



THE INFLUENCE OF THE DISCOVERY LEARNING MODEL ON STUDENTS' CRITICAL THINKING ABILITY WITH LEARNING MOTIVATION AS A MODERATOR

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ABSTRACT

In reality, what happens in the field is the opposite of the expected situation, namely that the ability of junior high school students in Indonesia is low in terms of critical thinking, students have not been able to conclude information from a problem so that they get decisions that are not as appropriate as expected. This is proven in their research stating that students' overall critical thinking abilities are in the low category, because only 1 person can solve the questions when solving instrument questions. They tend to use less reliable evidence and less reasonable arguments. This is because the teaching and learning process carried out by teachers does not provide opportunities for students to actively participate and practice the material they have learned. This research was carried out using a quantitative approach with a quasi-experiment method. A quantitative approach is a series of methods for testing certain theories by examining the relationships between. The relationship between variables in this research is the discovery learning model as the independent variable and critical thinking ability as the dependent variable and learning motivation as the moderator variable. The research method used in this research is quasi experiment. The result is 1. There is an influence of the discovery learning model on critical thinking. Where students in classes that use the discovery learning model have higher critical thinking abilities compared to students in classes that use the lecture method. b2. There is an influence of learning motivation on critical thinking. In classes that use the discovery learning model, critical thinking skills are dominated by students who have strong learning motivation. Meanwhile, in classes that use the lecture method, increasing critical thinking skills is dominated by students who have a strong level of motivation. Overall, increasing critical thinking skills is very effective when used with the discovery learning model with strong motivation. 3. Thus, learning motivation moderates the influence of the discovery learning model on students' critical thinking abilities. This means that the level of student learning motivation has an influence on the level of positive influence of the discovery learning model on students' critical thinking abilities

Keywords: *Discovery Learning, Critical Thinking, Learning Motivation.*

INTRODUCTION

In the process of teaching and learning activities, a phenomenon that still occurs frequently is that the majority of students are more passive, reluctant, afraid or embarrassed to express their opinions, this situation will certainly disrupt the smooth learning and creativity of students in learning activities. Apart from that, the learning process is still centered on the teacher, teachers tend to communicate in one direction by providing a lot of material and providing little opportunity for students to interact through performance or verbal communication. If this is allowed to continue, it will cause more and more students to experience difficulties in learning so that the expected learning outcomes do not match what was expected (Andrini, 2016, p. 38).

Based on the above, it can be seen that the current learning process is still not in accordance with the learning needs of the 21st century. Basically, education in the 21st century places more emphasis on globalization and internationalization. Where learning prioritizes issues regarding technological progress by presenting theoretical constructions and realistic insights in the development and improvement of knowledge, skills and attitudes among students and teachers (Abao, et al., in Boholano, 2017, p. 22). Meanwhile, according to the Framework for 21st Century Learning document (in Ministry of Education and Culture, 2017, p. 2) that one of the needs for human competence in the future to be able to face future challenges is having the ability to think critically and solve problems. This is because according to Fine (2015, p. 2) that students in the 21st century are those who are ready to join a workforce that requires them to ask questions, solve problems and think critically, conduct investigations, share and apply the results of their findings. At this time, most jobs require workers to think outside the box and solve problems from different points of view, there are always ready to build their way of thinking.

Thus, the implementation of learning in the future must be changed so that it can further develop students' critical thinking abilities, and can also prepare the next generation who are ready to face problems and participate in solving these problems, and are ready to face global challenges. Meanwhile, Sulaiman, et al. (in Changwong, et al., 2018, p. 38) stated that preparing students to be able to think critically is one of the main goals for many professionals in higher education, and is also a quality sought by the majority of university graduate employers. So in the learning process at school it is necessary to develop students' critical thinking skills.

Critical thinking habits need to be instilled in students so that they are able and skilled at examining various problems that will be present in their lives at any time. With the habit of critical thinking, they will be accustomed to and resilient in facing various problems, able to solve them appropriately, and able to apply the knowledge material obtained at school in various different situations in real life. This is in line with Istianah (2013, p. 44) who stated that by having critical thinking skills, students are expected to be able to overcome the problems they face. Critical thinking ability is an important ability for students to have in order to be able to solve problems faced in an

ever-changing world. Meanwhile, Nasution (2008, p. 173) stated that the ability to think is also a means to achieve educational goals, namely so that students are able to solve high-level problems. Students who have good critical thinking skills are expected to have good cognitive abilities as well. This really helps students to be able to interact with the environment and society. This is in line with the opinion of Johnson (2007, p. 183) who explains that "critical thinking is very important for students because critical thinking allows students to study problems systematically, face challenges in an organized way, formulate innovative questions, and design solutions original". Meanwhile, Muhfahroyin (2009, p. 88) stated that by thinking critically, people understand arguments based on differences in values, understand the existence of inferences and are able to interpret, are able to recognize errors, are able to use language in arguments, are aware of and control egocentrism and emotions, and are responsive to Different view.

