



# THE EFFECT OF SELF-REGULATED LEARNING AND DIGITAL LITERACY ON STUDENTS ECONOMIC LEARNING OUTCOMES WITH SELF-EFFICACY AS AN INTERVENING VARIABLE

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## Abstract

During the Covid-19 pandemic, all learning activities in school will carry out at home. All aspects of education require adaptation to this policy, and the most affected by this policy are students. Students learning outcomes at SMA Negeri 8 Tangerang Selatan have decreased, as seen from the PAS (Penilaian Akhir Semester) scores of students for the 2021/2022 academic year in the odd semester. It found that 80 percent of students with PAS scores were still below the minimum completeness criteria (KKM). One way to overcome this the students must apply self-regulated learning and self-efficacy strategies during the online learning process. In addition, students also need to adapt to technology which students' digital literacy skills can measure by using technology. This study aims to determine the effect of self-regulated learning and digital literacy on students' economic learning outcomes with self-efficacy as an intervening variable. The population of this study is class XI students in the 2021/2022 academic year at SMAN 4 Tangerang Selatan and SMAN 8 Tangerang Selatan, with a total of 305 students. Sampling obtains using the slovin formula with a total sample of this study are 174 students. Techniques for collecting data using questionnaires and methods for analyzing data using path analysis with the IBM SPSS 25.0 program describe here. Self-efficacy is an intervening variable, and the results showed a positive and significant influence between self-regulated learning and digital literacy on students' economic learning outcomes.

**Keywords:** *Self-Regulated Learning, Digital Literacy, Self-Efficacy, Students Learning Outcomes*

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## INTRODUCTION

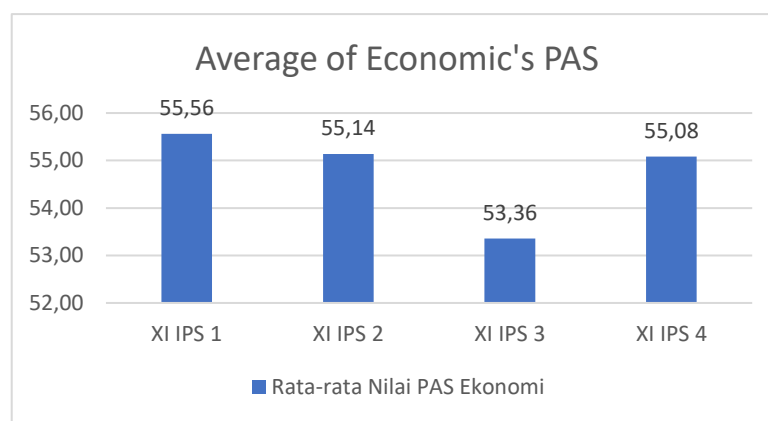
The Covid-19 pandemic has significantly impacted all sectors of life, especially in the education sector. Government policies also continue to be intensified in the education sector. Minister of Education and Culture, Mr. Nadiem Makarim, issued circular (SE) No. 4 of 2020 concerning the Implementation of Education during the Coronavirus Disease (Covid-19) emergency which explains that the Minister of Education and Culture emphasizes learning in schools to implement the distance learning systems (PJJ). This policy implements to stop the spread of the Covid-19 virus outbreak, which is increasing (Kementerian Pendidikan dan Kebudayaan, 2020).

Distance learning systems (PJJ) were challenges for students, teachers, and schools. According to a survey conducted by the KPAI of 1700 respondents, 23,3 percent said they were happy to carry out online learning, and 76,6 percent said they did not like learning from home. The complaints felt by these students resulted in education that previously implemented a face-to-face system. Because of the Covid-19 outbreak, students, teachers, and schools had to adapt using a new system, namely the distance learning system (PJJ).

Abisha Meiji & Dennison (2020) explained that online learning in the Covid-19 era caused several problems for students, such as difficulty managing their study time and concerns about participating in learning activities which will also affect the student's learning outcomes.

