

# Systematic Literature Review: Using The Two Stay Two Stray Learning Method, Learning Motivation on Student's On Critical Thinking Ability

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**Abstract:** Learning methods have an important role in learning activities, the use of appropriate learning methods can determine the achievement in delivering material so that students more easily understand the material and the learning atmosphere is fun. This study aims to determine the effect of using the two stay two stray learning method, learning motivation on critical thinking skills in students, and research using systematic literature review methods. Articles relevant to the research were 33 articles with criteria according to the research theme. The results of the study found that the use of the two stay two stray method affects critical thinking skills, learning motivation affects critical thinking skills. The results of the search on the theme of critical thinking skills are not only influenced by the two stay two stray methods, and learning motivation alone but also other factors. So for future researchers, it is hoped that they can examine the factors that influence critical thinking skills from more varied learning methods.

**Keywords:** two stay two stray methods, learning motivation, critical thinking abilities, systematic literature review.

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## Introduction

Education is an important aspect to build a nation, its existence is the spearhead in improving the quality of human resources. Integrated learning will improve the cognitive, affective and psychomotor domains. One of the important aspects in learning is the presence of teachers. Teachers are required to create a pleasant learning atmosphere.

Jun Surjanti et, al (2023) the education revolution 4.0 demands students for more qualified skills, namely cognitive, affective and psychomotor. Therefore, teachers must have the competence to harmonize the demands in learning. Kusumawati and Kristin (2021) learning is a continuous process, interacting between individuals and their environment to produce changes in knowledge, attitudes and skills, as well as consistent attitude values.

The old paradigm in learning teachers provide learning just lectures, students just sit and listen, so this causes boring learning, students are less actively involved (Prihartini and Nani, 2013). Methods like this cause low participation of students, reduced interest in learning, learning interest cannot be monitored so that it causes low understanding of the concept of material which results in low critical thinking skills. So in this digital era, teachers should follow the development of technology to make breakthroughs and create *student center learning* so that learning is meaningful, interesting, and can be more easily understood and applied in everyday life. By creating student centered learning, it is expected to encourage critical thinking skills in this modern learning era.

Dayanti et al (2024) critical thinking is a mental act of a series of processes of evaluating, analyzing, investigating, and making decisions. This ability is

very important because it is carried out by those who make decisions based on existing facts. Leniati and Endang (2021) one of the efforts to support critical thinking skills is to provide opportunities for students to improve the quality of learning individually and in groups. Group learning is influenced by the *two stay two stray* type cooperative learning model.

Learners must have the ability to think critically because in this day and age they are required to find and retrieve information appropriately. Every individual must be faced with problems that require solving in everyday life, critical thinking itself is needed in solving problems so that each individual is able to face challenges and can work well together. Florida et al (2015) Indonesian people need to improve their thinking capacity, Indonesia's Global Creativity Index ranks 115 out of 139 countries in terms of creativity. Therefore, critical thinking skills are needed and need to be developed so that students can optimize these abilities.

Putri and Ratnawati (2023) one of the learning methods used in today's modern era is two stay two stray, the two stay two stray method is the two stay and two guest method. Akmalia, Irham, Ainin (2023) the *two stay two stray* method can provide understanding through the transfer of knowledge information. In learning where students exchange information on the results of their discussions with other groups to share information. Teachers will be facilitated by this learning method because students not only learn sources from the teacher but also learn from their peers. This will make students more free, not awkward and can increase collaboration between friends (Rofiqoh, 2020).

Learning motivation is seen as one of the factors that influence the development of critical thinking, critical thinking is not a skill but must foster learning motivation first. Motivation itself is a skill, fighting power, and a process that provides enthusiasm and direction when doing something and lasts for a long time. For this reason, learning motivation is very important in fostering the ability to think critically, by thinking critically can increase the ability to participate in the learning process (Kurniati and Nurul, 2023). So the ability to think critically is not a skill that is owned suddenly

but is supported by learning motivation, learning motivation is seen as a condition for the development of students' critical thinking skills. (Jesika Rizki Octavia, 2023)

Research Results Kurniati and Nurul (2023) there is an interaction of guided inquiry learning models and learning motivation on students' critical thinking skills, Putri and Ratnawati (2023) the *two stay two stray* learning model increases learning activeness during learning, Leniati and Endang (2021) the two stay two stray model has a significant effect on critical thinking skills in mathematics learning, Dewi et al (2023) collaborative learning models can improve learning through group discussions. This research is a development of Kurniati and Nurul (2023) by adding learning motivation variables, because nowadays learning motivation is an equally important indicator used to support students' critical thinking skills. In addition, suggestions from research (Diaz Apriakanti, 2020) require psychological activity in the learning process, one of which is through learning motivation. So it is necessary to conduct research again on the effect of the two stay two stray learning method, learning motivation on critical thinking skills.

