



Path Analysis of Self-Regulation, Social Skills, Critical Thinking and Problem-Solving Ability on Social Studies Learning Outcomes

Arifin Maksum

Department of Primary Education, Faculty of Education, Jakarta State University, Indonesia, arifinunj@gmail.com

I Wayan Widiana

Department of Primary Education, Faculty of Education, Ganesha University of Education, Indonesia, wayanwidiana85@undiksha.ac.id

Arita Marini

Department of Primary Education, Faculty of Education, Jakarta State University, Indonesia, aritamari@unj.ac.id

This study aims to analyze the effect of Self-Regulation, Social Skills, Critical Thinking, and Problem-Solving Skills on Social Learning Outcomes. This research used a quantitative approach, survey methods, and path analysis techniques. The participants were class V students throughout Jakarta from November 2015 to October 2016, with a total of 250 students. The research instrument to measure students' critical thinking skills, problem-solving skills, and social learning test results was multiple-choice tests, while to measure self-regulation and social skills were using a non-test instrument in the form of a questionnaire. The data analysis technique used descriptive analysis and path analysis by testing the significance of the path coefficient using the independent sample t-test. The results showed there was a positive direct effect of self-regulation, social skills, critical thinking skills, and problem-solving skills on social studies learning outcomes on learning outcomes. This research implied that efforts to improve social studies learning outcomes began with improving self-regulation strategies, practicing social skills, developing critical thinking skills, and problem-solving skills.

Keywords: path analysis, social studies learning outcomes, self-regulation, critical thinking, learning

INTRODUCTION

Social studies in primary and secondary schools can be seen as a process of preparing citizens. Therefore, in standard content, social studies are grouped into subjects of citizenship and personality (Bezanilla et al., 2019). The scope of these subjects is intended to increase the awareness and insight of students about their status, rights, and obligations in social life, as a nation, and to improve their quality as a human being

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(Rhomadhon et al., 2016). In short, the main purpose of social studies is to form and develop good citizenship. The purpose of social learning is students can recognize concepts related to community life and their environment, have necessary skills in logical and critical thinking, curiosity, inquiry, problem solving and social skills in social life, have commitment and awareness of social and humanity, values -valuing, communicating, cooperating and competing in a pluralistic society at the local, national and global levels (Setiwan, 2013). Meanwhile, social education has the task of assisting the personal development of students who know literacy and care about the current conditions of society and can apply methods adapted from social science to solve various problems that occur in their environment critically and analytically and students are able to show a sense of responsibility for the national development

Based on the objectives of social studies in elementary schools, the emphasis on social studies is more on social phenomena (inductive) than theory (deductive), social studies is a field of knowledge and analysis of social symptoms and problems to find solutions (Whitlock & Brugar, 2019; Ollila & Macy, 2019). For this reason, social learning in elementary schools emphasizes aspects of knowledge, attitudes, and skills from various contextual social problems that exist around students. Social studies in elementary schools are linked with the demands of the 2013 curriculum so that students can solve problems, both qualitatively and quantitatively. Social studies are now oriented to problem-based learning. Student-centre learning, learning activities require students to be more active, physically, and mentally. The teacher, as a facilitator, stimulates critical thinking skills through problem-solving discussions related to social problems. The discussion process trains interpersonal skills, interact, communicate, and collaborate, as an indicator of social skills, and develop positive attitudes, and build problem solving, process information with data and facts (Kirmizi et al., 2015). However, the reality is still different from expectations. In the 2018 PISA study (OECD, 2019) released a report on the quality of learning in Indonesia. The report shows that the ability of Indonesian students to read, achieved an average score of 371, with an average OECD score of 487. Then for the average math score, it reached 379 with an OECD average score of 487. Furthermore, for science, the average score -The average of Indonesian students reached 389 with an OECD average score of 489. Explicitly, the Indonesian students' low reasoning skills and problem-solving abilities were low. Curriculum and assessment are true, problems in social learning. The root causes of social learning include curriculum and assessment.

