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Level of Learning Independence in Elementary School Students: The Influence of Self-Efficacy, Motivation, and Peer Interaction

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Abstract

This study aims to analyze the influence of self-efficacy, learning motivation, and peers on student learning independence in elementary schools. The research method used was a survey and data analysis using regression techniques. The research sample consisted of fourth-grade students in two elementary schools, totaling 65 people. Data were collected through questionnaires that measured the level of self-efficacy, learning motivation, peers, and learning independence. The results showed that self-efficacy is positively and significantly related to the level of students' learning independence. The higher the level of students' self-efficacy, the higher the level of learning independence they show. In addition, learning motivation also has a positive influence on learning independence. Students who have high learning motivation tend to be more independent in overcoming their learning challenges. In addition to self-efficacy and learning motivation, peers also play an important role in students' learning independence. The results showed that supportive and positive peer relationships were associated with higher levels of learning independence. Based on these findings, efforts to improve students' learning independence can focus on strengthening self-efficacy and learning motivation, as well as creating an environment that supports positive relationships with peers.

Keywords: *self-efficacy, learning motivation, peers, learning independence*

Introduction

Education plays an important role in the development of potential and academic achievement. Some of the factors that influence success in student education are internal and external. Internal factors are talent, intelligence, interest, readiness, and independence. While external factors are peers, school, family, and community environment (Salsabila & Puspitasari, 2020; Van Dinther et al., 2011).

One of the potentials that needs to be developed in an educational context is student learning independence. Learning independence refers to students' ability to learn material independently and develop their personal abilities. It involves a number of key skills, including analytical ability, problem solving, the development of effective learning strategies, access to relevant learning resources, and wise time management. This ability is one of the important elements that students should possess, as it can help them achieve higher academic levels. The development of learning independence also supports the realization of students' optimal potential, which is reflected in their ability to think independently, make decisions, and rarely rely on the help of others in facing learning challenges. This concept is also supported by Dekker, who describes independence as the ability of individuals to plan, act, and produce something to meet their

personal and community needs (Dekker, 2020). To be considered independent in a learning context, students must be able to complete their tasks without relying on external assistance, have confidence in themselves, make the right decisions, master skills according to their capacity, as well as be responsible for their actions and appreciate the importance of time management. These characteristics are in line with the views of Hasibuan et al, who identify five characteristics of independent individuals, namely courage in decision-making, initiative in solving problems, self-confidence, competence, and responsibility. (Hasibuan et al., 2019).

An independent attitude toward learning has significant benefits for student development. For example, the ability to think independently helps students formulate problem-solving strategies, take the initiative to face challenges, increase competence, and respect themselves when expressing opinions. In addition, this independent attitude supports the development of learning independence, which is an important factor in the formation of student independence. The low student learning outcomes seen from the final grades of the learning subthemes can be attributed to the lack of learning independence, which can be caused by various factors such as lack of interest, motivation, learning problems, social problems, environmental problems, and personality problems.

Initial observations at IKIP Complex Public Elementary School and IKIP Complex Public Elementary School I Makassar showed that many students lacked independence in the learning process. They tend to cheat, such as by cheating, because they doubt their competence, are too lazy to learn, often procrastinate on assignments, and depend on their friends. In addition, some students are less active in learning and do not ask questions or seek information related to the material due to lack of interest, fear, and embarrassment. This condition also has an impact on other students in the group who adopt the same habits and mindset. All of this leads to a decrease in academic achievement and has the potential to hinder the development of student independence. The decline in student learning outcomes is evidenced by the summative scores obtained at the end of each subtheme 2 lesson being lower than the scores in subtheme 1.

The level of student learning independence is influenced by various factors, including self-efficacy, learning motivation, and peer influence. Self-efficacy is an individual's judgment of their ability to achieve goals and complete tasks well. Students with high self-efficacy tend to persist more and try harder in the face of obstacles. Learning motivation plays an important role in improving student independence. Motivation can trigger students' willingness to improve their knowledge, skills, and abilities. In addition, peer influence is also significant in the development of learning independence, as they can provide social support, share knowledge, and provide positive encouragement to achieve learning goals.