Research on the two stay two stray learning model has been conducted by (Sahriani, 2024) in 2024, (Clara Fadhilah Inayah1, 2023) in 2023, (Adiyono Adiyono, 2020) in 2020 and has a different year of literature observation with this research. Therefore, this study has a different position from previous research and deserves further research, so the purpose of this study is to analyze the literature on the use of the two stay two stray learning model, learning motivation on critical thinking skills.

Research Results Kurniati and Nurul (2023) there is an interaction of guided inquiry learning models and learning motivation on students' critical thinking skills, Putri and Ratnawati (2023) the *two stay two stray* learning model increases learning activeness during learning, Leniati and Endang (2021) the two stay two stray model has a significant effect on critical thinking skills in mathematics learning, Dewi et al (2023) collaborative learning models can improve learning through group discussions. This research

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From the above problems, research questions can be formulated: does the *two stay two stray* learning method affect critical thinking skills? Does learning motivation affect critical thinking skills? The purpose of this study is to determine the effect of the *two stay two stray* learning method on critical thinking skills, to determine the effect of learning motivation on critical thinking skills.

## Literature Review

### Two Stay Two Stray Method

The cooperative learning model type two stay two stray is a technique developed by Spencer Kagan and can be used with the numbered head technique". This technique provides opportunities for students to share information results with other groups (Rofiqoh, 2020). Two members who stay are tasked with providing information to the guest group, two members who visit other groups are tasked with finding information. Furthermore, if it is finished, return to their respective groups to discuss the findings obtained. In this Two Stay-Two Stray method, students not only learn and accept what is presented by the teacher in the teaching and learning process – but can also learn from other students, and at the same time have the opportunity to teach other students. The steps of the two stay two stray learning method:

1. The teacher divides the learners into groups, each group consisting of four members.
2. The groups formed are heterogeneous, this is so that students help each other in learning (*peer teaching*).
3. The teacher gives the sub topics of the material to be discussed with the group.
4. When finished, two members of the group visit the other group.

5. The two resident members provide information to their guest members.
6. Then return to their respective groups to report the results of the information obtained.
7. Each group matches the answers, then presents the results.

### Learning Motivation

Motivation to learn is what drives someone to do something or an action. Learning motivation has an important role to foster students' enthusiasm for the love of learning. The sense of enthusiasm will encourage critical thinking skills and further improve learning achievement (Rindiantika, 2022). Learning motivation is the main thing for students and influences the learning process, this condition is influenced by internal factors to achieve certain goals.

Motivation can be interpreted as a process that stimulates each individual to take action. The components of learning motivation are consistently associated with adaptive motivation, namely learning goal orientation, task value, and self-efficacy, each of which is integral to successful engagement in self-directed learning (Dicky Ramadhan Sudrajat, 2021).

Some methods to increase students' learning motivation are: a friendly attitude and enthusiasm that the teacher has will make students comfortable interacting, the teacher arouses curiosity, this can be started from the apperception of learning, giving students the opportunity to estimate the results of their findings, expressing ideas or opinions related to the context of the material being taught, this will encourage more diverse knowledge to be obtained, paying attention to students' learning interests based on their characteristics by paying attention to interests will make it easier for teachers to teach.

### CRITICAL THINKING SKILLS

Critical thinking is an individual way of thinking that is proven by being able to assess, create, and evaluate a problem according to the facts. The ability to think critically is characterized by being able to make and evaluate a solution to the problem found (Rahayu and Nuraini, 2022). The same opinion was expressed by Widyastuti (2018)

that critical thinking skills must be able to assess, evaluate based on logical relationships between statements or data. One of the factors that cause low critical thinking skills is the learning strategy, the method used is still conventional, only centered on the teacher, this will tend to make students bored with the monotonous learning atmosphere. In line with research (Norida Canda Sakti, 2023) that teachers have a role for renewal and innovation and methods in learning. Therefore, to support the goals of national education, teachers need the right method to support critical thinking skills.

### Systematic Literature Review

SLR is a term used as a specific research methodology or research, this development is carried out to collect and evaluate related research on a particular topic (Fricylia Rusdiana Putri, 2023). SLR is a standard method for getting answers by conducting literature reviews based on topics or themes related to previous studies (Morin and Herman 2022). The purpose of SLR is to summarize previous research, to identify gaps that need to be filled between previous and current research, to produce a coherent report, and to create a research framework (Rozi 2020).