Therefore, teachers as educators are required to be able to encourage students to develop critical thinking skills, because when students are faced with a problem in the lesson, students are able to find a way out by looking for several alternative solutions to the problem (Wahyuni and Eva, 2014, p.92). This is in line with the opinion of McMurrary et al. (in Muhfahroyin, 2009, p. 88) who stated that critical thinking is a very important activity to be developed in schools, teachers are expected to be able to realize learning that activates and develops critical thinking skills in students. An understanding of students' critical thinking skills can be used by teachers in designing and determining learning objectives to be achieved, so it is necessary for teachers to monitor the development of students' critical thinking skills.

The teacher's role in the learning paradigm in the global era is to monitor, evaluate and show whether students' thinking processes are developing or not, including critical thinking skills (Hadi, in Nurbaeti et al., 2015, p. 25). Furthermore, Nurbaeti et al. (2015, p. 25) stated that teachers should instill critical thinking skills in their students, so that students are not only formed as recipients of information but also as information processors. Iskandar and Deden (2017) stated that teacher innovation in using learning models and methods is still low. So that learning activities are boring, there is a lack of challenge, students feel they are not accommodated in conveying their ideas and opinions, which has an impact on students' understanding of critical thinking.

In reality, what happens in the field is the opposite of the expected situation, namely that the ability of junior high school students in Indonesia is low in terms of critical thinking, students have not been able to conclude information from a problem so that they get decisions that are not as appropriate as expected. This is proven by Fauziah Hidayat, Padillah Akbar and Martin Bernard (2019) in their research stating that students' overall critical thinking abilities are in the low category, because only 1 person can solve the questions when solving instrument questions. Then in research by Angga Andriawan Asti Sari Setiawati, Indah Puspita Sari and Siti Chotimah (2018), stated that students' critical thinking abilities were in the low category because of the

four indicators only the percentage of one indicator reached 61% and the percentage of the other three indicators did not reach 61%. . Yeyen Suryani et al (2023) they tend to use less reliable evidence and less reasonable arguments. This is because the teaching and learning process carried out by teachers does not provide opportunities for students to actively participate and practice the material they have learned. Here teachers often use conventional teaching methods where the teacher's role is more dominant and students tend to be passive and less creative.

The ability to think critically does not come by itself. This ability needs to be trained. However, students' critical thinking habits have not yet become a tradition in schools. Meanwhile, according to Snyder (2008), critical thinking is an ability that must be developed, practiced and continuously applied in the curriculum to involve students in active learning, namely activities that require students to analyze, synthesize and evaluate information to solve problems and make decisions so they can hone their skills. students' critical thinking abilities. In line with that, 21st Century learning demands mastery of the 4Cs, namely communication, collaboration, critical thinking and problem solving, creativity & innovation as students' skills to communicate and collaborate, be able to think critically, relate and apply knowledge to everyday life and master knowledge. technology and information.

The process of improving students' critical thinking skills is closely related to the implementation of learning carried out in the classroom. The learning steps carried out by the teacher in class will be able to hone students' critical thinking skills if they are implemented well and optimally. Ulfah & Saiffudin (2018) explain that teachers must be active and creative learning managers, that is, every teacher must be able to create a learning atmosphere that sharpens students' thinking abilities, increases student activity, conditions to motivate students and uses a variety of interesting approaches. One way to make this happen is through choosing a learning model that is able to stimulate students' curiosity, activeness, perseverance, patience and self-confidence. Nowadays, the learning models used by teachers in schools are increasingly developing and continue to lead to a student-centered learning approach. The learning models that are widely used today also adapt to the competency demands of the 21st century so that it is hoped that the output of the learning will also produce quality and competitive individuals. A learning model that is quite popular and has been widely researched because it can make a significant contribution to improving students' critical thinking skills is the Discovery Learning model. The Discovery Learning model or also known as the discovery learning model is one of the learning models recommended by the national curriculum for teachers to apply in learning because this model supports learning activities that actively involve students in discovering, investigating and thinking independently so that this model has opportunities and potential to improve critical thinking skills.