Student learning outcomes become one of the guidelines for measuring student success after taking the learning process. The educational goals can achieve when student learning outcomes are excellent and satisfactory. However, on the contrary, if student learning outcomes are not acceptable, then the purposes of education have yet to be achieved optimally. The following is the data on the results of PAS (Penilaian Akhir Semester) for economics subject at SMA Negeri 8 Tangerang Selatan:

**Gambar 1. 1 - Penilaian Akhir Semester (PAS)**



Source: Secondary data, processed by researchers, 2022

Based on the picture above, it can see that the average achievement of student school exam results in the economic subject is still below the minimum completeness criteria (KKM), which is 66. So it can conclude that 80% of students in class XI have an economic PAS value below the KKM, and only 20% of students have an economic PAS value above the KKM. Thus, researchers can conclude that online learning is still challenging and triggers several student problems, such as a student's inability to plan to learn. There are concerns and a need for clarity in the online learning process that can lead to achievement in student learning outcomes.

One of the factors that influence student learning outcomes can come from internal and external factors. It is in line with Ramadhany & Rosy (2021), explaining that the efforts to improve learning outcomes include internal factors from within students and external factors from the environment. Internal factors that can affect student learning outcomes, according to Bandura (1997), are students' self-confidence in their abilities so that they can complete the work and achieve success in learning. Confidence in students is called self-efficacy.

Another internal factor influencing learning outcomes is self-regulated learning (Zahro & Surjanti, 2021). The term self-Regulated learning was first coined by Alber Bandura in his theory of social learning theory. According to Bandura, this theory explains that self-regulated learning attempts

to deepen and manipulate a network related to a field and can control and improve the deep process (Azmi, 2016).

In addition to efforts to apply self-regulated learning and self-efficacy to students to improve learning outcomes during the Covid-19 pandemic, the most crucial essential ability is using digital technology as a practical learning medium. The ability to find sources of information for learning also needs to be accounted for by students in this digital era, so students need to have digital literacy. According to Widiastini (2019), digital literacy means everyone needs to access, analyze, create, reflect and act using various digital devices.

Based on the description in the introduction above, the researchers are interested in further research on learning outcomes with the title "The Effect of Self-Regulated Learning and Digital Literacy on Student Economic Learning Outcomes with Self Efficacy as an Intervening Variable ."This study aimed to determine "The Effect of Self-Regulated Learning and Digital Literacy on Student Economic Learning Outcomes with Self Efficacy as an Intervening Variable."

## **LITERATURE REVIEW**

### **Learning Outcomes**

According to Winkel (1989), they were cited in (Friskilia & Winata, 2018), which explains that learning outcomes can be defined as a guide to learning success or the ability of students to carry out their learning activities based on the weight they have achieved. Learning outcomes can be considered a measure of the success of the learning process. According to Dwijayani (2019), learning outcomes are the results that are given to students in the form of an assessment after following the learning process by evaluating in terms of knowledge, attitudes, and skills in students, along with changes in behavior. These results are given to students after the learning process has been followed.

### ***Self-Efficacy***

In concept, self-efficacy is a scientific domain of Social Cognitive Theory first coined by Bandura (1997) (Nusannas et al., 2020). According to Bandura's concept, it is explained that "*self-efficacy is an individual's belief in his ability to complete a particular task and a certain perspective situation.*"

The indicators used in self-efficacy are, 1) *Magnitude*, in this dimension, is related to one's acceptance and belief in a difficult task. 2) *Generality*, this dimension is related to an individual's ability in different task contexts either through behavior, cognition, and emotion. 3) In this concept, strength means an individual's strength or toughness in carrying out its functions.

### ***Self-Regulated Learning***

According to Pintrich & Zusho (Safinah & Dr. Osly Usman, 2018) explained that self-regulated learning is a constructive process for students to determine learning goals and try to monitor and control cognitive abilities, motivation and behavior to achieve objectives.

The indicators are used in *self-regulated learning* such as 1) *Goal setting and planning*, 2) *Organizing and transforming*, 3) *Environment and structuring*, 4) *Keeping records and monitoring*, 5) *Rehearsing and memorizing*, 6) *Self consecrating*, 7) *Seeking social assistance*, 8) *Self-evaluating*, dan 9) *Metacognitive self-regulation*.

## **Literasi Digital**

Widiastini (2019) explained that with digital literacy, it is hoped that someone will not only be able to understand and utilize information sources in various formats but will also agree to operate supporting devices.

The indicators used in digital literacy such as 1) *Internet searching*, 2) *Hypertextual navigation*, 3) *Content evaluation*, dan 4) *Knowledge assembly*.

