Proceeding of Integrative Science Education Seminar Vol. 5 No. 1, 2025, pp. 228 - 238

Available online at

PISCES

Proceeding of Integrative Science Education Seminar

Beranda prosiding : https://prosiding.iainponorogo.ac.id/index.php/pisces

Article

The Effectiveness of the Self-Directed Learning Model on Students' Critical Thinking Skills in the Subject of the National Movement Towards Independence

Hanik Lailatur Rohmah[1]*, Risti Aulia Ulfah[2]

[1,2]Universitas Islam Negeri Kiai Ageng Muhammad Besari Ponorogo, Ponorogo

Corresponding Address: haniklrohmah35@gmail.com

Article Info

5st AVES
Annual Virtual Conference of Education and Science 2025

Keywords:

Self-Directed Learning;
Critical Thinking Skills;
Social Studies;

ABSTRACT

Critical thinking skills are important skills that students must have in order to face increasingly complex modern challenges. This study aims to 1) prove the feasibility of the self-directed learning model on students' critical thinking skills in the subject of the national movement towards independence; 2) proving the difference between the control class (not given the self-directed learning model or the conventional model) and the experimental class (given the self-directed learning model) in terms of students' critical thinking skills on the subject of the national movement towards independence; 3) prove the effectiveness of the self-directed learning model on students' critical thinking skills in the subject of the national movement towards independence. This study used a quantitative approach in the form of a quasi-experimental experiment. The research sample consisted of 48 students taken from a population of 166 students using purposive sampling. The results showed that: 1) The implementation of the self-directed learning model improved at each meeting with a very good rating. 2) The difference in critical thinking skills between the experimental class and the control class was proven by a significance value of < 0.005. 3) The effectiveness of the SDL model has an N-Gain interpretation of 76%, leading to the conclusion that the self-directed learning model improves students' critical thinking skills in National Movement Material.

© 2025 Hanik Lailatur Rohmah, Risti Aulia Ulfah.

INTRODUCTION

Era of society 5.0 requires students to think more critically than in previous eras because social issues are becoming increasingly complex. In developing students' critical thinking skills in school, the Indonesian government has changed the learning curriculum.(Wibawa & Agustina, 2019) The concept of independent learning is designed to give students the freedom to think critically and intelligently. The Independent Learning Program aims to encourage students to understand the relationship between humans and their environment and creator, while honing their cognitive, affective, and psychomotor skills in social studies.(Zahro', 2022)

Copyright © 2025 Hanik Lailatur Rohmah, et. Al., p-ISSN 2808-5337 e-ISSN 2808-5345

Social studies education equips students with social knowledge while shaping active, respectful, and responsible attitudes in society. In the era of Society 50, information openness and smart technology enable students to adapt to social changes and utilize digital innovations to solve everyday problems. With the integration of social studies and technology, students are ready to interact in a diverse society and contribute to sustainable development in line with the SDGs(Widodo et al., 2023). One of the efforts that can be made to support the independent learning process is to use the self-directed learning model.

The theory of self-directed learning emphasizes that learners have control over their own learning process. Malcolm Knowles states that adult learners are capable of identifying learning needs, formulating goals, choosing strategies, and evaluating learning outcomes (Knowles, 1975). Self-directed learning does not mean learning without guidance, but rather fostering autonomy, initiative, and responsibility(Kurniawan, 2025).

Self-directed learning (SDL) can improve critical thinking skills by encouraging students to be active in their own learning process. SDL requires students to plan, set goals, and evaluate information independently, all of which are important parts of developing critical thinking. SDL encourages creativity, information literacy, and technological literacy, all of which play a role in strengthening critical thinking skills.(Mentz, de Beer, et al., 2019)

Indicators of critical thinking skills include providing explanations (elementary clarification), building basic skills (basic support), drawing conclusions (inference), providing further explanations (advanced clarification), and strategies and tactics. As one of the intellectual potentials, critical thinking skills can be developed through the learning process. Students have the potential to develop as critical thinkers because each step of critical thinking is related to patterns of self-organization (Suciono, 2021).