Research on the relationship of self-efficacy, with learning independence, learning motivation with learning independence, and peers with learning independence reveals a significant relationship (Brown et al., 2016; Eriyanto et al., 2021; Lau et al., 2018; Miranda et al., 2020; Ramli et al., 2018; Sadi & Uyar, 2013; Saeid & Eslaminejad, 2016; Zimmerman & Kitsantas, 2005). These studies highlight the complexity of the relationship between learning practices, motivation, self-efficacy and students' academic achievement. However, these studies do not address the simultaneous influence on learning independence. The importance of self-efficacy, learning motivation, and peer support must also be taken into account in an effort to develop students' learning independence. Therefore, researchers are interested in analysing the influence of self-efficacy, learning motivation, and peers simultaneously on the learning independence of elementary school students.

Method

This research is designed to analyse the effect of independent variables on the dependent variable. The approach in this research is descriptive quantitative. In this study, researchers do not test hypotheses but describe what is related to research variables, certain circumstances or symptoms. In this study, the independent variables are self-efficacy (X1), learning motivation (X2), and peers (X3) while the dependent variable is learning independence (Y). This study uses a total sampling technique where the number of samples is the same as the population. The reason for taking total sampling is because the population is less than 100, so the entire population will be sampled (Sugiyono, 2016). Therefore, in this study, the number of samples selected was 100% of the total population of 65 students, namely 32 students from the IKIP Complex State Elementary School and 33 students from the IKIP I Complex State Elementary School. This study uses a research instrument in the form of a questionnaire with the checklist method for the independent (X1, X2, and X3) and dependent (Y) variables. The questionnaire will be given to fourth-grade students who are the sample in the study. Researchers provide complete answers so that respondents only provide a checklist mark on the desired answer. The answer choices are multilevel, so that each answer can be given a value according to its intensity. In this study, the lowest intensity in the answer to the question was given a value of 1, and the highest answer was given a value of 5. The research instruments used refer to valid and measurable aspects, namely learning independence with aspects of self-confidence, working alone, respect for time, and responsibility (Atosakhi, 2003); self-efficacy with aspects of level, strength, and generality (Bandura, 1997); learning motivation with aspects of desire and desire to succeed, motivation and needs in learning, future hopes and ideals, learning rewards, learning activities, and learning environment (Uno, 2007); and peers with aspects of cooperation, competition, emotional support, and adjustment (Slamet, 2006).

The acquisition of self-efficacy scores, learning motivation, peers, and students' learning independence will be analysed using statistical methods, namely multiple regression analysis using SPSS version 26 statistical software. Multiple regression analysis is a regression model that involves more than one independent variable (Darmadi, 2014). This model is used to assess the effect of two or more independent variables on the dependent variable. Before performing regression analysis, there are several assumptions that need to be met, namely the normality of data distribution, the absence of multicollinearity between independent variables, and the absence of heteroscedasticity. To ensure that the data fulfils these assumptions, a normality test, multicollinearity test, and heteroscedasticity test are conducted. The results of these prerequisite tests will affect the validity of the regression analysis. If the data is normally distributed, there is no multicollinearity, and no heteroscedasticity, then multiple regression analysis can proceed. Furthermore, hypothesis testing was carried out using SPSS version 26 with the multiple regression analysis method. This aims to determine whether there is a significant influence between the independent variables and the dependent variable. Thus, this analysis will help in identifying whether self-efficacy, learning motivation, and peer influence have a significant influence on student learning independence.

Results

Descriptive Analysis

This research was conducted at IKIP Makassar Complex State Elementary School involving 65 fourth grade students. Researchers distributed 4 types of questionnaires to students,

including self-efficacy questionnaire (X1), learning motivation questionnaire (X2), peer questionnaire (X3), and learning independence questionnaire (Y).

Table 1. Descriptive Analysis Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Self-efficacy	65	31.00	43.00	34.6769	2.27148
Learning Motivation	65	30.00	48.00	34.7846	2.93945
Peers	65	30.00	41.00	34.4769	2.44379
Learning Independence	65	29.00	45.00	37.3231	2.61670
Valid N (listwise)	65				

Based on Table 1, it can be obtained information that the variables of self-efficacy, learning motivation, peers, and learning independence obtain a mean value greater than the standard deviation so that the data deviation that occurs is low and the data is less varied which causes an even distribution of values.

Classical Assumption Test

Classical assumption testing is intended to test basic assumptions as a prerequisite for hypothesis testing, which in this case uses multiple regression. The classic assumption test in regression includes normality test, multicollinearity test and heteroscedasticity test.