The Discovery Learning Model is a learning model characterized by independent activities carried out by students to discover and understand concepts, meanings and

relationships carried out through an intuitive process so that final information is obtained in the form of conclusions (Wahjudi, 2016). Students in this discovery model are directed to carry out observations or observations and investigations through experiments with scientific steps, as well as independently concluding the findings from this series of processes (Listyotami, Noer & Haenilah, 2018). Through these steps in student activity, students will discover and construct their own knowledge and understand the meaning of the learning objectives. Meanwhile, teachers in learning using the Discovery Learning model act as facilitators, namely supervising the learning process, providing direction or scaffolding when students experience difficulties, and providing justification for the final conclusions reached by students. In fact, the application of the Discovery Learning model in mathematics learning in schools still experiences several problems or obstacles. Based on the results of interviews with several mathematics teachers at the high school level, information was obtained that many teachers were not convinced that the application of this discovery learning model would provide effective learning results, especially in critical thinking skills, so teachers tended not to use this model in their teaching in the classroom. Apart from that, implementing the discovery learning model also takes quite a long time because the syntax is quite strict and each stage requires a significant amount of time allocation, so this condition makes many teachers reluctant and less interested in implementing this model in social studies learning in their classes. In fact, if understood and implemented well, this discovery learning model is believed to be able to provide excellent effectiveness in improving students' critical thinking abilities. For this reason, teachers need to conduct literature studies on various scientific studies regarding the effectiveness of implementing the Discovery Learning model because there has been a lot of previous research that has studied the influence of implementing the Discovery Learning model on improving students' critical thinking abilities. Previous research regarding the effect of implementing the Discovery Learning model to improve students' critical thinking skills has been widely carried out to find out whether the implementation of the Discovery Learning model in social studies learning has a positive influence on improving students' critical thinking skills. The findings in various previous studies agree that the critical thinking abilities of students who receive learning using the Discovery Learning model are better than the critical thinking abilities of students who receive conventional learning (Dari & Ahmad, 2020; Haeruman, Rahayu & Ambarwati, 2017; Hartati, 2020; Herman, 2016; Kadir, 2017; Noviyanto & Wardani, 2020; However, the results of previous research regarding the magnitude of the influence of the implementation of the Discovery Learning model on students' critical thinking abilities show varying measures of effectiveness and therefore tend to show inconsistencies in the results of one finding with another. In addition, the influence of interventions on a number of study characteristics such as year of research, education level, research class, sample size, and duration of treatment has not been carried out in primary studies and cannot even be answered by primary studies. In fact, teachers, schools, policy makers and implementers in other

educational fields really need information about how effective the implementation of the Discovery Learning model is and what study characteristics have an influence on improving students' thinking abilities. This information will of course be taken into consideration when choosing to use the Discovery Learning model in social studies learning at school. Referring to the condition of this problem, to obtain more comprehensive information regarding the effectiveness of implementing the Discovery Learning model on students' critical thinking abilities, an analytical method is needed that is able to integrate and synthesize various similar and relevant studies both independently and combined. In other words, it can be said that a holistic and extensive evaluation can be carried out by combining the results of these studies (Tamur, Juandi & Adem, 2020; Turgut & Turgut, 2018).

One way students' critical thinking abilities can be developed is through learning based on a constructivist approach. This is because constructivism is a learning process that explains how knowledge is organized within humans (Supriatna, 2009, p. 5). Constructivists see learning as an active process of students constructing meaning either in the form of text, dialogue, physical experience, or other forms. The aim of constructivist learning itself is more focused on developing concepts and in-depth understanding rather than just forming behavior or skills (Murphy, in Sukiman, 2008, pp. 60-61). Furthermore, Sukiman (2008, p. 63) stated that learning is a development of thinking by creating a different framework of understanding. Students must have experience with making hypotheses, testing hypotheses, manipulating objects, solving problems, looking for answers, describing questions, expressing ideas, etc. to form new constructions.

According to the constructivist view, learning is a process of forming knowledge. This formation must be carried out by students. Students must actively carry out activities, actively think, develop concepts and give meaning to the things being studied, but what most determines the realization of learning phenomena is the students' own learning intentions, while the teacher's role in constructivist learning plays a role in helping the process of constructing knowledge. by students runs smoothly. Teachers do not only transfer the knowledge they already have, but also help students to form their own knowledge and are required to better understand students' ways of thinking or perspectives on learning. Therefore, teachers have a role as facilitators in the learning process which can increase students' motivation in constructing a concept which will later improve thinking abilities (So seen, 2014, p. 5).