Based on the results of preliminary observations conducted at MTsN 3 Ponorogo, there are problems in the social studies learning process in history material. Based on the results of observations conducted by researchers on January 7, 2025, there is a lack of critical reflection activities in social studies learning in history material. It can be concluded that students feel that social studies learning in history has not fostered critical thinking skills. In addition, self-directed learning has been implemented but refers to student achievement so that students' critical thinking skills still do not have good results, as shown by the analysis of questions using Bloom's taxonomy C4 to C5.

This study aims to 1) prove the feasibility of the self-directed learning model on students' critical thinking skills in the subject of the national movement towards independence; 2) prove the difference between the control class (not given the self-directed learning model or given the conventional model) and the experimental class (given the self-directed learning model) on students' critical thinking skills in the subject of the national movement towards independence; 3) prove the effectiveness of the self-directed learning model on students' critical thinking skills in the subject of the national movement towards independence. The benefits of this research are that the results can contribute to the development of science and provide information on teaching history material so as to improve students' critical thinking skills.

METHOD

This study uses a quantitative research approach. A quantitative approach is a study that requires research data in the form of numbers and analysis using statistics. The type of research used a quasi-experimental design with a nonequivalent control group sub-design.

Table 1 Research Design

Kelompok Eksperimen	O_1 Pre Test	X_1 Perlakuan	O_2 *Post-Test*
Kelompok Kontrol	O_3 Pre Test	X_2 Perlakuan	O_4 *Post-Test*

The research sample consisted of 48 students divided into 24 students in the experimental class and 24 students in the control class taken from a population of 166 students at MTsN 3 Ponorogo using non-probability sampling with purposive sampling technique, namely a technique for determining samples based on similar critical thinking abilities. The data collection method used tests and observation sheets, while the data analysis technique used a learning feasibility test, prerequisite test, Independent Sample T-Test, and N-Gain test.

Instrument validity was tested using the Aiken validity test with SPSS 22 by comparing V_{count} and V_{table}. The V_{table} value is the minimum content validity index value based on the number of validators. A test item is valid if its value is equal to or > V_{table}. In this study, 5 validators were used with a response scale of 4 on the validation sheet, so the content validity index value based on V_{table} is 0.87.

Table 2 Validity Of Aiken's Critical Thingking Skills Test

Question number	V_{count}	V_{table}	Description
1	0,933	0,87	Valid
2	0,933	0,87	Valid
3	0,933	0,87	Valid
4	0,933	0,87	Valid
5	0,933	0,87	Valid
6	0,933	0,87	Valid
7	1	0,87	Valid
8	0,933	0,87	Valid
9	0,933	0,87	Valid
10	0,933	0,87	Valid

Nilai validitas 10 butir soal dengan menggunakan validitas Aiken, instrumen tes kemampuan berpikir kritis dikatakan valid. Hal tersebut sesuai dengan perbandingan V_{hitung} > $V_{tabel.}$ Sehingga instrumen tes dapat digunakan untuk mengetahui kemampuan berpikir kritis siswa.The validity value of 10 items using Aiken's validity means that the critical thinking test instrument is valid. This is in accordance with the comparison of V_{count} > V_{table}. Therefore, the test instrument can be used to determine students' critical thinking skills.

The reliability test was calculated using the *Cronbach Alpha* formula with the help of SPSS 22.0. The *Cronbach Alpha* statistical test of the instrument is considered reliable if the *Alpha* value is > 0.60. If the *Alpha* value is < 0.60, the instrument is not considered reliable. The Cronbach *Alpha* value for the critical thinking ability test instrument is 0.789, so it can be considered that r_{arpha} > r_{table} with a value of 0.789 > 0.60, meaning that the critical thinking ability test instrument is declared reliable.

This study used three data analysis techniques. The learning feasibility test technique was used to calculate the feasibility of learning observations. The Independent Sample T-Test analysis technique was used to test the difference in critical thinking skills between the experimental class and the control class in social studies learning on history material for grade VIII at MTsN 3 Ponorogo. The N-Gain test analysis technique was used to determine the effectiveness of the self-directed learning model on students' critical thinking skills in the subject of the national movement towards independence in grade VIII at MTsN 3 Ponorogo.