Normality Test

Table 2. Kolomogrof Smirnov Normality Test Results

One-sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		65
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.27511371
Most Extreme Differences	Absolute	.043
	Positive	.034
	Negative	-.043
Kolmogorov-Smirnov Z		.043
Asymp. Sig. (2-tailed)		.200

a.Test distribution is Normal.

b. Calculated from data.

Based on Table 2, the normality test results show that the Kolmogorov-Smirnov significance (Sig) value is greater than 0.05. Thus it can be concluded that the residual value is normally distributed.

Collinearity Test

Table 3 Multicollinearity Test Results

Coefficients			
	Model	Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Self-efficacy	.958	1.044
	Learning Motivation	.571	1.752
	Peers	.572	1.747

Based on table 3, the multicollinearity test results can be concluded that the amount of tolerace and VIF values for each variable, namely, the self-efficacy variable with a tolerace value

of 0.958> 0.10 and a VIF value of 1.044 < 10.00. Learning motivation variable with a tolerance value of 0.571> 0.10 and a VIF value of 1.572 < 10.00. Peer variable tolerance value 0.572> 0.10 and VIF value 1.747 < 10.00. So it can be concluded that there is no multicollinearity in the regression model.

Heteroscedasticity Test

The heteroscedasticity test aims to test whether, in the regression model, there is an inequality of variance and residuals from one observation to another. If the variance of the residuals from one observation to another is constant, it is called homoscedasticity, and if it is different, it is called heteroscedasticity. A good regression model is one with homoscedasticity or no heteroscedasticity (Ghozali, 2018). study,In this study to detect the presence or absence of heteroscedasticity, we used the scatterplot graph, which can be seen in Figure 1.

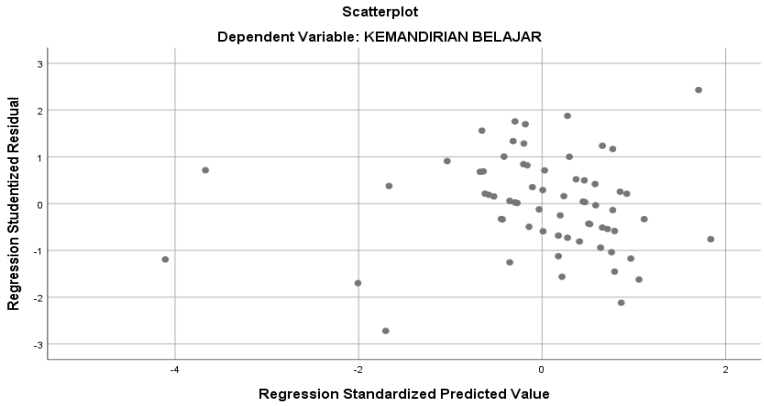

Figure 1 Scatterplot of Heteroscedasticity

Based on Figure 1 scatterplot, it can be seen that the points spread randomly both above and below the number 0 on the Y axis and do not form a certain pattern, it can be concluded that there is no Heteroscedasticity in this regression model.

Hypothesis Test

After going through the process of testing the requirements of analysis by testing the assumptions that the data distribution is normally distributed, there is no heteroscedasticity of data, and there is no multicollinearity as described, then hypothesis testing can be carried out using statistical testing with multiple regression analysis.

Table 4. Regression Test Results of X1 on Y

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.756	6.317		7.560	.000
	Self-efficacy	-.271	.131	-.236	-2.071	.043

Based on table 4 Coefficients, it can be seen that the significance value (Sig.) of the self-efficacy variable (X1) on learning independence (Y) is 0.043 <0.05 and the tcount value is 2.071> t table 1.670. So it can be seen that the self-efficacy variable (X1) has an effect on learning independence (Y). Then based on the results of the analysis, the regression coefficient shows the amount of influence given by the self-efficacy variable (X1) on learning independence (Y),

which is 0.271. This means that every addition (+ sign) 1 on each self-efficacy score will increase learning independence by 0.271.

Table 5 Regression Test Results X2 on Y

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.756	6.317		7.560	.000
	Learning motivation	-.443	.131	-.498	-3.379	.001

Based on table 5 Coefficients, it can be seen that the significance value (Sig.) of the learning motivation variable (X2) on learning independence (Y) is 0.001 <0.05 and the tcount value is 3.379> t table 1.670. So it can be seen that the learning motivation variable (X2) has an effect on learning independence (Y). Then based on the results of the analysis, the regression coefficient shows the amount of influence given by the learning motivation variable (X2) on learning independence (Y) which is 0.443. This means that every addition (+ sign) 1 on each learning motivation score will increase learning independence by 0.443.