## **METHOD**

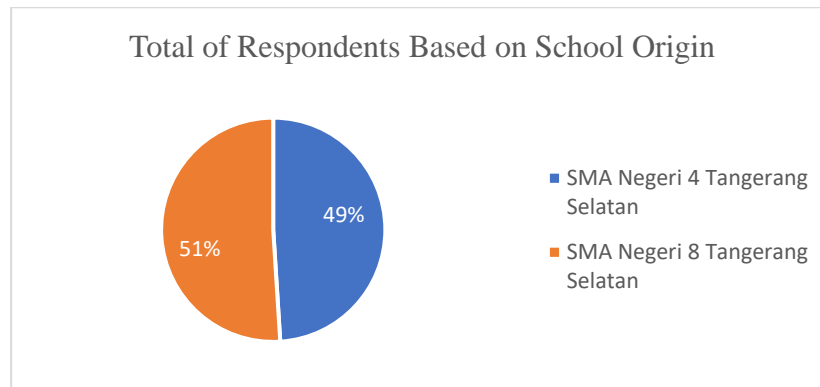
This research was conducted using a quantitative approach. The purpose of this research is to find out the effect of *self-regulated learning* (X1) and digital literacy (X2) on student economic learning outcomes (Y) with self-efficacy as an intervening variable (Z). The data analysis technique uses path analysis using the SPSS version 25. The population in this study were students of class XI in two schools in South Tangerang, namely SMA Negeri 4 Tangerang Selatan and SMA Negeri 8 Tangerang Selatan, with a total population of 305. The number of samples was calculated using the slovin formula with an alpha of 5 percent and obtained a complete example of 174.

Data collection in this study was carried out using questionnaires with closed questions distributed to students. Four alternative answers are provided for each item in the questionnaires, and the scores are weighted using a Likert scale.

## **RESULTS AND DISCUSSION**

### **RESULTS**

The number of respondents from SMA Negeri 4 Tangerang Selatan was 85, 49 %, and the number of respondents from SMA Negeri 8 Tangerang Selatan was 88, with a percentage of 51%. Overall respondents in this study were 174 respondents.



**Figure 1 Total of Respondents Based on School Origin**

Source: primary data processed by researchers, 2022

Furthermore, to categorize self-regulated learning for students, it is necessary to calculate the percentage score for each indicator. The categories of self-regulated learning used are as follows:

**Table 1 Tabulation of Self-Regulated Learning Indicator Score**

Variable	No	Indicator	Total Score Indicator	Number of items valid	Average score indicator	Percentage
Self Regulated Learning	1	Goal setting and planning	950	2	475	10,90%
	2	Organizing and transforming	425	1	425	9,82%
	3	Environment and structuring	1072	2	536	12,30%
	4	Keeping records and monitoring	1049	2	524.5	12,12%
	5	Rehearsing and memorizing	435	1	435	10,04%

	6	Self consecrating	869	2	434.5	10,03%
	7	Seeking social assistance	468	1	468	10,80%
	8	Self- evaluating	1048	2	524	12,10%
	9	Metacognitive self- regulation	1014	2	507	11,72%
Total			7330	15	4329	100%

Source: primary data processed by researchers, 2022



: Lowest score



: Highest score

Based on the table above from 174 respondents, on the self-regulated learning (X1) variable, the highest score is on the environment and structuring indicators. It can interpret that student have good abilities to tidy up, organize and prepare learning equipment from economics textbooks, pens, pencils, and other tools that can support economic learning. In this case, it means that students have a good awareness of organizing and preparing learning equipment to keep the learning process running smoothly.

Meanwhile, organizing and transforming indicators have the lowest score. In economics learning, students still need to summarize the economics subject well. It is undoubtedly one of the obstacles for students in organizing learning activities because there are still few students who are aware of the importance of summarizing or recording economic material to facilitate students in the learning process. Based on the information above, the classification of each level of self-regulated learning can be made as follows:

**Table 2 Self-Regulated Learning Level**

No.	Category	Interval	Percentage	Frequency
1	Very high	54-60	10.90%	19
2	High	45-53	28.20%	49

3	Normal	37-44	33.90%	59
4	Low	29-36	21.30%	37
5	Very low	20-28	5.70%	10
Total			100.00%	174

Source: primary data processed by researchers, 2022



The results show that the students with the most attitudes towards self-regulated learning strategies at a very high level are 10,90% which is 19 students. Students with a high self-regulated learning attitude are 28,20% which is 49 students. Students with a typical self-regulated learning attitude are 33,90% which is 59 students. Students with low self-regulated learning are 21,30%, 37 students, and students with shallow self-regulated learning are 5,70%, ten students. It can conclude that self-regulated learning at SMA Negeri 4 Tangerang Selatan and SMA Negeri 8 Tangerang Selatan is average.