Based on the problem of students' understanding of the material, it will directly affect learning outcomes. The problem of social learning outcomes based on a macro perspective is related to the internalization of values and the manifestation of social attitudes, for example, the phenomenon of student brawls, free sex, drug abuse, and various other deviant behaviors. Meanwhile, the problem of social learning outcomes based on a micro perspective is related to social knowledge and skills, motivation, and low learning outcomes (Nurdin, 2016; Rusmawan, 2013). Based on the results of a preliminary study conducted by the researchers at Elementary of Cipinang Melayu on the results of the semester exams for social studies subjects in elementary schools over the past three years, it shows that most students get relatively low results. Detailed data

for class V in the 2012/2013 academic year, even the average score for social studies subjects was 72,64. Furthermore, the average score for the even semester of the 2014/2015 academic year was 74,38, while for the 2015/2016 academic year, the average value of the social studies subject in the even semester was 86,85. The average score is inseparable from the quality of the applied learning.

Learning outcomes, in this case, are considered as outputs in the form of competencies which include knowledge, skills, values, and attitudes that come from processes, teaching methods, input containing what and who will be taught, for that. Regardless of the stage of the process, the output is also determined by the quality of the input. In other words, learning outcomes are closely related to the initial conditions in the form of students' basic potential. There are the factors that affect learning outcomes are generally divided into two, namely internal and external factors, internal factors related to physiological and psychological factors, while external factors are related to social and non-social environments.

From the elements of student psychology that influence the learning process, self-regulation is an essential factor that affects the consistency of one's learning activities to focus on achieving their learning goals. Self-regulation is a multidimensional cognitive and emotional construction skill (McClelland & Cameron, 2012; Schmitt et al., 2014). Self-regulation has an essential role in one's behavior and can set one's goals (Kadzikowska-Wrzosek, 2018). Self-regulation through social interaction with peers and physical activity in free games can foster students' academic development at school (Braak et al., 2019). Self-regulation can help students gain knowledge by setting goals, doing self-monitoring, and self-reflection (Song et al., 2016). Based on the description above, it can be concluded that self-regulation is a self-conditioning attitude that includes aspects of thoughts, feelings, and actions systematically to achieve specific goals. The main aspects of self-regulation are self-conditioning, including; attitudes in setting goals, monitoring behavior, controlling actions, evaluating achievement, and providing self-reinforcement. For this reason, it is necessary to know the relationship between self-regulation in the social learning process and social learning outcomes in elementary schools.

Analysis of learning outcomes can also be seen based on the systems approach theory. Learning outcomes are considered as outputs in the form of competencies which include knowledge, skills, values, and attitudes, which are derived from the process, namely how to teach input, which contains what and who will be taught, for that without leaving the process stage, the quality of the input also determines the output. In other words, learning outcomes are closely related to the initial conditions in the form of the basic potentials of students.

The theory of the learning system approach that takes place in a continuous cycle is an interesting thing to study, which means that the learning outcomes/outputs at the early stages will become potential / input at the next learning stage. If it is related to the curricular goals of social studies in elementary school which lead to having basic skills to think logically and critically, commitment and awareness of social values, and the ability to communicate, cooperate and compete in a pluralistic society, it can be

concluded that social studies are learning outcomes in general related to thinking skills and social skills, which in itself can also be positioned as input to the further learning process.

Several studies that have proven that each of these components supports one another is research conducted by (Karami et al., 2019), which stated that the use of e-portfolios and the use of self-regulation had a significant effect on students' writing ability. Research conducted by (Korkmaz et al., 2020) shows that children who have social skills can solve problems. Meanwhile, research conducted by (Tjalla & Sofiah, 2015) states that the results of the study indicate that: (1) Social Studies scores of students that were given learning method peer tutoring is higher than the scores of those that were given the conventional method (2) there is an interaction effect between self-regulated learning and peer tutoring learning method on Social Studies scores of students, and (3) for students with high self-regulated learning, Social Studies scores which were given using peer tutoring is higher than those given using conventional learning.

Based on the constellation above, first, learning outcomes are influenced by internal factors of students in the scope of cognitive psychology and social cognitive, self-regulation, social skills, critical thinking skills, and problem-solving abilities. Second, metacognitive, which plays a role in problem-solving related to self-regulation, social skills, and analytical thinking abilities. This constellation is the basis for researchers to conduct further studies, comprehensive studies, and conduct field research on the effect of self-regulation, social skills, critical thinking skills, and problem-solving abilities on learning outcomes in social subjects in elementary schools. This research is expected to be able to find out what factors influence learning outcomes.