Table 6 Regression Test Results of X3 on Y

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.756	6.317		7.560	.000
	Peers	.417	.158	.390	2.649	.010

Based on table 6 Coefficients, it can be seen that the significance value (Sig.) of the peer variable (X3) on learning independence (Y) is 0.010 <0.05 and the tcount value is 2.649> t table 1.670. So it can be seen that the peer variable (X3) has an effect on learning independence (Y). Then based on the results of the analysis, the regression coefficient shows the amount of influence given by the peer variable (X3) on learning independence (Y) which is 0.417. This means that every addition (+ sign) 1 to each peer score will increase learning independence by 0.417.

Simultaneous Hypothesis Test

To test the hypothesis in the study simultaneously or together by looking at the F statistical value in the ANOVA table of multiple regression test results using SPSS.

Table 7 Simultaneous Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.942	3	35.647	6.564	.001
	Residual	331.273	61	5.431		
	Total	438.215	64			

Based on table 7 ANOVA, it is known that the significance value (Sig.) is 0.001 <0.05 and the Fcount value is 6,564> Ftable 2.77. So it can be seen that self-efficacy (X1), learning motivation (X2), peers (X3) simultaneously or together affect learning independence (Y).

Multiple Linear Regression Results

The regression coefficient output is used to determine the contribution or contribution of each independent variable to the dependent variable.

Table 8 Multiple Regression Test Results

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig
		B	Std. Error	Beta		
1	(Constant)	47,756	6,317		7.560	.000
	Self-efficacy	-.271	.131	-.236	-2.071	.043
	Learning Motivation	-.443	.131	-.498	-3.379	.001
	Peers	.417	.158	.390	2.649	.010

Based on table 8, a constant value of 47.756 is obtained. This shows that without the variables of self-efficacy (X1), learning motivation (X2), and peers (X3), the value of the learning independence variable (Y) is 47.756. The X1 regression coefficient of 0.271 shows that the self-efficacy variable is 27.1%, meaning that each addition (+) 1 to each self-efficacy score will increase responsibility by 27.1%.

The X2 regression coefficient of 0.443 shows that the learning motivation variable is 44.3%, meaning that each addition (+) 1 to each learning motivation will increase learning independence by 44.3%.

The X3 regression coefficient of 0.417 shows that the peer variable is 41.7%, meaning that each addition (+) 1 to each peer will increase learning independence by 41.7%.

Coefficient of Determination

Table 9 Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.494	.244	.207	2.33039

a. Predictors : (Constant), Peers (X3), Learning Motivation (X2), Self-efficacy (X1)

b. Dependent Variable: Learning Independence (Y)

In this study, it consists of 4 variables, namely self-efficacy patterns, learning motivation, peers and learning independence, so the reference is the R Square value. Based on table 4.9 above, the R Square value of 0.244 indicates that 24.4% of the learning independence variable can be influenced by three other variables, namely: self-efficacy, learning motivation and peers. While the remaining 75.6% is explained by other variables outside this study.

Discussion

The Effect of Self-Efficacy on Student Learning Independence

Based on the results of the t test, it can be seen that self-efficacy affects student learning independence. The higher or better the student's self-efficacy, the student's independence will increase or be high. When students have high confidence in their ability to learn and achieve academic goals, they tend to be more motivated and have a high learning spirit. High self-efficacy also helps students set realistic learning goals and gives them the confidence to achieve them gradually. With the belief that they are able to face challenges and overcome difficulties, students are more likely to take the initiative in independent learning. They will feel more confident to seek their own sources of information, use effective learning methods, and overcome obstacles that may arise. As a result, students will develop strong learning

independence, be able to manage their time well, and be able to optimise their academic potential. Therefore, it is important for educators and parents to help improve students' self-efficacy through positive reinforcement, providing support, and providing opportunities to achieve success in learning.