Furthermore, to categorize students' digital literacy, it is necessary to calculate the percentage score for each indicator. The digital literacy categories used are as follows:

**Table 3 Tabulation of Digital Literacy Indicator Score**

Variable	No	Indicator	Total Score Indicator	Number of items valid	Average score indicator	Percentage
Digital Literacy	1	Internet searching	1046	2	523	25.00%
	2	Hypertextual navigation	526	1	526	26.50%
	3	Content evaluation	1411	3	470.3333	23.00%
	4	Knowledge assembly	1628	3	542.6667	26.30%
Total			4611	9	2062	100%

Source: primary data processed by researchers, 2022

 : **Lowest score**  
 : **Highest score**

Based on the table above, from 174 respondents, on the digital literacy variable (X2), the highest score is on the hypertextual navigation indicator. Students have an excellent capability to operate and use a web to use transfer information from one web to another. Students also have the opportunity to access economic learning resources on the web or the internet. These resources can be in the form of videos, audio, articles, or electronic books, and they are designed to assist students in completing assignments or gaining knowledge about economics.

Meanwhile, the content evaluation indicator has the lowest score, which means that in economics learning, students have yet to properly evaluate the content of information or economic learning resources that come from the internet. Based on the information above, the classification of each level of digital literacy can be made as follows:

**Table 4 Digital Literacy Level**

No.	Category	Interval	Percentage	Frequency
1	Very high	34-36	10.30%	18
2	High	28-33	28.20%	49
3	Normal	22-27	49.40%	86
4	Low	16-21	9.80%	17
5	Very low	.9-15	2.30%	4
Total			100.00%	174

Source: primary data processed by researchers, 2022

The results show that the students with the most digital literacy skills at a very high level are 10,30% which is 18 students. Students who have digital literacy at a high level are 28,20% which is 49 students. Students who have digital literacy at an average level are 49,40% which is 86 students. Students who have digital literacy at a low level are 9,80% which is 17 students, and students who have digital literacy at a deficient level are 2,30% which is four students. It can be concluded that the digital literacy skills of students at SMA Negeri 4 Tangerang Selatan and SMA Negeri 8 Tangerang Selatan are average.

Furthermore, to categorize students' self-efficacy, it is necessary to calculate the percentage score for each indicator. The self-efficacy category used is as follows:



**Table 5 Tabulation Score of Self Efficacy**

Variable	No	Indicator	Instrument	Total Score Indicato r	Numbe r of items valid	Average score indicato r	Percentag e	
SELF EFFICAC Y	1	Magnitud e	Yakin dapat mengerjakan tugas yang sulit	981	4	517	39%	
			Memilih tingkah laku dalam mengerjakan tugas yang sulit	1087				
	2	Generalit y	Menilai kemampuan yang dimiliki diri sendiri	908	4	464	35%	
			Yakin dapat menyelesaikan tugas di berbagai bidang mata pelajaran ekonomi	948				
	3	Strength	Yakin dapat mencapai tujuan belajar ekonomi	1027	6	346.7	26%	
			Memiliki harapan akan tujuan belajar ekonomi	1047				
			Berperilaku tekun dalam mencapai tujuan belajar ekonomi	1073				
	Total				7071	14	1327.7	100%

Source: primary data processed by researchers, 2022



: **Lowest score**



: **Highest score**

Based on the table above, from 174 respondents on the self-efficacy variable, the highest score is on the magnitude indicator, which means that students have reasonable confidence that they can do complex economic tasks.