RESULT AND DISCUSSION

This study was conducted at MTsN 3 Ponorogo using two classes as samples. The first sample was class VIII A as the experimental class, which was given treatment using the self-directed learning model, while the control class was class VIII D, which used the lecture model. This study was conducted to determine the effectiveness of the self-directed learning

model on students' critical thinking skills in the subject of the national movement towards independence.

This study examines teacher implementation of the self-directed learning model and student activity implementation. Teacher and student implementation is examined using data collection techniques, namely observation sheets with a Guttman scale. The observation sheets are filled out at each meeting during each learning process. The practicability test was used as a reference so that the research could be carried out sequentially and as a supporting comparison between the experimental class and the control class. The teacher observation sheet describes the learning syntax to be implemented for the learning process in the research by adjusting the teaching module.

Table 3 Data From Observations Of Teacher Performance And Student Activities In Self-Directed Learning Model Classes

Indicator	Teacher Performance			Student activities		
	P1	P2	P3	P1	P2	P3
Number of observation items implemented	15	15	16	13	14	16
Percentage	93,75%	93,75%	100%	81,25%	87,5%	100%
Total observation items implemented	46			43		
Precentage of total observation items implemented	$\frac{46}{48}$ x 100% = 95,83%			$\frac{43}{48}$ x 100% = 89,58%		

The teacher implementation column from the first meeting to the third meeting had a teacher observation result percentage of 95.83%. The number of activities carried out from the first to the third meeting was 46, and the total number of observation instruments was 48. The total implementation of learning was calculated as a percentage and resulted in 95.83%, which is categorized as very good for the implementation of learning with the self-directed learning model.

The student activity column from the first to the third meeting had an observation result percentage of 89.58%. The number of student activities carried out from the first to the third meeting was 43, and the total number of observation instruments was 48. The total implementation of learning was then calculated as a percentage and resulted in 89.58%, which is categorized as very good for student learning activities using the self-directed learning model.

The test data for the experimental class and control class consisted of pre-test and post-test results. The pre-test was conducted before the treatment, while the post-test was administered after the treatment for both the experimental class using the self-directed learning model and the control class using the lecture model. The pre-test and post-test results for the control class and experimental class were analyzed using SPSS 22.0 software and are presented in the following table.

Table 4 Descriptive Frequency Data For The Experimental Class And Control Class

Statistics					
		Eksperimen *Pre-test*	Eksperimen *Post-test*	Kontrol *Pre-test*	Kontrol *Post-test*
N	Valid	24	24	24	24
	Missing	0	0	0	0
Mean		44.38	86.46	43.33	73.96
Median		45.00	85.00	45.00	75.00
Mode		40[a]	80[a]	50	75[a]
Std. Deviation		7.119	7.729	7.020	8.595
Variance		50.679	59.737	49.275	73.868
Minimum		30	70	30	60