The results of this study are reinforced by the findings of previous research that has been conducted. One of the studies that highlighted this relationship was research conducted by (Brown et al., 2016). This study investigated how self-efficacy relates to learning independence and academic achievement. The findings showed that individuals who have high levels of self-efficacy tend to have better learning independence, which in turn is associated with better academic achievement. This study shows that high self-efficacy is associated with strong internal motivation, increased self-confidence, and the ability to self-regulate learning. This, in turn, helps individuals become more independent in the learning process. In addition, another study was conducted (Morris, 2018) which focused on the role of self-efficacy in assisting the development of learning independence in primary school students. This study found that high self-efficacy is associated with higher learning independence in children. However, there have not been many similar studies in primary schools, according to the results of research (Ritchie & Williamon, 2011). The results of a study examining the relationship between self-efficacy and student learning independence in secondary schools showed a significant positive correlation between the level of self-efficacy and the level of student learning independence.

The significant influence of self-efficacy on the learning independence of elementary school students supports the self-efficacy theory proposed by (Bandura, 1995). This theory states that individuals' belief in their ability to perform an action or achieve a goal will affect their behavior and achievement. According to self-efficacy theory, individuals who have high levels of self-efficacy will tend to have higher motivation to try and face challenging tasks. They believe that their efforts will lead to positive outcomes, so they are more motivated to learn more independently and overcome obstacles that may arise.

In the context of primary school students, if they believe that they are able to overcome learning difficulties, plan their own study time, and achieve good results, then they will be more likely to take the initiative in independent learning. They will be more confident in overcoming challenges and less dependent on help from others. Individuals' belief in their own abilities can affect their motivation, attitudes, and behavior in various situations, including academic achievement. Based on the results of previous research and the theory above, all of them support this research, where self-efficacy has a significant effect on student learning independence. This means that the increase and decrease in learning independence can be influenced by self-efficacy.

The influence of learning motivation on student learning independence

Based on the results of the t-test, it can be seen that learning motivation affects student learning independence. The effect of learning motivation on student learning independence is very important in the context of education. Learning motivation refers to the internal drive that encourages students to actively participate in the learning process and achieve their academic goals. When students have high learning motivation, they tend to be more independent in their learning. High learning motivation encourages students to seek knowledge and skills with enthusiasm. They feel drawn to explore different topics and subject matter because they see the value and relevance of what they are learning. This interest and curiosity fuel the desire to learn independently, without having to rely on instruction or encouragement from teachers or parents.

In addition, learning motivation also plays a role in shaping students' learning independence. When students feel motivated to achieve academically, they will endeavor to organize their time and manage their resources well. They will be more proactive in finding sources of information, use a variety of effective learning strategies, and face challenges with determination. Conversely, if learning motivation is low, students may tend to become passive, less motivated to seek new knowledge, and rely more on help from others. This can hinder the development of their learning independence. Therefore, it is important for educators and parents to create an environment that supports and fuels students' learning motivation. Rewarding their learning efforts, providing challenges that are appropriate to their ability level, and fostering interest in the subject matter can help increase their learning motivation. By doing so, students' learning independence will be further developed, and they will become active and competitive learners in achieving academic and personal success.

Some previous research supports these results. Trisnawaty found a significant effect of learning motivation on students' learning independence (Trisnawaty et al., 2022). The results show that the higher the learning motivation, the higher the learning independence. There is a positive relationship between learning motivation and learning independence, with a significance of 0.000 <0.05, leading to the conclusion that motivation has a significant influence (Arista et al., 2022). Meanwhile, Jabnabillah revealed that learning motivation significantly affects learning independence (Jabnabillah, 2021). In the context of online learning during the pandemic, learning motivation has contributed 51.6% to learning independence.

The influence of learning motivation on the learning independence of elementary school students is supported by the Self-Determination Theory (Deci & Ryan, 2012). This theory highlights the importance of basic psychological needs, namely autonomy, competence, and relatedness, in shaping optimal motivation to learn. In the context of primary school students, this theory applies strongly, as they are experiencing a crucial early learning period in the development of learning attitudes and independence.

Autonomy needs to refer to students' drive to feel in control of their own actions and choices. Autonomy-supportive teachers and educational environments give students the opportunity to take initiative in their learning. A study conducted by Jang, Reeve, and Deci (2010) showed that students who perceive autonomy and support from their teachers tend to have higher levels of learning independence. The study stated, "Students who feel autonomously supported tend to experience more autonomous learning, which goes hand in hand with an increased sense of self-efficacy in achieving academic success".

Competence needs include students' drive to feel effective and competent in performing tasks or achieving goals. High learning motivation and belief in self-efficacy contribute to students' learning independence (Blackwell et al., 2007). Students who have high learning motivation are able to increase their ability to actively seek learning challenges, show greater effort, and achieve higher levels of learning independence, meaning that the increase and decrease in student learning independence is influenced by learning motivation.