Based on the statements stated above, it can be concluded that in constructivist learning students are required to be mentally active to build their knowledge based on their cognitive structure. Apart from that, students must also have experience making hypotheses, testing hypotheses, manipulating objects, solving problems, looking for answers, describing questions, expressing ideas, etc. to form new constructions. Based on this, it can be seen that in the constructivist learning process it can improve students' thinking abilities, because students must actively carry out activities, actively

think and formulate concepts. One of the thinking abilities that can be improved through constructivist learning is students' critical thinking abilities.

The student's own factor that determines whether or not the student is successful in the teaching and learning process is learning motivation. In learning activities, motivation is the driving force within students which creates very strong learning activities. A student who has high enough intelligence can fail because of a lack of motivation to learn.

According to Hamzah (2012: 9) that "motivation is an impulse that arises from internal or external stimulation so that a person desires to make changes in behavior or certain activities to be better than the previous situation." With the aim of encouraging people to carry out activities based on fulfilling needs. Therefore, motivation is very necessary to encourage students to carry out learning more easily to comprehend, remember and comprehend.\

Meanwhile, according to research by Zainul Hamid (2010:53), motivation is a driving force within a person or a psychological condition that encourages a person to do something to achieve a goal.

Motivation has a strategic role in learning activities, no one learns without motivation. In order for the role of motivation to be more optimal, the principles of learning motivation are needed. Learning is not just about knowing, but must understand in learning activities. Because motivation can influence learning achievement, high and low motivation is always used as an indicator of whether a person's learning achievement is good or bad.

In this case, teachers have an obligation to encourage each student to be active in learning activities. So that students are able to interact, dare to ask and answer every question well and improve learning achievement in academic and non-academic fields. Considering the importance of learning motivation, various parties involved in the education sector should optimize the provision of learning motivation to each student.

METHODOLOGY

This research was carried out using a quantitative approach with a quasi-experiment method. A quantitative approach is a series of methods for testing certain theories by examining the relationships between variables (Creswell, 2009, p. 5). The relationship between variables in this research is the discovery learning model as the independent variable and critical thinking ability as the dependent variable and learning motivation as the moderator variable. The research method used in this research is quasi experiment. In a quasi-experiment, researchers use a control group and an experimental group. Meanwhile, Sukmadinata (2013, p. 207) stated that "this experiment is called quasi, because it is not a pure experiment but is pure, as if pure. This experiment is also called quasi-experiment. Quasi experiments are a development of true experiments, which are difficult to implement. The quasi-experimental method

gives researchers the flexibility to determine research samples according to certain criteria to be studied. This experimental research method is also used to find the effect of treatment on others under controlled conditions

RESULT AND DISCUSSION

1. There is an influence of the Discovery Learning model on students' critical thinking abilities

The results of statistical test analysis of the influence of discovery learning model variables on students' critical thinking show that this can be seen from the F of 115.573 and the F table of 3.16, the calculated F value > F table and sig 0.00 ($0.05 > 0.00$), so It can be explained that discovery learning model learning has a positive and significant effect on students' critical thinking so that discovery learning model learning variables should be the focus of attention, because it will have a significant impact on increasing students' critical thinking skills. This learning model is carried out during online learning, but it is more perfect if done face to face. However, the proposed hypothesis can be proven, explaining that the discovery learning model can stimulate and improve students' critical thinking skills.

This data strengthens the theoretical concept according to Halpen (in Susanto, 2016, p. 122), critical thinking is intelligence in the form of cognitive skills or goal setting strategies. This process is carried out after the goals are defined, modified and the goals are communicated. Critical thinking is thinking about what must be done to solve a problem and then drawing conclusions from existing problems and applying them to the aim of dealing with these problems. Likewise, Sutisyana's view (in Susanto, 2016, p. 127) is that students' persuasive critical thinking can be implemented through analyzing, comparing, classifying, hypothesizing, analyzing data, processing and solving problems. In line with this, the discovery learning model can represent these aspects.