Meanwhile, the strength indicator has the lowest score, which means that students' awareness of their inner strength related to economic learning still needs to be improved. It is connected to the goals or objectives of financial knowledge, and if students have poor grades in-economic subjects, students do not feel down. Based on the information above, the classification of each level of self-efficacy can be made as follows:

**Table 6 Self-Efficacy Level**

No.	Category	Interval	Percentage	Frequency
1	Very high	49-56	18.40%	32
2	High	41-48	32.20%	56
3	Normal	33-40	34.50%	60
4	Low	25-32	11.50%	20
5	Very low	17-24	3.40%	6
Total			100.00%	174

Source: primary data processed by researchers, 2022

The results show that the students with the most self-efficacy attitudes at a very high level are 18,40%, which is 32. The student who has a self-efficacy attitude at a high level are 32,30% which is 56 students. Students with an average level of self-efficacy are 34,50%, which is 60 students. The student who has a self-efficacy attitude at a low level is 11 50%, which is 20 students, and the student who has a self-efficacy attitude at a deficient level is 3,40% which is six students. It can conclude that the students' self-efficacy attitudes at SMA Negeri 4 Tangerang Selatan and SMA Negeri 8 Tangerang Selatan are at an average level.

## Normality Test

The results of the normality test of sig. of 0,999 and 0,548 mean that the test results in both variables, namely learning outcomes (Y) and self-efficacy (Z), are more significant than 0,05. Then the provisions of H0 are accepted, namely that the assumption of normality is met.

### Linearity Test

**Table 7 Linearity Test**

Variabel	Sig. Deviation from Linierity	Results
SRL → SE	0,498	Linier
LD → SE	0,261	Linier
SRL → HB	0,459	Linier
LD → HB	0,810	Linier
SE → HB	0,607	Linier

Source: primary data processed by researchers, 2022

Based on the table above, it can see that the value of sig. It is greater than the sig. Level of 5% or 0,05, and it can conclude that this variable has a linear relationship.

### Path Analysis Test on Learning Outcomes

**Figure 2 The Result of Path Analysis Test on Learning Outcomes**

Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	60.954	1.400		.000
	SRL	.109	.048	.198	.025
	LD	.217	.083	.230	.010
	SE	.215	.053	.367	.000

a. Dependent Variable: HB

Source: primary data processed by researchers, 2022

Figure 2 shows the results of testing the accuracy of the path model obtained. The test results show that the value of self-regulated learning on learning outcomes showed the importance of signs.  $0,025 < 0,05$ . Digital literacy on learning outcomes showed the value of sig.  $0,010 < 0,05$ , and self-

efficacy on learning outcomes showed the value of sig.  $0,000 < 0,05$ . These results indicate that the model obtained is good.

### Path Analysis Test on Self Efficacy

**Figure 3 The Result of Path Analysis Test on Self Efficacy**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.349	1.981		2.196	.029
SRL	.409	.062	.433	6.634	.000
LD	.720	.106	.445	6.816	.000

a. Dependent Variable: SE

Source: primary data processed by researchers, 2022

Figure 3 shows the results of testing the accuracy of the path model obtained. The test results showed that the value of self-regulated learning on self-efficacy showed the value sig.  $0,000 < 0,05$ , and digital literacy on self-efficacy showed the value sig.  $0,000 < 0,05$ . These results indicate that the model obtained is good.

### Hypothesis Test

The Calculation of the magnitude of the influence of self-efficacy as an intervening variable is as follows:

1. *The direct effect of self Regulated Learning on Learning Outcomes is 0,198*

$$\text{Indirect Effect (IE)} = \text{PZX1} \times \text{PZY}$$

$$= 0,433 \times 0,367$$

$$= 0,159$$

$$\text{Total Effect (TE)} = \text{PYX1} + (\text{PZX1} \times \text{PZY})$$

$$= 0,198 + 0,159$$

$$= 0,357$$

2. *The direct Effect of Digital Literacy on Learning Outcomes is 0,230*

$$\text{Indirect Effect (IE)} = \text{PZX2} \times \text{PZY}$$

$$= 0,445 \times 0,367$$

$$= 0,164$$

$$\text{Total Effect (TE)} = \text{PYX2} + (\text{PZX2} \times \text{PZY})$$

$$= 0,230 + 0,164$$

$$= 0,394$$

The amount of standard error does not directly use the Sobel formula calculation with the following formula:

$$Se_{12} = \sqrt{P_1^2 \cdot S_{e2}^2 + P_2^2 \cdot S_{e1}^2 + S_{e1}^2 \cdot S_{e2}^2}$$

The results of calculating the effect of the mediating variable using the Sobel test are summarized in table 8 below:

**Table 8 The Result of Indirect Effect**

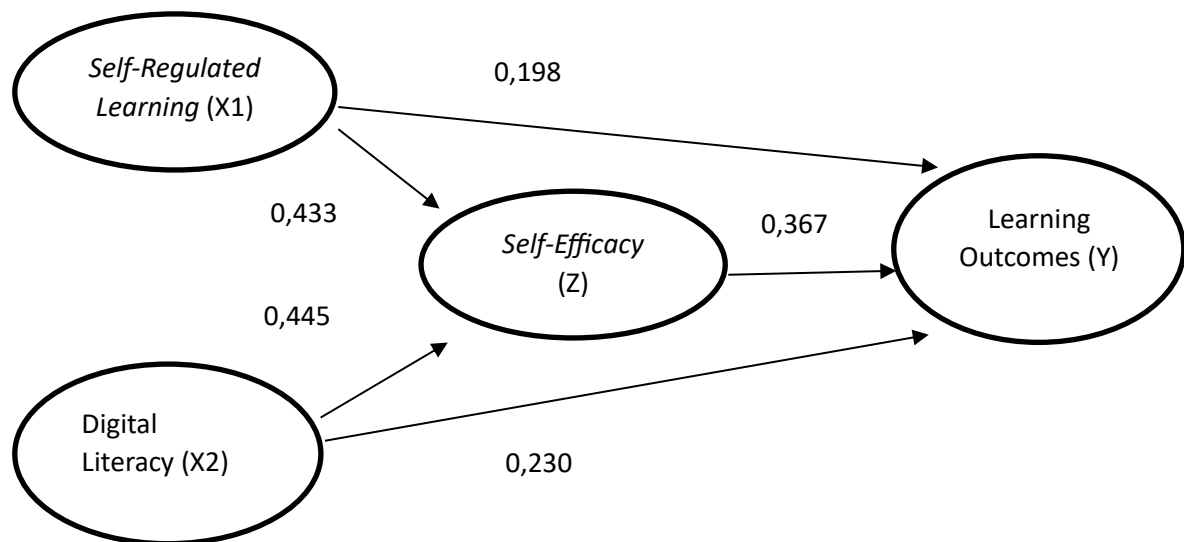
Variable	Direct Coefficient		standard error		Indirect Coefficient	s.e Sobel	t Hitung	p-value
	SRL→ SE	SE→ HB	SRL→ SE	SE→ HB				
SRL→SE→ LO	0.433	0.367	0.062	0.053	0.159	0.032	4.968	0.000
LD→SE→ LO	0.445	0.367	0.106	0.053	0.164	0.046	3.568	0.001

Source: primary data processed by researchers, 2022

Based on table 8, the results of the Calculation of the effect of self-regulated learning on learning outcomes with self-efficacy as an intervening variable obtained the value of  $t_{hitung}$  are 4,968 greater than  $t_{table}$  1,974, which means that self-efficacy as an intervening variable has a significant effect. In addition, the results of calculating the impact of digital literacy on learning outcomes with self-efficacy as an intervening variable obtained the value of  $t_{hitung}$  is 3,568 greater than  $t_{table}$  1,974, which means that self-efficacy as an intervening variable has a significant effect.

## Link Between Lines (Hubungan Antar Jalur)

**Figure 4 Pathway Relationship Framework**



The results of the path analysis diagram in figure 4 above it has the following equation:

- Sub Structure I:  $SE = 0,433 X_1 + 0,455 X_2$
- Sub Structure II:  $LO = 0,198 X_1 + 0,230 X_2 + 0,367 Z$

## Coefficient of Determination Analysis

The value of the coefficient of determination is 0,535 or 53,5%. These results indicate that the contribution of self-regulated learning, digital literacy, and self-efficacy to learning outcomes is 53,5%. Meanwhile, the gift of other variables outside the research model is 46,5%.

The value of the coefficient of determination is 0,672 or 67,2%. These results indicate that the contribution of self-regulated learning and digital literacy on self-efficacy is 67,2%. Meanwhile, the gift of other variables outside the research model is 32,8%.

## Model Fit

The result of the Calculation of the model's determination above is 84,75%, explaining that the model's contribution to the structural relationship of the four variables studied is 84,75%. Meanwhile, the remaining 15,25% is explained by other variables not included in this research model.