The influence of peers on student learning independence

Based on the results of the t-test, it can be seen that peers have an effect on student learning independence. The influence of peers on student learning independence is an important aspect that can influence how students learn and develop independence in the learning process (Abidah et al., 2020). Peers are individuals of the same age or similarity in a learning context, such as classmates or study partners in a school environment. Social interactions with peers can have a positive impact on students' learning independence in several ways. Firstly, interactions with peers can be a source of support and encouragement for students to achieve learning

independence. In a supportive environment, students tend to share ideas, information, and useful learning resources. The support and motivation provided by peers can give students the confidence to overcome difficulties in learning independently and find solutions to the challenges faced. Secondly, peers can also play a role as models of positive learning behavior. When students see peers who are active in learning, independent in coping with tasks, and perform well, this can influence their behavior and motivation to imitate and model the same learning patterns. This will increase students' learning independence, as they will be motivated to try harder and study independently to achieve better results.

However, it is also important to realize that peer influence is not always positive. Interactions with peers who are less motivated or tend to avoid academic responsibilities can also have a negative impact on students' learning independence. Therefore, the role of teachers and the school environment is also important in guiding and creating a supportive environment so that peer influence can contribute positively to students' learning independence. In conclusion, interaction with peers can have a significant influence on students' learning independence. Support, encouragement, and positive examples of learning behavior from peers can increase students' learning independence. However, it is important to create a supportive educational environment and provide guidance so that peer influence has a positive impact on students' academic development and learning independence.

This research confirms previous findings. Arista found that peers have a positive and significant effect on learning independence in online economic learning during the pandemic (Arista et al., 2022). This is supported by the theory that interactions with peers influence beliefs and behaviors, especially in the context of peer groups (Droege & Stipek, 1993). Mariani's research also found a significant influence of the role of peers on students' independence by 35.3%. The recommendation from this study is the importance of choosing peers who contribute positively to learning to support independent learning ability (Mariani et al., 2023). In conclusion, peers have a major influence on learning independence through social support, imitation of positive behavior, and the search for positive social identity, so choosing positive peers is important in the learning process.

Social Learning Theory confirms the great influence of peers on learning independence. Peers become models of behavior and sources of support that influence how students learn. The concept of modeling in this theory is important; when students see peers as independent in their learning, they tend to imitate and increase their learning independence. Peer influence also affects students' confidence and motivation; positive support increases confidence and motivation, while negative interactions can reduce learning independence (Bandura, 1977).

In the context of developing students' learning independence, peer support and influence can make an important contribution to shaping learning behaviors and attitudes. As social learning theory emphasizes the importance of the influence of the social environment on learning, relationships with peers can be an influencing factor in the development of students' learning independence. Therefore, the role and influence of peers should be considered in creating a positive and supportive learning environment for the development of students' learning independence.

The Effect of Self-efficacy, Motivation to learn, and Peers Together on Student Learning Independence

Based on the results of the F test in the ANOVA table, it can be seen that self-efficacy, learning motivation, and peers together (simultaneously) affect student learning independence. All independent variables have a contribution to student learning independence. The three variables, namely self-efficacy, learning motivation, and peers, have a joint influence (simultaneously) of

24.4% on student learning independence, while the remaining 75.6% is influenced by other variables outside the study. The results of the analysis show that self-efficacy has a greater influence on student responsibility than learning motivation and peers. However, the three variables need attention because they can affect the level of student independence in learning.

Learning independence is important for primary school students to develop their potential and academic achievement. There are three main factors that are interrelated and influence students' learning independence, namely self-efficacy, learning motivation, and interaction with peers. Firstly, self-efficacy is a student's belief in their own ability to overcome challenges and succeed in learning. When a student believes that he is able to master the subject matter and overcome learning difficulties, he will be more likely to take the initiative to learn independently. High self-efficacy spurs students to be determined to achieve their learning goals, so they will be more willing to explore knowledge, ask questions, and find solutions on their own (Dewi, 2017). Second, learning motivation plays an important role in shaping students' learning independence. Learning motivation can come from within (intrinsic motivation) or from the outside (extrinsic motivation). Students who have strong intrinsic motivation, for example, because they are interested in the subject matter or enjoy learning, will tend to be more independent in their learning (Alamri et al., 2020). On the other hand, extrinsic motivation, such as rewards or praise from teachers or friends, can also provide encouragement to students to develop learning independence. Third, interaction with peers also plays a role in shaping students' learning independence. Peers can provide social support, collaboration, and knowledge sharing that can enrich students' learning processes (Hernaus et al., 2019). Through interactions with peers, students can learn to help each other, discuss, and share understanding, which will ultimately help them become more independent in seeking and understanding information. Overall, self-efficacy, learning motivation, and interaction with peers are interrelated and influence each other in shaping the learning independence of elementary school students. The higher the students' self-efficacy, the greater the learning motivation they will have, and the more actively they interact with peers, the higher the level of learning independence that can be achieved. Therefore, a holistic approach and appropriate support from teachers and the school environment are essential to developing students' learning independence early on.