In line with Slavin's opinion in Hidayati (2019), discovery learning is a constructivist approach where students are encouraged to discover their own knowledge. Discovery learning is able to arouse students' curiosity and motivate students to continue finding answers. In addition, the discovery learning model that uses a metacognitive approach has the ability to improve students' abilities in metacognition and creative thinking, which is demonstrated by learning mastery both individually and classically (Mawaddah et al, 2015)

The results of the data above also strengthen the results of research conducted by Aenullaek Mukarroma, E Kuss Eddy Sartono (2018). The results of his research concluded that the Discovery Learning Model learning had critical thinking abilities and a high category. However, returning to the teacher's skills to apply and also choose models in the teaching and learning process, his ability to convey learning will determine how to stimulate students to think critically. In line with research results (Hasnan et al., 2020), (Arif Musthofa & Ali, 2021), (Permana, 2018), (Aprilianingrum

& Wardani, 2021) that learning using the discovery learning model can improve students' critical thinking abilities compared to conventional learning.

Thus, learning using the discovery learning model is quite feasible as an alternative in the learning process and is proven to be able to foster students' learning motivation and critical thinking abilities. Of course, the role of the teacher has the most important position, especially having to understand the characteristics of students, the learning environment, and the media used, so that selecting the right model can provide satisfactory results.

2. There is an influence of student learning motivation on students' critical thinking abilities

The results of data analysis show that there is a significant positive influence of the motivation variable on students' critical thinking abilities, this can be seen from the F of 4.226 and the F table of 3.16, the calculated F value > F table and the sig number 0.00 ($0.05 > 0.00$) so that student learning motivation has a positive effect on students' critical thinking abilities.

These data show that if a student has high learning motivation within himself, it will help improve his critical thinking abilities so that the learning motivation variable has a significant influence on students' critical thinking abilities. Students who have high motivation to learn also have an influence on their critical thinking skills. Likewise, students with low learning motivation also have low critical thinking abilities.

These results are in accordance with Dewey's opinion which states that critical thinking is an active, persistent attitude, through careful consideration that shows desire or motivation and enthusiasm in finding answers to the problems faced (Surya, 2011). This statement provides an explanation that students who have strong motivation to learn will also have an influence on their critical thinking abilities because motivation to learn is able to provide a strong encouragement within themselves which will give rise to a persistent and enthusiastic attitude in themselves so that they are more careful in responding to the problems they face.

The opinion of Uno (2016) states that students with motivation to learn have the desire and desire to succeed in learning so that there is a desire, enthusiasm and need for learning which is also supported by hopes and aspirations for the future. Students who are highly motivated to learn certainly have future goals that they will fight for with all their strength and ability. This means that there is encouragement, belief and a strong desire within oneself to be the best, to achieve what one wants and hopes for, including as a student to get good grades, and even the desire to become class champion. In this way, the student will try to master the subject matter, not give up easily, and be enthusiastic about learning.

The results of this research support research conducted by Nugraha, Suyitno, & Susilaningsih (2017) on fifth grade elementary school students showing that learning motivation has a very strong influence on critical thinking skills. Students who have high learning motivation tend to have high critical thinking abilities. Students' critical

thinking is influenced by high and low learning motivation. Students with high learning motivation and critical thinking skills will be interested in solving problems, prefer challenges, and are more tenacious. This is in line with the opinion of Uno (2016).

Different opinion from Novyanti et al (2021). The results of the research show that there is no significant influence between motivation and critical thinking on online learning outcomes at vocational schools. In research conducted by Muwaffiq et al (2022), high learning motivation does not necessarily improve students' critical thinking abilities,

Motivation to learn is something important for students. Motivation can provide awareness for students in their lives, including when participating in learning activities. Good learning motivation will be able to form motivated behavior. With motivated behavior it is hoped that it can become a source of energy for students to learn more focusedly and be maintained until their thinking in learning develops. Through motivation within themselves and from others, including teachers, students are able to be directed and made aware of the importance of the learning process in life so that students grow into persistent individuals who do not easily give up and give up when working on tasks that provide challenges through learning that is carried out in a fun way. , student-centered, and provides challenges so that learning motivation is stimulated. If the learning motivation has increased and is good, then the critical thinking ability can also be improved.

3. There is an interaction effect between the Discovery Learning model and learning motivation on students' critical thinking abilities

Based on the research results in accordance with hypothesis testing, it shows that there is an interaction between motivation and learning to increase students' critical thinking abilities. The results of data analysis show that there is a significant positive influence of the Discovery Learning model variables and learning motivation on students' critical thinking skills, this can be seen from the F of 3.311 and the F table of 3.16, the calculated F value > F table and the sig number 0.00 ($0.05 > 0.00$) so that the Discovery Learning model and learning motivation have a positive effect on students' critical thinking abilities.