METHOD

This research uses a quantitative approach, survey methods, and path analysis techniques. The path analysis theoretical model used is as follows:

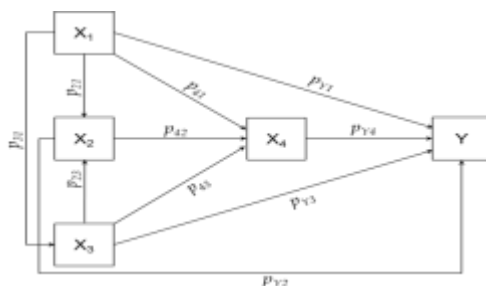


Figure 1
Path analysis model theory

The image above shows the path analysis design designed by the researcher based on theoretical studies, assumptions, and preliminary field studies. Social learning outcomes (Y) as endogenous variables (dependent variable), while self-regulation variables (X_1),

social skills (X2), critical thinking skills (X3), and problem-solving abilities (X4) are exogenous variables (independent variables).

The target population in this study were elementary school students in DKI Jakarta Province. The affordable community is elementary school students in East Jakarta. The research used as a sample of 250 students of 5th grade, with a simple random sampling technique.

Data collection techniques in this study used five types of instruments consisting of test and non-test instruments. Multiple choice test instruments are used to measure students' critical thinking skills, problem-solving skills, and social studies test results to capture data on social learning outcomes of fifth-grade elementary school students. The non-test instrument is a multiple choice with a Likert scale or verbal frequency to measure students' self-regulatory attitudes and social skills.

The data analysis technique used descriptive analysis and path analysis by testing the significance of the path coefficient using the independent sample t-test. The path coefficient is said to be significant if the t-test value is greater than the table value at the accuracy level of 0.05. Testing data analysis requirements include testing; (1) regression estimation normality error, (2) multicollinearity, and (3) regression linearity, and (4) path analysis.

FINDINGS

Description of research data describes the phenomenon of data concentration from 250 elementary school students as respondents. Data descriptions were processed using IBM SPSS Statistics 22. In general, the data description is shown in the following table.

Table 1
Summary of descriptive statistics

Descriptive Statistics	Variable				
	Y	X1	X2	X3	X4
Mean	81,85	89,72	81,88	9,44	11,22
Median	81	90	83	9	11
Mode	80	89	83	10	11
Standard Deviation (SD)	8,39	11,59	12,41	3,44	3,65
Sample Variance	70,41	134,30	154,09	11,83	13,35
Range	35	52	61	16	17
Minimum	65	60	48	1	4
Maximum	100	112	109	17	21
Sum	20462	22430	20470	2361	2805
Sample (N)	250	250	250	250	250

The results of the normality test and the linear regression test are presented in the following table :

Table 2
Summary of normality and linear regression test results

No.	Estimated Regression Error	Normality		Regression		Linearity		Conclusion
		L _o	Conclusion	Variant value	Table value	Variant value	Table value	
1.	Y with X ₁	0,052	Normal	58,228	3,88	1,054	1,42	Significant and Linear Patterned Regression Equation
2.	Y with X ₂	0,030	Normal	54,653	3,88	0,940	1,39	
3.	Y with X ₃	0,032	Normal	65,905	3,88	1,601	1,71	
4.	Y with X ₄	0,051	Normal	64,486	3,88	1,247	1,69	
5.	X ₄ with X ₁	0,038	Normal	43,678	3,88	0,713	1,42	
6.	X ₄ with X ₂	0,049	Normal	42,258	3,88	1,504	1,60	
7.	X ₄ with X ₃	0,039	Normal	45,009	3,88	0,927	1,71	
8.	X ₂ with X ₁	0,048	Normal	47,314	3,88	1,107	1,42	
9.	X ₂ with X ₃	0,064	Normal	27,039	3,88	0,989	1,71	
10.	X ₃ with X ₁	0,039	Normal	41,405	3,88	0,843	1,42	

The table above shows the results of the Lilliefors normality test with a normality index of L₀ below the L-table significance level $\alpha = 0,05$ (0,056) and $\alpha = 0,01$ (0,065) so it can be said that the data sample comes from a population that is normally distributed.

The significance of the regression coefficient test shows that the variance value is higher than the table value, so the regression equation coefficient is significant. While the linearity test of the regression equation shows that the variance value is smaller than the table value, so it can be said that the regression equation model is linear.