Self-efficacy, motivation to learn, and peer influence collectively impact autonomy in learning for elementary school students, as supported by various theories such as self-efficacy theory, goal theory, and social learning theory. Self-efficacy theory suggests that an individual's beliefs about their capability to achieve certain goals or tasks affect their motivation and behavior (Shin, 2018). Elementary school students with high self-efficacy levels are more likely to feel confident in overcoming learning challenges, mastering subject matter, and achieving academic success (Lane et al., 2004). This belief encourages them to independently pursue learning, seek additional information, and strive to meet established learning objectives. Conversely, students with low self-efficacy may feel discouraged or hesitant to attempt new tasks, potentially impeding their autonomy in learning. Goal theory emphasizes the significance of clear, supportive learning objectives in shaping students' motivation (Meece, 2023). Students with specific, measurable learning goals and a belief in their ability to attain them are more inclined to develop autonomy in learning. For instance, when students set a goal to complete a lesson within a specific timeframe or to achieve a certain grade, they are more likely to direct their efforts towards achieving that goal. Support from teachers and peers in setting and reaching learning objectives can further strengthen students' motivation to become more independent in the learning process. Social learning theory posits that individuals learn through interactions with their environment, including observing and imitating others' behaviors (Myers, 2018). In the context of learning autonomy, peer interaction plays a pivotal role. When students witness

peers who are active, enthusiastic, and independent in their learning, they are more likely to be inspired and motivated to adopt similar behaviors. Interacting with peers also provides opportunities for students to discuss, exchange ideas, and collaborate in learning, which can enhance their autonomy in learning.

The combination of self-efficacy theory, goal theory, and social learning theory forms a solid theoretical basis for understanding the interconnectedness of self-efficacy, learning motivation, and peer interaction in shaping the learning independence of primary school students. Self-efficacy impacts students' confidence in their abilities, while well-defined learning goals and peer support can enhance their motivation to take initiative and responsibility in their learning. Armed with this knowledge, educators can create learning environments that foster the growth of students' learning independence and enable them to reach their academic potential more effectively.

Conclusion

Self-efficacy, learning motivation, and peer interaction collectively have a positive impact on the learning independence of elementary school students. The F-test results in the ANOVA table indicate that these three independent variables have a combined influence of 24.4% on student learning independence. The significance of student learning independence in primary schools is underscored, as it affects their potential development and academic success. Self-efficacy, learning motivation, and peer interaction are interconnected and mutually reinforcing. Self-efficacy helps students overcome challenges and achieve learning goals; learning motivation fosters independent learning initiatives; and peer interaction offers social support and collaboration. A comprehensive approach and appropriate support from teachers and the school environment are crucial in nurturing students' learning independence from an early age. This finding aligns with various theories, such as self-efficacy theory, goal theory, and social learning theory, which provide a theoretical foundation for the cultivation of learning independence in primary school students. With this understanding, educators can design more effective learning strategies to enhance students' learning independence and help them reach their academic potential.

Despite the significant role of self-efficacy, learning motivation, and peer interaction in shaping learners' responsibility, approximately 75.6% of students' learning independence is influenced by other factors beyond the variables examined. Suggestions for future research include delving into the analysis of other potential factors that may impact students' learning independence. Exploring the influence of the family environment, conducting longitudinal studies, and implementing specialized learning strategies are important areas for further exploration. Comparative research on schools with different characteristics can also offer valuable insights. Additionally, focusing on developing educational programs or interventions to enhance students' learning independence could be a promising next step. The findings of this study contribute to a deeper understanding of the multifaceted factors that influence students' learning independence and lay the groundwork for the development of more effective educational strategies at the primary school level.

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