### Materials and Methods

This research uses a systematic literature review method related to the use of the two stay two stray method, learning motivation to critical thinking skills. This step in the research allows to identify, analyze the literature relevant to the research topic. Thus it can produce comprehensive research. The steps are in the form of searching for keywords according to the research topic, a certain time span, selecting relevant sources, and searching for literature using publish or perish.

### Research Question

The instrument in this study contains aspects of the content being analyzed. Based on the research question to be answered:

Figure 1

Question	
RQ 1	Does the two stay two stray learning method affect critical thinking skills?
RQ 2	Does learning motivation affect critical thinking skills?
RQ 3	What are the sources of the research literature?
RQ 4	How is the development of research that includes two stay two stray, learning motivation on critical thinking skills?
RQ 5	What are the types and instruments of two stay two stray research, learning motivation on critical thinking skills?
RQ 6	What are the aspects and categories used in the research?

Based on the table above, it shows the methods used in research to determine the effect of the two stay two stray method and learning motivation on learning achievement, namely RQ 1 and RQ 2, while RQ 3-RQ 6 to help evaluate the research context.

### Research Instruments

This research instrument contains aspects that will be further analyzed. Based on the *research question* above, there are several things that will be researched below:

Research Question to be answered

Figure 2

Question	Description
RQ 1	What are the aspects and categories used in the research? To answer RQ 1, it is necessary to group all the literature obtained regarding the type of research, data collection instruments. The grouping aims to determine the type and instrument in collecting research data.
RQ 2	What sources did the research come from? To answer RQ 2, it is necessary to categorize based on the source of the literature search.
RQ 3	How is the development of grouping literature

research that based on publication includes two stay year trends. The goal is two stray, to see the development learning of research on the two motivation on stay two stray method, critical thinking learning motivation on skills? learning achievement.

**RQ 4** What are the types and instruments of two stay two stray research, learning motivation on critical thinking skills?  
To answer RQ 4, it is necessary to group the literature regarding the types and instruments of research. This aims to find out the types and research instruments that are most widely used in research related to the topic under study.

**RQ 5** Does the two stay two stray learning method affect critical thinking skills?  
To answer RQ 5, it is necessary to categorize the literature on the two stay two stray method on critical thinking skills.

**RQ 6** Does learning motivation affect critical thinking skills?  
To answer RQ 6, it is necessary to categorize the literature on learning motivation on critical thinking skills.

The literature that has been obtained is filtered based on content analysis and obtained some relevant literature according to the inclusion and exclusion criteria.

*Inclusion and Exclusion Criteria*

Figure 3

**Inclusion Criteria** The literature sources used discuss the study of the two stay two stray method and learning motivation in influencing critical thinking skills.

**Exclusion Criteria** Literature sources that are not in accordance with the topic of two stay two stray, learning motivation and critical thinking skills

**Results and Discussion**

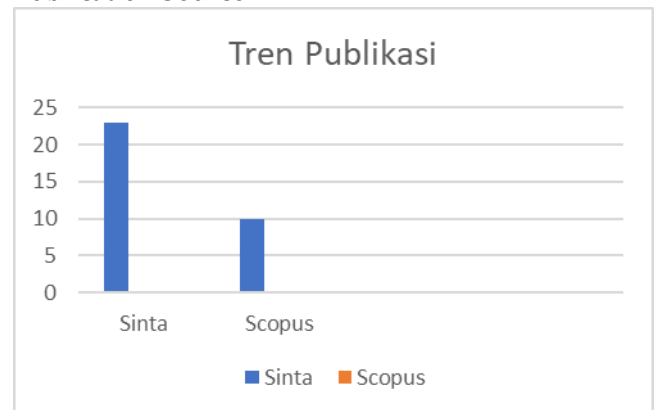
Aspects and Categories of Analysis Results  
Figure 4

Aspects	Category	Total
Type of research and number	Quantitative	13
	Qualitative	6
	Systematic literature review	6
	Partisapatoris	1
	Experiment	5
Data collection instruments	PTK	2
	Observation	8
	Interview	3
	Test	11
Research subject	Secondary data	7
	Inquiry	13
	Students who use the Two Stay Two Stray method	

Source: Data processed (2024)

After grouping the articles, the next stage is the reporting stage. This stage is used to answer each category of research question.

Publication Source



Source: Data processed (2024)

Based on Figure 5, it can be seen that out of 33 articles, 23 Sinta indexed articles and 10 Scopus references were obtained which are relevant to the research topic in the 2019-2024 period.