## DISCUSSION

### 1. The Effect of Self-Regulated Learning (X1) on Learning Outcomes (Y)

The results of this study stated that the self-regulated learning variable had a positive and significant effect on economic learning outcomes for students. Based on the results of regression

testing shows that  $p\text{-value (Sig.)} = 0,025 < 0,05$ . The results of this hypothesis test are consistent with research conducted by Zahro & Surjanti (2021), which stated that the self-regulated learning variable has a positive and significant effect on economic learning outcomes.

According to Pelikan et al. (2021), a student must own a self-regulated learning strategy to assist the learning process to achieve the learning objectives. In line with research Hong, Lee, & Ye (2021) that students who have self-regulated learning strategies and apply them in the learning process tend to get higher scores than students who do not have self-regulated learning strategies in their learning process. Therefore, a student must have a self-regulated learning strategy that can assist students in setting learning goals and help train time management by scheduling study time so that students can evaluate the learning that has been implemented.

## **2. The Effect of Digital Literacy (X2) on Learning Outcomes (Y)**

The results of this study state that the digital literacy variable has a positive and significant effect on economic learning outcomes for students. Based on the regression analysis test shows that  $p\text{-value (Sig.)} = 0,010 < 0,05$ . The results of this hypothesis test are consistent with research conducted by Kajin (2018), which states that digital literacy affects student learning outcomes.

According to Perdana, Yani, Jumadi, & Rosana (2019), digital literacy is very much needed by students in the learning process because digital literacy skills can help students develop knowledge, skills, and abilities in the digital era. It is In line with the study of Cahyati, Surahman, & Hernawati (2019) that with digital literacy, students are not only equipped with the ability to find sources and support in learning activities through digital media, but also students can train themselves to be critical and process information obtained on the internet or other digital media.

## **3. The Effect of Self-Efficacy (X3) on Learning Outcomes (Y)**

The results of this study state that the self-efficacy variable has a positive and significant effect on economic learning outcomes for students. Based on the regression analysis test shows that  $p\text{-value (Sig.)} = 0,000 < 0,05$ . The results of this hypothesis test are consistent with research conducted by Magfirah & Thahir (2021) which state that self-efficacy affects student learning outcomes.

*Self-efficacy* is very important to be applied to every student. It is in line with the research of Saptono & Wibowo (2018), which state that students who have a self-efficacy attitude can determine the form of action in the learning process, accompanied by how much effort they will expend, how strong students survive in the face of obstacles and failures and how responsible students are in dealing with these failures. It means that students with high self-efficacy believe they can face and complete complex tasks or jobs given by the teacher.

#### **4. The Effect of Self-Regulated Learning (X1) on Self-Efficacy (Z)**

The results of this study state that the self-regulated learning variable has a positive and significant effect on the self-efficacy attitude of students. Based on the regression analysis test shows that  $p\text{-value (Sig.)} = 0,000 < 0,05$ . The results of this hypothesis test are consistent with research by Candra Wijaya (2020), which states that self-regulated learning and self-efficacy have a positive and significant relationship. It means that if students have high self-efficacy, it can conclude that their self-regulated learning will be higher.

#### **5. The Effect of Digital Literacy (X2) on Self-Efficacy (Z)**

The results of this study state that the digital literacy variable has a positive and significant effect on the self-efficacy attitude of students. Based on the regression analysis test shows that  $p\text{-value (Sig.)} = 0,000 < 0,05$ . The results of this hypothesis test are consistent with research conducted by Nusannas et al. (2020), which state that digital literacy affects self-efficacy attitudes in students.

Saptono & Wibowo (2018) states that self-efficacy has a vital role in a student because with the existence of self-efficacy student can control anxiety, which means that a confident individual can handle a threatening situation and does not feel anxious about the threat.

#### **6. The Effect of Self-Regulated Learning on Student Learning Outcomes through Self Efficacy**

Self-regulated learning can directly affect learning outcomes but can also indirectly affect learning outcomes through self-efficacy as an intervening variable. The direct effect of self-regulated learning on learning outcomes is 0,198, while the indirect effect of self-regulated learning on learning outcomes through self-efficacy is 0,433. Based on these data, it can see that the indirect impact is more significant than the direct effect.

The results of this hypothesis show the value of  $t_{hitung} 4,968 > t_{tabel} 1,974$ . Based on these data, it can conclude that the mediation relationship is positive and significant, so this hypothesis states that self-regulated learning has a positive and significant effect on economic learning outcomes through self-efficacy as an intervening variable. These results align with research conducted by Magfirah & Thahir (2021), which states that *self-efficacy* and *self-regulated learning* have a positive and significant effect on learning outcomes.