Maximum	55	100	55	90
a. Multiple modes exist. The smallest value is shown				

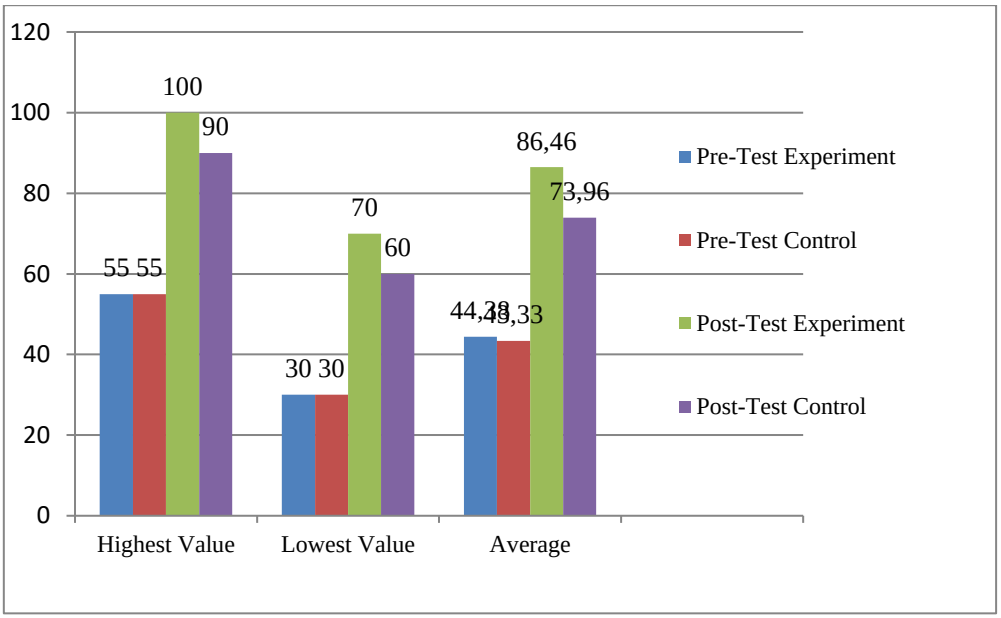

Figure 1 Post-test and Pre-test Scores for the Experimental Class and Control Class

Based on the results of the study, the test results of the experimental class and the control class before being taught using the learning model did not differ significantly. The critical thinking skills of the two classes were balanced before teaching with the learning model. However, after teaching with the model, there was a difference in the post-test scores between the experimental class and the control class, with the average post-test score in the experimental class is higher than the average test score in the control class.

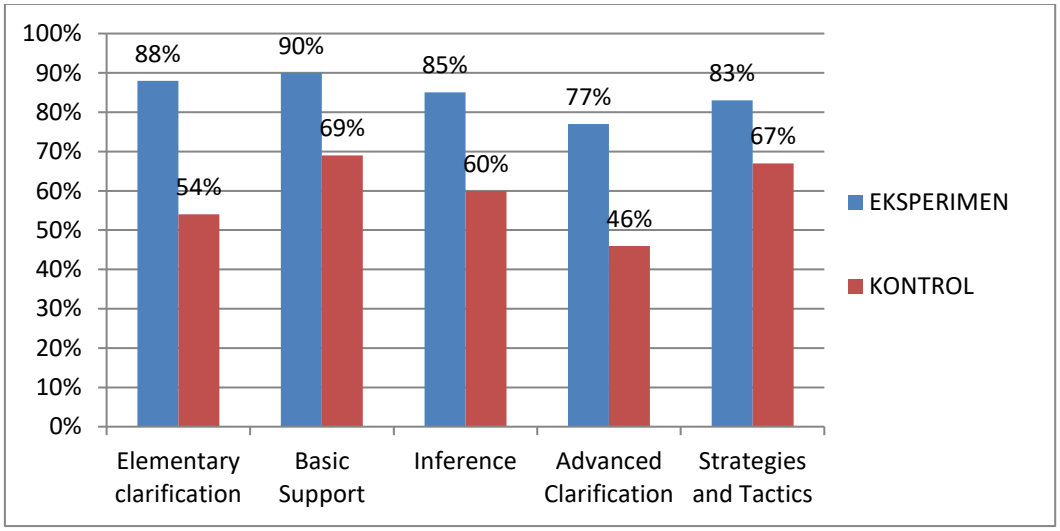

Figure 2. Critical Thinking Skills Scores of Students in Both Sample Classes for Each Critical Thinking Skills Indicator

Based on the results of the study, there were differences in the achievement of each critical thinking ability indicator between the control class and the experimental class. The percentage of critical thinking ability indicators in the experimental class, which was given a self-directed learning model, was higher than that in the control class, which was given a conventional model. For the elementary clarification indicator, the control class achieved

55%, while the experimental class achieved 88%. The basic support indicator for the control class obtained a percentage of 69%, while the experimental class obtained 90%. The inference indicator for the control class obtained a percentage of 60%, in contrast to the experimental class, which obtained 85%. The advanced clarification indicator for the control class obtained a percentage of 46%, which was far different from the experimental class with a percentage of 77%. Finally, the strategies and tactics indicator for the control class obtained 67%, while the experimental class obtained 83%.