Sardiman (2005) in his book entitled interaction and motivation in teaching and learning mentions the term learning with educational interaction. According to him, what is considered educational interaction is interaction that is carried out consciously and has the aim of educating in order to lead students towards maturity. Learning is a process that functions to guide students in their lives, namely guiding and developing themselves in accordance with the developmental tasks that must be undertaken. The educational process has the following characteristics: a) there is a goal to be achieved, 2) there is a message to be transferred, c) there are students, d) there is a teacher, e) there is a method, f) there is a situation, g) there is an assessment.

Kemp, Dick and Carey (1985) also stated that a learning strategy is a set of learning materials and procedures that are used together to produce learning outcomes for learners or students. In other words, strategy is a plan of operation achieving something. Roy Kallen (1998) noted that there are two approaches to learning, namely teacher-centered approaches and student-centered approaches. Joyce & Weil argue that a learning model is a plan or pattern that can be used to form a curriculum (long-term learning plan), design learning materials, and guide learning in class or otherwise (Joyce & Weil, 1980).

Every teacher must be more skilled in using an understanding of appropriate learning models in providing the process of teaching and learning activities to students with the aim of ensuring that the results of these activities can be mastered well and optimally. Through the learning model teachers can help students get information, ideas, skills, ways of thinking and expressing ideas. The learning model also functions as a guide for learning designers and teachers in planning teaching and learning activities. However, based on statistical findings from the author's research results,

In line with the results of previous research, and the findings in this study are also in line with several other studies from Tan (2011); Panitz (2011); which concludes that there is a strong main influence of the independent variables and moderator variables on the related variables, thus strengthening the existing interactions. This means that the learning model has a strong (significant) interaction with achievement motivation on the acquisition of critical thinking skills. In other words, the existence of this interaction is due to the dominant influence of the learning model of learning motivation on critical thinking abilities. It turns out that the results of the critical thinking ability of the group of students taught through the Discovery Learning learning model were better than the group of students taught using conventional methods for groups of students who had high motivation.

This is in line with research by Puspitasari and Nurhayati (2019) showing that the t test on learning outcomes is significant. This shows that there is an influence of the Discovery Learning model using video media on the learning outcomes of class IV students at SD N Gemah. In other similar research results found by Rahayu and Solikha (2023), it can be concluded that there is a significant influence on the mathematics learning outcomes of experimental class and control class students in the final test (post test) which is significantly different. In research conducted by Rahmayani (2019) Based on the discussion, it can be concluded that the Discovery Learning learning model is a learning model that develops active and creative ways of learning, in observing, finding and solving problems on your own.

So, the Discovery Learning learning model is better than conventional and high motivation is always better than low and low motivation. This fact shows that there is an interaction between learning and motivation. The implication of these results is that in applying the Discovery Learning learning model to students, a teacher needs to pay attention to student motivation. Because whether students have high or medium or low motivation, if they learn using the Discovery Learning model,

Obstacles faced in learning critical thinking skills, the discovery learning model is indeed interesting, but it also has several obstacles. Firstly, not all students are able to make discoveries: Discovery learning requires students' ability to find concepts or solutions themselves. Not all students have this ability, and some may have difficulty. The second takes longer: The discovery learning process tends to take longer than conventional learning. This is because students have to do their own exploration and discovery. Lastly Too focused on understanding: Discovery learning often focuses more on understanding concepts than on mastering facts. This can be an obstacle if there are certain targets that must be achieved in a short time. However, even though there are obstacles, the discovery learning model still has the potential to develop students' critical thinking abilities.

CONCLUSION

Based on the results of research on the influence of the discovery learning model on students' critical thinking with the moderator variable student learning motivation, the following conclusions can be made: 1. There is an influence of the discovery learning model on critical thinking. Where students in classes that use the discovery learning model have higher critical thinking abilities compared to students in classes that use the lecture method. b2. There is an influence of learning motivation on critical thinking. In classes that use the discovery learning model, critical thinking skills are dominated by students who have strong learning motivation. Meanwhile, in classes that use the lecture method, increasing critical thinking skills is dominated by students who have a strong level of motivation. Overall, increasing critical thinking skills is very effective when used with the discovery learning model with strong motivation. 3. Thus, learning motivation moderates the influence of the discovery learning model on students' critical thinking abilities.

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