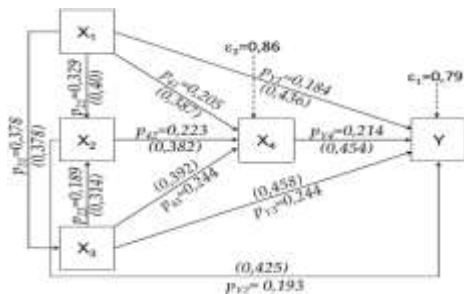


Figure 2
Final result of path analysis

The result of the calculation of the path coefficient significance test shows that the variance value is smaller than the table value at the significant level of 0.05 so that all paths in the proposed path analysis conceptual model are maintained

The final results of the path analysis show that the path analysis model is designed to meet the requirements and is suitable for predicting social learning outcomes (Y) through the variables of self-regulation (X1), social skills (X2), critical thinking skills (X3), and problem-solving skills (X4). Based on the results of testing the requirements

analysis and testing the path analysis model, the final step is testing the research hypothesis. The researcher proposes 10 (ten) hypotheses, which will be statistically tested as follows.

DISCUSSION

Positive Direct Effect of Self-Regulation on Social Learning Outcomes

Self-regulation is needed in learning to improve social learning outcomes. With self-regulation, students can manage, maintain, or control thought processes, motivation, and attitudes so that learning outcomes can be achieved according to the expected goals. Self-regulation is a person's ability to regulate their behavior by monitoring their performance to determine whether the desired behavior occurs by building stimuli and teaching can affect the success of education in the future (Lenes et al., 2020; McClelland & Cameron, 2019; Wanless et al., 2016). This can be seen as an example in the material of the struggle against the invaders and the national movement, where fighters can master the mind, evaluate struggle strategies, plan and prepare, and provide reinforcement, for example, through the Youth Pledge to achieve goals. Independence. This research is in line with the research conducted by (Tjalla & Sofiah, 2015), which states that there is an influence of the interaction between learning methods and self-regulation on learning outcomes in social studies subjects. The results of this study are also in line with research conducted by (McClelland & Cameron, 2011), which states that there is a substantive relationship between aspects of self-regulation and academic achievement in children. The results of this study also support the support of research conducted by (Bondarenko, 2017) which states that self-regulation and emotions in addition to cognitive and motivation activities have an influence on learning outcomes.

Positive Direct Effect of Social Skills on Social Learning Outcomes

Social skills affect social learning outcomes. This cannot be separated from the interactions made by students in the learning process. With excellent communication, students learn more comfortably with their friends, and this sense of comfort will affect students' enthusiasm for learning. Social skills are the ability to create harmonious social relationships and satisfy various parties, in the form of adjustments to the social environment and solving social problems (Irmansyah et al., 2020; Masadis et al., 2019). Social skills are part of effective behavior for communication between everyone. So, it can be said that the existence of both verbal and nonverbal communication will have an impact on the students themselves. The results of this study are in line with research conducted by (Montroy et al., 2014), which states that social skills affect student learning outcomes because social skills are the basis for children to interact with their environment. Other research was conducted by (Asoodeh et al., 2012) which states that there is an effect of social skills on learning outcomes because, with social skills, students can have spoken, listening, logic and problem-solving skills that are strengthened by experiential interactions so that they will affect student learning outcomes.

Positive Direct Effect of Critical Thinking Ability on Social Learning Outcomes

The ability to think critically has a positive impact on learning outcomes. The positive impact is due to the nature of students who do not only accept other people's opinions without analyzing and looking for truth themselves. New students will stop the process of asking or analyzing a given problem. While (Pursitasari et al., 2020; Bustami et al., 2018; Zubaidah et al., 2018) states that the ability to think critically is an integrated activity from several activities which include; (1) interpretation, the ability to categorize the problems at hand, (2) analysis, the ability to understand global concepts by interpreting these concepts into smaller and more detailed parts, (3) interfaces, the ability to question or think of alternatives, draw conclusions, solve problems, and make decisions, (4) explanation, is the ability to explain issues, state the results of the analysis, and find arguments, (5) evaluation, evaluate the arguments presented, (6) self-regulation, doing self-research activities, and self-correcting. The results of this study are in line with research conducted by (Komariyah & Laili, 2018), which states that critical thinking has a significant effect on student learning outcomes. Other research was also done by (Fong et al., 2017), which says that the results of the study indicate that critical thinking skills affect learning success and are very important for fostering critical thinking skills. This study was also confirmed by the results of (Karaman, 2010) research that found that social learning outcomes can be accumulated by critical thinking. In this study, it appears that the stimulation provided has a positive impact on social learning outcomes simultaneously.