Normality tests are used to test whether data comes from a normally distributed population or not. A normal distribution is one in which the mean and median are in the middle. This study used the Shapiro Wilk test with the help of SPSS version 22.0. If the significance level is > or equal to 0.005, the data is normally distributed, and if the significance level is < 0.005, the data is not normally distributed.

Table 5 Normality Test for Control Class and Experimental Class

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre.Eksperimen	.147	24	.193	.937	24	.139
Pre.Kontrol	.162	24	.103	.933	24	.114
Post.Eksperimen	.158	24	.124	.952	24	.295
Post.Kontrol	.134	24	.200*	.949	24	.264

Based on the table above, it can be concluded that the normality test of critical thinking skills in the pre-test and post-test scores of the control class and experimental class can be interpreted as a significance value > 0.005, meaning that the data is normally distributed.

The homogeneity test is applied to see the population variance has similarities or not. The homogeneity test is done after the data is normally distributed. The homogeneity test uses the Levene test using SPSS version 22.0. The homogeneity test is performed to determine if the homogeneity data or not, it can be known if the significance value > 0.005 then the data is homogeneous..

Table 6 Uji Homogenitas Pre-test

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Pre-test	Based on Mean	.050	1	46	.824

Table 5 shows the results of the homogeneity test using Levene's Test. The interpretation is carried out by looking at the Based on Mean column. Based on the table above, the results of the pre-test homogeneity test results obtained a significance value of 0.824 > 0.005, so it can be concluded that the pre-test results of the control and experimental classes are homogeneous.

Table 7 Uji Homogenitas Post-test

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Post-test	Based on Mean	.246	1	46	.622

Table 6 shows the results of the homogeneity test using Levene's Test. The interpretation is carried out by looking at the Based on Mean column. Based on the table above, the post-test homogeneity test results obtained a significance value of 0.622 > 0.005, so it can be concluded that the post-test results of the control and experimental classes are homogeneous.

The Independent Sample T-Test is a test that uses the t-distribution to determine the significance of the difference in mean values between two unpaired groups. This test was conducted to determine the difference in critical thinking skills between students in the experimental class and the control class using SPSS software version 22.0. If the significance value is < 0.005, then H0 is rejected, which means that the critical thinking skills of students in the experimental class and the control class are not equally good. If the significance value is > 0.005, then H0 is accepted, which means that the critical thinking skills of students in the experimental class and the control class are equally good.

Table 8 Independent Sample T-Test Pre-test for Experimental and Control *Classes*

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test	Equal variances assumed	.050	.824	.510	46	.612	1.042	2.041	-3.066	5.150
	Equal variances not assumed			.510	45.991	.612	1.042	2.041	-3.066	5.150

Table 7 shows the results of the independent sample t-test above. Looking at the row "Equal Variances Assumed," the significance value (2-tailed) obtained is 0.612 > 0.005. Afterward, it can be analyzed that H0 is accepted and H1 is rejected, which means that the pre-test scores for critical thinking skills in the experimental class and the control class are the same or there is no significant difference.

Table 9 Uji Independent Sample T-Test Post-test for Experimental and Control Classes

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post-test	Equal variances assumed	.345	.560	5.298	46	.000	12.500	2.359	7.751	17.249
	Equal variances not assumed			5.298	45.491	.000	12.500	2.359	7.749	17.251

Table 8 shows the results of the independent sample t-test above. Looking at the row "Equal Variances Assumed," the significance value (2-tailed) obtained is 0.000 > 0.005. Afterward, it can be analyzed that H0 is accepted and H1 is rejected, which means that there is a significant difference in the post-test critical thinking scores between the experimental class and the control class.

