48	3,64	18,56	3,34
2	The Effect of Mind Map Assisted Inquiry	Putra,	24,16	4,07	20,88	4,34

No	Title	Researcher	Experiment		Control	
			M	SD	M	SD
	Learning Model on Science Learning Outcomes of Class V SD	Margunayasa, & Wibawa (2017)				
3	The Effect of Guided Inquiry Learning Model on Science Learning Outcomes in terms of Divergent Thinking Ability of Class V SD Students	Dewi, Sujana, & Putra (2013)	25,89	7,98	16,44	7,51
4	The Effect of Guided Inquiry Learning Model Assisted by Audio-Visual Media on Science Learning Outcomes	Putri, Kusmariyatni, & Murda (2018)	22,24	3,92	17,26	3,57
5	The Effect of Guided Inquiry Learning Model on Science Learning Outcomes of Class V Public Elementary Schools in Sambirenteng	Sentanu, Rasana, & Kusmariyatni (2013)	27,53	4,89	23,50	4,22
6	The Influence of a Concept Map Assisted Inquiry Learning Model on the Science Learning Outcomes of Class V	Ari, Dantes, & Tastra (2013)	18,9	3,92	14,29	4,49
7	The Effect of Video-Assisted Inquiry Learning Model on Science Learning Outcomes	Muliani & Wibawa (2019)	22,82	4,99	17	4,62

The mean and standard deviation data in the article were analyzed to determine the influence of the guided inquiry learning model on science learning outcomes in elementary schools. The analysis result data from the article is then calculated the effect size as listed in Table 3.

Table 3. Result of Effect Size Data Analysis

Title	<i>S_{comb}</i>	<i>d</i>	Category
The Effect of Guided Inquiry Learning Model on Science Learning Outcomes and Scientific Attitudes Class V SD Cluster I Elementary School Nusa Penida	3,47	0,84	Big
The Effect of Mind Map Assisted Inquiry Learning Model on Science Learning Outcomes of Class V SD	4,19	0,78	Moderate
The Effect of Guided Inquiry Learning Model on Science Learning Outcomes in terms of Divergent Thinking Ability of Class V SD Students	7,75	1,21	Big
The Effect of Guided Inquiry Learning Model Assisted by Audio-Visual Media on Science Learning Outcomes	3,71	1,34	Big
The Effect of Guided Inquiry Learning Model on Science Learning Outcomes of Class V Public Elementary Schools in Sambirenteng	4,57	0,88	Big
The Influence of a Concept Map Assisted Inquiry Learning Model on the Science Learning Outcomes of Class V	4,21	1,09	Big
The Effect of Video-Assisted Inquiry Learning Model on Science Learning Outcomes	5,15	1,31	Big

The results of the analysis show that the research articles studied are in the value of 0.78 - 1.34. This shows that the effect size value of the article is in the medium and large category in terms of using the Cohen category table that has been set. Of the seven articles analyzed, six articles obtained an effect size value with a large category and one article obtained an effect size value with a moderate category. The research article that has the greatest effect size with a value of 1.34 entitled "The Effect of Guided Inquiry Learning Model Assisted by Audio-Visual Media on Science Learning Outcomes". While the research article that has the smallest effect size value with a value of 0.78 with the research title "The Effect of Mind Map

Assisted Inquiry Learning Model on Science Learning Outcomes of Class V SD". The results of the analysis value of the seven articles as a whole indicate that the guided inquiry learning model has a great influence on student science learning outcomes in elementary schools. The guided inquiry learning model is a learning model that makes students active participants who in practice are discovery-oriented. The learning process that occurs leads students to be active in exploring information and solving problems themselves. Suryosubroto (Paramitha et al., 2016) revealed the advantages of the guided inquiry learning model, namely: First, being able to develop knowledge in the mastery of students' cognitive skills and processes. Second, the knowledge acquired is personal and very powerful. Third, arouse students' desire to learn. Fourth, provide opportunities for students to develop what they have. Fifth, students are directly involved in learning. Sixth, to help strengthen and increase self-confidence through discovery processes. Seventh, to help the developmental stage of students towards good skepticism to get the final and absolute truth. Through these advantages, the guided inquiry learning model can influence student learning success.