### Publication Trends

Figure 6

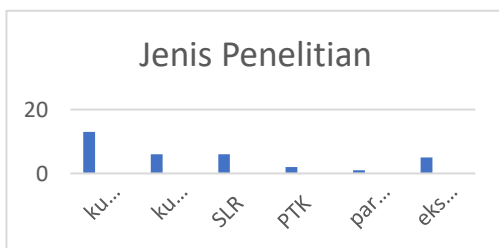


Source: Data processed (2024)

Research on the two stay two stray learning method, learning motivation on critical thinking skills fluctuates, seen in Figure 6 in 2024 the most publications. This shows that the topic is a trend for researchers. The method can increase the activeness of students during learning so that it can encourage critical thinking skills. (Awalina Barokah, Nurmalia, Firda Meliawati Putri, 2024).

### Type of Research

Figure 7

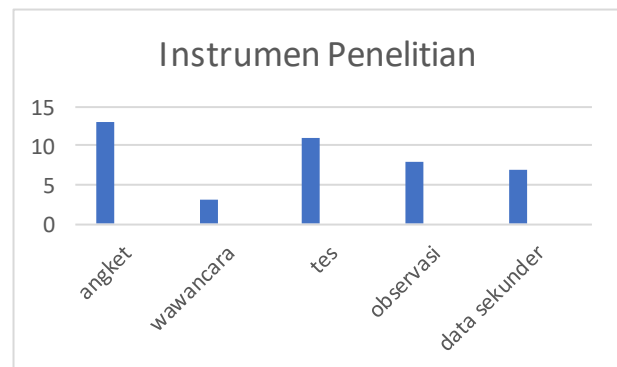


Source: Data Processed (2024)

The most dominant type of research is quantitative research which is superior to other studies because many researchers want to test and see the difference between the two stay two stray method and conventional methods, but also use qualitative methods and systematic literature review because researchers want to explore the facts in the field in a more complex manner. (Arindra Tuffahati & Nugraha, 2023)..

### Research Instrument

Figure 8



Source: Data processed (2024)

Figure 8 shows that the research instrument that is widely used is a questionnaire, researchers want to collect factual data information. (Sudrajat & Disman, 2021). The questionnaire was used to determine respondents' perceptions of learning motivation. The test instrument was used by researchers during learning to determine the ability before and after the two stay two stray method was applied. (Melati et al., 2024).

### Application of Two Stay Two Stray Method to Critical Thinking Ability

The two stay two stray method is a learning method that is carried out in groups, increasing cooperation, helping each other, being responsible for jawa so as to encourage achievement. (*Improving Numeracy Literacy and Critical Reasoning Skills Using Models*, 2025). The two stay two stray method requires students to actively participate and work together with their group. (Puspita et al., 2020).. In addition, the two stay two stray method is a method of group learning together not only within the internal group but also outside the group and students are trained to reason critically. (Awalina Barokah, Nurmalia, Firda Meliawati Putri, 2024)..

From the above opinion, the two stay two stray method can be an alternative to be applied in learning because it can encourage students to work together, help each other so that it can encourage their critical thinking skills and achieve good learning achievement. In accordance with research (Apriakanti et al., 2020) that the two stay two stray method can improve critical thinking skills, the two stay two stray method can encourage students'

critical thinking skills because there is information sharing. (Awalina Barokah, Nurmalia, Firda Meliawati Putri, 2024)(Susanti et al., 2024), the two stay two stray method has an effect on critical thinking skills. (Susanti et al., 2023)

### The Effect of Learning Motivation on Critical Thinking Ability

Learning motivation is an important factor that students must have in the success of learning in the classroom, motivation and the learning process are two things that are interconnected. Motivation can be an encouragement for students to be re-motivated in learning. So one way to increase learning motivation is to use fun learning strategies based on learner activities. (Akmalia et al., 2023).. This opinion is reinforced by (Sudrajat & Disman, 2021) learning motivation is a psychological condition that encourages individuals to take action and achieve certain goals, the same research by (Nazihah et al., 2024) the two stay two stray method has an effect on critical thinking skills.

Research by (Dayanti et al., 2024) that learning motivation has a strong influence on critical thinking skills with a value of 9%, with a Sig value = 0.004, learning motivation affects critical thinking skills. (Sudrajat & Disman, 2021)(Sudrajat & Disman, 2021), the same research was conducted by (Farliana et al., 2021) learning motivation affects critical thinking skills.

### Conclusions

The selection of learning methods is an important strategy for educators in learning activities, using the right method can make it easier for students to understand the material, one of which is the two stay two stray method, it can be concluded that the two stay two stray method has an influence on critical thinking skills, high learning motivation contributes to students' critical thinking skills. This research can be used as a reference in choosing cooperative learning methods and the importance of increasing learning motivation to encourage critical thinking skills.

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