Positive Direct Effect of Problem-Solving Ability on Social Learning Outcomes

In social learning, teachers should apply multiple models, methods, approaches, strategies, and learning techniques that require students to use problem-solving skills. The teacher gives assignments in the form of problems that must be solved by students, both individually and in groups, for example, problems with the impact of the appearance of artificial nature, diversity of ethnicity, religion, culture, and language. The teacher gives problems in assignments, projects related to economic or social phenomena. Students who can solve problems will be able to answer, work on, and solve problems in any form and try to solve complex problems. Thus students who can solve problems will find it easier to understand the issues and solve problems effectively during the social studies learning process. Solve problems using the scientific method by thinking more systematically, logically, more regularly, and more thoroughly (Korkmaz et al., 2020). In other words, solve problems using cognitive abilities. The thought process can run if a person has mastered the knowledge of the problem at hand, as a basis for solving a problem that is considered new. So, with the ability to solve ethical problems, social learning outcomes will increase. The results of this study are in line with research conducted by (Hwang et al., 2014), which states that problem-solving skills provide effective school settings and better learning outcomes.

The Direct Effect of Self-Regulation on Problem-Solving Skills

Self-regulation affects the ability to solve problems, and self-regulation will help students to solve problems. With self-regulation, students will increase their ability to

solve problems that are carried out systematically, logically, more regularly, and more thoroughly. Self-regulating refers to the process by which students focus their thoughts, feelings, and actions consistently on achieving goals (Zimmerman, B. J., 2000). Self-regulation is concerned with problem-solving skills, namely when focusing on the problem-solving process through reorganization and redefinition components (Pazhoman & Sarkhosh, 2019; Karami et al., 2019). The reorganization component leads to the thought process, namely organizing knowledge, abilities, skills, and attitudes, while redefinition is used to identify the problem at hand. The results of this study are in line with research conducted by (Çelik Ercoşkun & Köse, 2014), which states that there is a positive relationship between self-regulation and problem-solving skills. Other research was also done by (Nader-Grosbois & Lefèvre, 2011), which says that self-regulation is a process of controlling activities, thoughts, and emotions. Through good self-regulation, students can manage thoughts, knowledge, and be able to control emotions in dealing with every problem.

Social Skills Have a Positive Direct Effect on Problem-Solving Abilities

Social skills in the behavioral dimension are related to the concept of social attitudes, while in the value dimension, social skills are related to social intelligence. Social skills in relation to the aspects of social attitudes can be quoted from the opinion (Loukatari et al., 2019), which states that social skills are the ability to overcome all problems that arise as a result of interaction with the social environment and can present oneself in accordance with the prevailing norms. Furthermore, (Fisher & Morin, 2017) states that social skills are in the form of (1) necessary skills to interact, (2) Communication skills, (3) Team/group building skills, (4) Problem-solving skills. The results of this study are in line with research conducted by (Gökel & Dağlı, 2017), which states that social skills affect problem-solving abilities.

Positive Direct Effect of Critical Thinking Ability on Problem Solving Ability

Problem-solving ability cannot be separated from how the child's thinking process is. Thinking skills are useful in finding and using information, estimating various possibilities, accuracy in making decisions. It is these uses that will increase one's competitive behavior. Thinking, remembering, and understanding, require the ability to make decisions, make choices, and consider facts and then conclude (Astuti et al., 2020). Critical thinking is associated with solving problems, according to (O'Flaherty & Costabile, 2020) states that critical thinking forms the concept of reasoning and thinking critically, making decisions, thinking creatively, and solving problems. The ability to think critically can make a person recognize problems and solve problems. The ability to solve problems requires proficiency in making decisions in determining solutions. Anggelo supports this opinion, that critical thinking is applying rational, high thinking activities, which include analyzing, synthesizing, recognizing and solving problems, concluding, and evaluating (Astuti et al., 2020; Pursitasari et al., 2020; Duran & Dökme, 2016). This study is related to research conducted by (Atance et al., 2019), which shows that critical thinking helps children to make the right decisions in problem-solving activities. That's because in making decisions, critical thinking helps us find the best way.