Simamora (Nurdyansyah & Fahyuni, 2016) in his research revealed that the guided inquiry learning model has learning steps that have a positive impact on student learning outcomes for the better. This shows that the guided inquiry learning model has an influence on student activities during the learning process so that it has a positive impact on the learning outcomes achieved by students. (Marhaeni, 2013) explains the stages or syntax of the guided inquiry learning model, starting from orientation, formulating problems, proposing hypotheses, planning problem solving, carrying out experimental activities, observing and collecting data, analyzing data, and drawing conclusions. From these stages, it can be seen that students are directed to solve a problem systematically using the scientific method. At the orientation stage, students are given a stimulus to be able to find a problem through teacher guidance related to the material discussed in everyday life. Students are trained to be able to think critically and have a high curiosity. This is in accordance with the objectives of learning science in elementary schools, namely to develop curiosity and realize that science has an interplay with the environment and society. At this stage, students are also given the motivation to be active and enthusiastic in participating in the learning process. (Sari, 2014) states that students who have high motivation in learning will have a high impact on learning outcomes obtained by students.

Furthermore, at the stage of formulating the problem, students learn to determine the problems to be studied. The formulation of the problem raised is in accordance with the material and learning objectives. When students have formulated a problem, they will focus on solving the problem. The next stage is to propose a hypothesis. Students learn to suspect or provide temporary answers to the problems studied before experimenting. Students' ability to reason and think critically is needed at this stage. At the stage of planning problem solving, students will learn to solve a problem in accordance with scientific method procedures through teacher guidance. (Susanto, 2016) explaining science is an effort made by humans to understand the universe through observation using appropriate procedures and can be explained using reasoning to conclude. Through this stage, students' thinking in solving a problem will be structured and students learn to reason according to their abilities. At the stage of conducting experiments and data collection, students will work in groups and learn to solve a problem by conducting a study through teacher guidance. This is in accordance with Piaget's theory, namely learning through direct action or experience. The knowledge gained after carrying out the learning process will be stored strongly in his memory and plays a very important role in the rate of student cognitive development (Desstya, 2014). This stage also trains students' science skills and performance in conducting experiments.

Furthermore, at the data analysis stage, students are trained to be able to find a concept from the experiments they do base on the hypothesis and experimental results. At this stage, according to Jean Piaget's study of cognitive development theory, students will assimilate their knowledge. Assimilation is a process of integrating (integrating) new information or experiences in the form of concepts or perceptions with information already owned by someone previously (Ibda, 2015). Drawing conclusions is the final stage of the guided inquiry learning model syntax. Students are trained to draw conclusions based on the data and findings they experience during experimental activities. Each stage of the guided inquiry learning model guides the ability of students to learn to think critically and be active in the learning process to solve a problem and discover the concept of an event scientifically. The guided inquiry learning model is based on constructivism theory which directs students to be able to construct their knowledge through the discovery process (Yuliati, 2017). So, students are more emphasized to be able to construct or build their knowledge through the discoveries created through learning activities. In this case, students have the opportunity to be active in the learning process through teacher guidance, both in discussion activities and in experimental activities in a group so that they can build their knowledge or concepts (Artana et al.,

2015) In his research, it was revealed that students who were taught through the guided inquiry learning model had better science learning outcomes than students who were taught using conventional learning models. Guided inquiry learning can maximize the abilities of students so that students can formulate their findings with confidence in exploring and investigating something systematically, logically, critically, and analytically (Nurdyansyah & Fahyuni, 2016). Through this statement, it shows that this model maximally trains students' abilities in critical thinking or high-order thinking so that understanding of the material being taught is better and has a positive impact on students' science learning outcomes (Dewi et al., 2013) in his research also stated that the learning outcomes of students who applied the guided inquiry learning model were superior to students who were applied the conventional learning model. This is because students have the opportunity to actively participate in learning to find concepts based on problems in their environment. The learning process that is obtained becomes meaningful and the understanding they create becomes stronger to remember. With the strength of the information that is remembered, of course, it will also affect student learning outcomes.