Normalized Gain (N-Gain Score) aims to determine the effectiveness of a model in using experimental and control groups. N-Gain is calculated by taking the difference between the post-test and pre-test scores. The N-Gain score is used to see significant differences by looking at the average post-test and pre-test scores. The following is the formula for calculating normalized gain. The categorization of N-Gain effectiveness interpretation scores in percentage form is as follows: (Waty et al., 2023).

Table 10 N-Gain Effectiveness Interpretation Category

Percentage (%)	Interpretation
< 40	Ineffective
40-55	Less Effective
56-75	Moderately Effective
>76	Effective

Table 11 Distribution of N-Gain Scores

Range	Category
N-Gain ≥ 0,70	High
0,30 ≤ N-Gain < 0,70	Medium
N-Gain ≤ 0,30	Low

The N-Gain score is used to see significant differences by looking at the average post-test and pre-test scores as follows:

Table 12 N-Gain Interpretation and N-Gain Score Results

Experimental Class				Control Class			
N-Gain Percentage	Criteria	N-Gain Score	Category	N-Gain Percentage	Criteria	N-Gain Score	Category
75,69	Effective	0,756	High	55,04	Less Effective	0,548	Medium

The average percentage score resulting from the experimental class was 75.69%, which will be rounded up to 76% with the category of effective, while the average percentage score resulting from the control class was 55.04%, which will be rounded up to 55% with the category of less effective. The N-Gain score for the experimental class had an average value of 0.7569, categorized as high, while the control class had an average value of 0.5483, categorized as moderate.

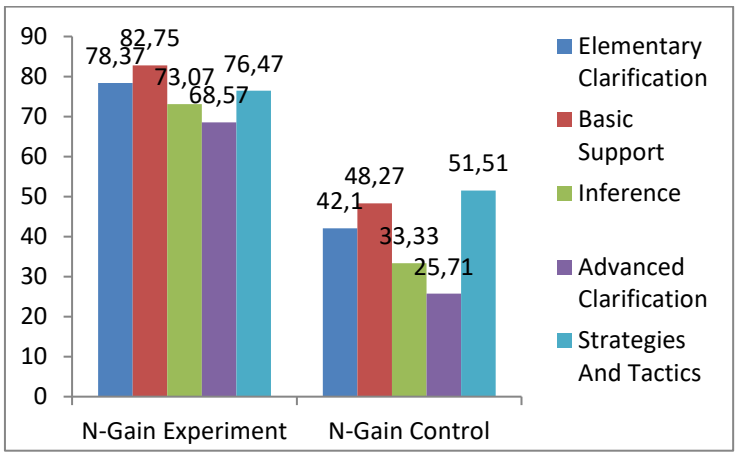

Figure 3 N-Gain Graphic Based on Critical Thinking Ability Indicators

Based on this description, the N-Gain value of the overall improvement in critical thinking skills in the experimental class showed an increase with high criteria and an effective interpretation category. The N-Gain graph of the overall improvement in critical thinking skills indicators in the control class showed an increase with moderate criteria and a less effective interpretation category.

The effectiveness of the learning model is calculated using normalized gain or N-gain. The formula for calculating N-Gain is as follows:

$$\text{N Gain} = \frac{posttest\ score - pretest\ score}{maximum\ score\ (ideal) - pretest\ score}$$

$$\text{Score} = \frac{86{,}74 - 44{,}38}{100 - 44{,}38}\ x\ 100$$

$$= \frac{42{,}36}{55{,}62}\ x\ 100$$

= 76%

The results of the N-Gain calculation test show that the average N-Gain score in the experimental class with the self-directed learning model was 76%, which refers to the interpretation category of N-Gain score effectiveness of 76% included in the effective category. Therefore, it can be concluded that learning with the self-directed learning model is effective in improving students' critical thinking skills in the subject of the national movement towards independence in grade VIII at MTsN 3 Ponorogo in the 2024/2025 academic year.

The critical thinking skills of the control class (conventional model) and the experimental class (self-directed learning model) differed between the two. The experimental class, which used the self-directed learning model, showed an increase in critical thinking skills compared to the control class. The average post-test critical thinking skills of the experimental class was 86.46, while that of the control class was 73.96.