Positive Influence of Self-Regulation on Social Skills

Self-regulation is the ability to control emotions, interact in positive ways with others, avoid inappropriate or aggressive actions, and become self-directed learners (Charlesworth, 2011). This provides an understanding of self-regulation, leading to the ability to control emotions to interact with others. In another context, (Irmita & Atun, 2018) connecting social skills with personal intelligence in the form of the ability to control yourself, self-confidence, discipline, and responsibility. This opinion reinforces that the ability to manage self affects interpersonal intelligence in this connection is social skills. Based on research conducted by (Muglia et al., 2018) she found that self-regulation had a significant effect on social skills and social learning outcomes. This can be seen from self-regulation, which is an internal stimulation factor to improve social skills.

Positive Direct Effect of Critical Thinking Ability on Social Skills

The results of this study are in line with research conducted by (Jenaabadi et al., 2015), which states that critical thinking skills can be trained and developed through education and integrated into learning so that it can positively affect students' social skills. Through critical thinking skills, students can express their ideas or ideas, in this case, the ability to communicate which is one indicator of social skills (Cáceres et al., 2020).

Social skills include communication and collaboration skills, and communication skills are influenced by critical thinking skills (Indrastoeti & Mahfud, 2015). Communication as a form of interaction between students, asking questions, both with the teacher and in group discussions. Students who can think critically will be able to express questions, opinions, criticisms, and suggestions adequately.

Positive Direct Effect of Self-Regulation on Critical Thinking Ability

Self-regulatory ability is related to metacognitive, which is the aspect used in higher-order thinking processes. Through the process of metacognition, a person can think critically, construct, and organize knowledge. Metacognitive awareness in this context is related to two types of knowledge, namely knowledge about cognitive strategies including knowledge on tasks and knowledge on self-abilities, interests, and attitudes or, in other words, self-concept tendencies. Metacognition is associated with higher-order thinking skills, e.g., critical thinking, studies (Zimmerman, B. J., 2000), which reveals that self-regulation is related to the ability to think critically, it can be said that through self-regulation one can think critically. The results of this study are in line with research conducted by (Ghanizadeh & Mizae, 2012), which stated that self-regulation has a strong correlation with critical thinking skills, and research findings also show that self-regulation can predict essential thinking skills. Self-regulation is a supporting component of critical thinking skills. Through self-regulation, students can organize thoughts, so that the mind is more focused, in this case self-regulation can control the thinking process because self-regulation is the ability to process thoughts (Kitsantas et al., 2019).

Based on the description, regarding the results of the study, it can be said that the success of learning is influenced by several factors that should be managed by the teacher. These factors can be divided into two, namely internal factors that come from within the student, both psychosis and physiology. In contrast, external factors are factors that come from outside the student, such as the environment, learning sources, and so on. Factors originating from students include self-regulation, social skills, problem-solving abilities, critical thinking skills that influence the achievement of learning outcomes.

CONCLUSION

Based on the results of testing the research hypothesis, the following conclusions can be drawn: (1) Self-regulation has a positive direct effect on social studies learning outcomes, meaning that increased self-regulation in learning in elementary students results in social improvement. Learning outcomes, (2) Social skills have a positive direct effect on social learning outcomes, meaning that the development of social skills in elementary school students can lead to an increase in social learning outcomes, (3) critical thinking skills have a positive direct effect on social learning outcomes, meaning the development of critical thinking skills in elementary school students resulting in increased social learning outcomes; (4) The ability to solve problems has a positive direct effect on social studies learning outcomes, meaning that the development and practice of problem-solving skills in elementary school students result in increased social learning outcomes, (5) positive direction self-regulation. It affects the ability to solve problems, meaning that increased self-regulation in elementary school students provides an increase in problem-solving skills, (6) Social skills have a positive direct effect on problem-solving abilities, meaning that training and development of social skills in elementary school students provide an increase in problem-solving skills, (7) The ability to think critically has a positive direct effect on problem-solving skills, meaning that the development of critical thinking skills in elementary school students produces results in increasing problem-solving abilities, (8) Self-regulation has a positive direct effect on social skills, meaning that the improvement of self-regulation in elementary school students causes an increase in social skills, (9) Self-regulation has a direct positive effect on critical thinking skills, meaning that increased self-regulation in elementary school students can lead to improved critical thinking skills, (10) Critical thinking skills have a positive direct effect on social skills, meaning that training and developing creative thinking skills in elementary school students results in increased social skills.

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