Based on the results of the analysis and the learning steps that have been described, the application of the guided inquiry learning model can provide students with more opportunities to actively explore and build their knowledge through experimental activities. Students also learn to work using the scientific method. The discovery-oriented learning process causes knowledge or concepts understood by students to be stored strongly in their memories. This will have an impact on student learning outcomes. The results of the analysis show that the guided inquiry learning model has a great influence on improving science learning outcomes of elementary school students. This reinforces the results of previous research which states that the guided inquiry learning model has a positive effect on improving science learning outcomes of elementary school students. The results of the analysis in Table 3 also show that the implementation of the guided inquiry learning model gives different influences. The difference in research results is also influenced by the success of students in learning. Rifa'I and Anni (Nurdyansyah & Fahyuni, 2016) state the internal and external conditions of students have a contribution to the process and learning outcomes obtained. Internal conditions describe the physical conditions that students have, such as students' intellectual or cognitive abilities, students' psychological and emotional conditions, and the health of their organs. While the external condition in question is the state or condition of the student's environment living and hanging out. (Saputra et al., 2018) also states that student learning outcomes are influenced by two factors, namely internal factors including physical and psychological individuals, while external factors include family, school, and the surrounding community. Researchers also analyze that there are internal and external factors that affect student learning success. Internal factors include students' intellectual abilities, student interest in learning, and learning motivation. While external factors include teacher competence, relationships between students, and school environmental conditions.

First, the intellectual ability or intelligence of students. This affects the level of student understanding of the material being taught. Every child certainly has a different intellectual level. The difference in intellectual level is one of the success factors in applying the guided inquiry learning model. The intellectual ability of students to think critically is needed in every guided inquiry learning activity. (Asta et al., 2015) in his research stated that high student learning outcomes proved to be obtained by students who have high critical thinking skills as well. This shows that students' critical thinking skills can influence the learning outcomes obtained by students. The application of this model will encounter problems when there are students who have low intellectual abilities. Second, students' interest in learning. Interest is related to interest accompanied by focusing on something. Students who have a high interest in learning will try to obtain optimal learning outcomes and in the learning process, they can be active and enthusiastic in participating in all the activities being learned (Putrayasa et al., 2014). Learning activities using a guided inquiry model direct student to carry out the process of finding their knowledge. Each student certainly has their interests and characteristics regarding their interest in the learning process. The difference in interest in learning can be one of the factors that influence the differences in statistical data obtained in each study. The teacher's role is very important to manage and condition the class creatively and attractively so that students are interested in learning.

Third, learning motivation. This is related to the urge to do something in achieving the expected goals. Student learning motivation also affects student learning outcomes. In line with opinion Prananda & Hadiyanto (2019) which states that learning motivation has a correlation that affects learning outcomes. The higher the learning motivation of students, of course, will lead to higher efforts and efforts, so that students will have the opportunity to obtain optimal learning outcomes and vice versa. Fourth, teacher competence. The role of the teacher is very important in every learning activity in a study. An effective and efficient learning process depends on the competence or skills of the teacher to implement the knowledge they have to students through educational interactions, class management, and using learning methods or media (Sartika et al., 2018). This shows that the teacher determines the success or failure of students in

the learning process. The application of a learning model will be less effective if the teacher who manages the learning does not have sufficient competence in managing the learning process. Differences in the way teachers teach can also have an impact on learning outcomes obtained by students. Fifth, the relationship between students. The use of learning models will certainly affect the condition of students when carrying out learning activities. The guided inquiry learning model invites students to solve a problem with a group. (Pranandari et al., 2016) in his research states that peers influence learning outcomes obtained by students. Students who are not used to working in groups will experience difficulties and cause discomfort at work. The learning process will be effective when the relationship between students is well established so that it will affect the optimal learning outcomes obtained by students. This shows that the relationship between students will influence the research results obtained. Sixth, the condition of the school environment. The school environment is one of the factors that can influence the research results obtained. (Martina et al., 2019) in his research concluded that student learning outcomes are influenced by the school environment. The school environment greatly affects the activities and concentration of students in learning. From the articles analyzed, the places or locations of the schools studied were different. The conditions and characteristics of the area also affect students. Completeness and facilities in each school also differ so that the supporting components do not all students feel the same.

4. Conclusion

The conclusions obtained from the results of the analysis in this study indicate that the guided inquiry learning model as a whole can have a major influence on the science learning outcomes of elementary students. The effect size value obtained from each article is in a large category. This reinforces the results of previous research which states that the guided inquiry learning model has a positive effect on improving science learning outcomes of elementary school students. The big difference in the effect size of the articles analyzed can be caused by the use of learning media. Internal factors and external factors also influence student learning outcomes. Internal factors such as intellectual abilities, motivation, and interest in student learning. While external factors that affect student learning outcomes such as teachers, relationships between students and the environment in which the study is located.

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