These results provide evidence that the experimental class and the control class have different critical thinking abilities. Based on the independent sample t-test for the post-test, the significance value (2-tailed) is 0.000 < 0.005, so it can be concluded that H1 is accepted and H0 is rejected, which means that there is a difference in most of the post-test critical thinking skills between the experimental class and the control class. The average increase of 32 points on the post-test score shows not only a statistically significant difference, but also a noticeable improvement in students' historical reasoning skills.

Internal and external factors can influence students' critical thinking skills. Student characteristics are one of the internal factors that influence critical thinking skills. Meanwhile, external factors that influence critical thinking skills include teaching styles, learning models, and learning strategies. As is well known, the self-directed learning model greatly influences students' critical thinking skills by stimulating students with analytical statements that are expected to enhance their critical thinking skills in their daily activities. Based on the above explanations, the self-directed learning model can be used to improve the critical thinking skills of VIII grade students studying the material on the national movement towards independence.

The findings are in line with previous research conducted by Rifdah Ananda Baharuddin et al. entitled "Self-Directed Learning Model Assisted by Notion Website: Improving Critical Thinking Skills of High School Students," which explains that the self-directed learning model plays an important role in improving students' critical thinking skills, as evidenced by the average results of the "Critical Thinking Skills of High School Students" test. -Directed Learning Model Assisted by the Notion Website: Improving Critical Thinking Skills of High School Students" explained that the self-directed learning model plays an important role in improving students' critical thinking skills, as evidenced by the difference in the average post-test scores between the control class and the experimental class, where the average post-test score of the experimental class was higher than that of the control class(Baharuddin, 2022).

The self-directed learning model can optimize critical thinking skills by encouraging students to actively engage in their own learning process. In SDL, students are required to plan, set goals, and evaluate information independently, which is an important part of developing critical thinking. Facing challenges in problem solving and making judgments based on evidence allows students to hone their skills in interpreting, analyzing, and drawing conclusions (Mentz, de Beer, et al., 2019).

The effectiveness of the self-directed learning model can be seen through different treatments in two experimental classes and a control class, and a post-test is given to assess the extent of critical thinking skills between the two classes that received different treatments. The researchers obtained results on the effectiveness of the self-directed learning model on

the critical thinking skills of eighth-grade students at MTsN 3 Ponorogo in the subject of the national movement towards independence during three meetings with a total of 9 meeting hours using the self-directed learning model. The effectiveness results can be seen from the statistical output of the N-Gain test on the effectiveness of the self-directed learning model with a percentage of 76%. With a score of 76%, it is categorized as effective in the implementation of the self-directed learning model so that students' critical thinking skills increased by 94.81%.

Self-directed learning or student-centered learning can improve critical thinking skills in line with the national education goal of developing students' potential to be competent, independent, and creative (Widyanto & Vienlentia, 2022). In line with the objective of the self-directed learning model, it develops metacognitive skills so as to improve learning effectiveness and enhance critical thinking skills (Leuwol, 2023). Aspects to measure in critical thinking skills are the cognitive domain at the analyzing (C4) and evaluating (C5) levels (Rahmaniah et al., 2023). This serves as a reference in learning to improve critical thinking skills with five indicators, namely elementary clarification, basic support, inference, advanced clarification, and strategies and tactics, thereby supporting the self-directed learning model.

Based on the N-Gain test, the self-directed learning model proved to be effective in teaching eighth-grade students at MTsN 3 Ponorogo about the national movement towards independence, as evidenced by a high percentage of learning. Self-directed learning is a model in which students take full responsibility for determining learning objectives, resources, and strategies (Mentz, Beer, et al., 2019). The self-directed learning model provides freedom in determining learning, both in groups and individually.

The self-directed learning model is one learning model that can be applied to improve critical thinking skills, because the self-directed learning model gives students the freedom to carry out their learning (Sidmewa et al., 2021). The effectiveness of the self-directed learning model has an influence in encouraging students' critical thinking skills. Thus, in its application in class VIII MTsN 3 Ponrogo, the self-directed learning model in social studies lessons on the National Movement Towards Independence was effective in improving students' critical thinking skills.