#### **7. The Effect of Digital Literacy on Student Learning Outcomes through Self Efficacy**

Digital literacy can directly affect learning outcomes but can also indirectly affect learning outcomes through self-efficacy as an intervening variable. The direct effect of digital literacy on student learning outcomes is 0,230, while the indirect impact of digital literacy on student learning outcomes through self-efficacy is 0,445. Based on these data, it can see that the indirect effect is greater than the direct effect.



The results of this hypothesis show the value of  $t_{hitung} 3,568 > t_{tabel} 1,974$ . Based on these data, it can conclude that the mediation relationship is positive and significant, so this hypothesis states that digital literacy has a positive and significant effect on economic learning outcomes through self-efficacy as an intervening variable.

A high digital literacy skill will increase confidence in an individual in his ability to use technological devices in learning, according to (Nordén, Mannila, & Pears, 2017), which states that self-efficacy development in students and increasing digital competence are essential steps in evaluation for the school system to face challenges in the digital era.

## CONCLUSION

1. The results of this study stated that the self-regulated learning variable had a positive and significant effect on economic learning outcomes for students. Based on the results of regression testing shows that  $p\text{-value (Sig.)} = 0,025 < 0,05$ , the value of coefficient beta is 0,198, and  $t_{he}$
2.  $t_{hitung}$  is 2,613. A positive relationship shows that if self-regulated learning improves, learning outcomes will also increase.
3. The results of this study state that the digital literacy variable has a positive and significant effect on economic learning outcomes for students. Based on the regression analysis test shows that  $p\text{-value (Sig.)} = 0,010 < 0,05$ , the value of coefficient beta is 0,230, and  $t_{he t-hitung}$  is 4,027. A positive relationship shows that if digital literacy improves, learning outcomes will also increase.
4. According to the findings of this research project, students' self-efficacy levels have a significant positive and negative impact on the economic knowledge they acquire. According to the regression analysis test results, the  $p\text{-value (Sig.)}$  is equal to 0.000 with a significance level of 0.05, the value of the coefficient beta is 0.367, and  $t_{he t-hitung}$  is 4,027. Because this is a positive relationship, it demonstrates that if self-efficacy improves, learning outcomes will also improve.
5. According to the findings of this research project, the student's sense of self-efficacy is positively impacted by the variable of self-regulated learning, and this effect is statistically significant. According to the regression analysis test results, the  $p\text{-value (Sig.)}$  is equal to 0.000 with a significance level of 0.05, the value of the coefficient beta is 0.433, and  $t_{he t-hitung}$  is 6,634. A positive relationship demonstrates that if one's ability to improve their self-regulated learning, their sense of self-efficacy will also improve.
6. The results of this study state that the digital literacy variable has a positive and significant effect on the self-efficacy attitude of students. Based on the regression analysis test shows that

p-value (Sig.) = 0,000 < 0,05, the value of coefficient beta is 0,445, and  $t_{\text{hitung}}$  is 6,816. A positive relationship shows that if digital literacy improves, self-efficacy will also increase.

7. Based on the data analysis of self-regulated learning through self-efficacy, it has a positive and significant effect on economic learning outcomes as evidenced by the correlation coefficient value, namely the  $t_{\text{hitung}}$  is  $4,968 > t_{\text{tabel}} 1,974$ . Thus, the indirect impact of self-regulated learning on learning outcomes through self-efficacy is acceptable. So self-efficacy can mediate the relationship between self-regulated learning on learning outcomes.
8. The data analysis of digital literacy through self-efficacy has a positive and significant effect on economic learning outcomes as evidenced by the correlation coefficient value, namely  $t_{\text{hitung}}$  is  $3,568 > t_{\text{tabel}} 1,981$ . Thus, the indirect impact of digital literacy on learning outcomes can mediate the relationship between digital literacy on learning outcomes.

## RESEARCH LIMITATIONS

Two public high schools in Tangerang Selatan were sampled for this study: SMA Negeri 4 Tangerang Selatan and SMA Negeri 8 Tangerang Selatan. This study has not demonstrated whether the same results can be obtained using samples of respondents from other geographic areas. Therefore, additional research with a broader range of respondents is required.

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