CONCLUSION

Based on the research and discussion, it can be concluded that the self-directed learning (SDL) model in the subject of the national movement towards independence is effective in improving the critical thinking skills of eighth-grade students at MTsN 3 Ponorogo. This is demonstrated by the average post-test results of the experimental class (86.46) and the average post-test results of the control class (73.96). The experimental class had a higher average post-test score after being taught using the self-directed learning (SDL) model compared to the control class, which used the conventional model. Teachers can implement the self-directed learning (SDL) model using several steps, namely planning learning, monitoring progress and evaluation, responding to results and reflection, and planning further actions. Teachers can use the self-directed learning model as inspiration for future learning models to develop critical thinking skills in Social Science History lessons. The self-directed learning model can be combined with digital media and integrated with other subjects or other grade levels.

REFERENCE

Baharuddin, R. A. (2022). Pengaruh model pembelajaran Self-directed Learning berbantuan website notion terhadap kemampuan berpikir kritis siswa SMAN 1 Tumpang / Rifdah Ananda Baharuddin [Diploma, Universitas Negeri Malang]. https://repository.um.ac.id/270838/

CBPA, R. G. K., S. Pd. (2025). Teori dan Metode Pembelajaran: Fondasi Teoretis dan Metodologis Menuju Transformasi Pembelajaran Modern. Penerbit Lutfi Gilang.

Leuwol, F. S. (2023). Top 10 Model Pembelajaran Abad 21. CV. Adanu Abimata.

Mentz, E., Beer, J. D., & Bailey, R. (2019). Self-Directed Learning for the 21st Century. AOSIS.

Mentz, E., de Beer, J., & Bailey, R. (2019). Self-Directed Learning for the 21st Century (Vol. 1). AOSIS (Pty) Ltd.

Rahmaniah, N., Oktaviani, A. M., Arifin, F., Maulana, G., Triana, H., Serepinah, M., Abustang, P. B., Manurung, A. S., Wafiqni, N., & Wijaya, S. (2023). Berpikir kritis dan kreatif: Teori dan implementasi praktis dalam pembelajaran. Publica Indonesia Utama.

Sidmewa, A. A. N., Susanti, Y., & Putra, R. A. (2021). Pengaruh Model Self Directed Learning Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Ekonomi. J-Kip (Jurnal Keguruan dan Ilmu Pendidikan), 2(3), Article 3. https://doi.org/10.25157/j-kip.v2i3.6228

Suciono, W. (2021). Berpikir kritis (tinjauan melalui kemandirian belajar, kemampuan akademik dan efikasi diri). Penerbit Adab.

Waty, E., Maisaroh, S., Pangestuti, R., Veronica, R., Widiyastuti, N. E., Ismail, R., Yuliandhari, W. S., Sarifah, F., Husnita, L., & Ganiem, L. M. (2023). Karya Tulis Ilmiah: Teori & Panduan Praktis Penulisan Karya Ilmiah. PT. Sonpedia Publishing Indonesia.

Wibawa, R. P., & Agustina, D. R. (2019). Peran pendidikan berbasis higher order thinking skills (hots) pada tingkat sekolah menengah pertama di era society 5.0 sebagai penentu kemajuan bangsa indonesia. Equilibrium: Jurnal Ilmiah Ekonomi Dan Pembelajarannya, 7(2), 137–141.

Widodo, M. B. P., Aula, A. F. Y., Riswanti, M. L., & Rozi, A. F. (2023). Society 5.0 Pembelajaran Ips. Cahya Ghani Recovery.

Widyanto, I. P., & Vienlentia, R. (2022). Peningkatan Kemampuan Berpikir Kritis dan Hasil Belajar Peserta Didik menggunakan Student Centered Learning.

Zahro', N. U. A. (2022). Merdeka Belajar Konsep,Kebijakan dan Praktik Berdasarkan " Sense Making Perspective " Kognisi Guru. Media Nusa Creative (MNC Publishing).