The Effect of Digital Literacy Ability and Learning Independence on Students' Creative Thinking in Economics Subjects

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Abstract
This article is a type of quantitative descriptive research that aims to find out whether digital literacy abilities and independent learning affect students' creative thinking in economics subjects. The method used in this research is a quantitative descriptive method. The population in this study were all students of class XI IPS at SMAN 15 Pekanbaru, totaling 144 students. The sample of this research is 36 students with purposive sampling technique. The instruments used to collect data were creative thinking tests, digital literacy ability questionnaires and independent learning. The data analysis technique used is multiple regression analysis. The results of this study indicate that: 1) there is an influence of digital literacy skills on creative thinking where the digital literacy ability variable shows a significance value of Sig. 0.017 <0.05 and the results of the t test obtained t count 2.518 > t table = 2.034. 2) there is an effect of independent learning on creative thinking where the digital literacy ability variable shows a significance value of 0.008 <0.05. Then the results of statistical calculations t-count = 2.826 > t-table = 2.034. 3) digital literacy skills and learning independence simultaneously have a significant effect on creative thinking by 49.2%. The remaining 50.8% is influenced by variables other than the variables examined in this study.
Keywords: Digital Literacy Ability, Independent Learning, Creative Thinking

INTRODUCTION

Creative thinking is a person's ability to solve problems, think broadly in producing new, varied, unique ideas. Assessment of the ability to think creatively requires a measuring instrument as an indicator of its achievement. According to Patmawati et al. (2019) there are several indicators of the ability to think creatively, namely: fluency (fluency) means the ability to provide many diverse, unique and varied ideas in solving problems, originality (originality) means the ability to provide responses that are unusual or unique from others, elaboration (elaboration) is the ability to develop ideas, and flexibility (flexibility) is the skill of flexible thinking.

Creative thinking is needed by students in carrying out the learning process because by thinking creatively, students not only understand knowledge but rather produce many diverse, unique and varied ideas to solve the problems they face, especially economics subjects. In addition, to determine the success of learning can be observed from the learning outcomes of students after participating in the learning.

Based on the results of an interview with one of the economics subject teachers at SMAN 15 Pekanbaru, he also stated that learning was still lacking in effectiveness. It can be seen that during the learning process, students still tend to be passive in class, students' ability to answer questions is still general, less able to express many diverse, unique, and varied ideas. Students are less able to express opinions directly because they are shy, insecure and afraid of being wrong, besides that students are also found waiting for answers from their friends and don't want to think about solving the problems or problems they face. The passive condition

of students during the learning process makes students unable to think creatively. Based on the interviews, it was also stated that there were still many student learning outcomes that did not reach the minimum completeness.

According to Budiasra in Ernaningsih et al., (2019) the factors causing the low ability of students' creative thinking are due to teacher-centered learning, then the lack of innovative learning models so that teachers still teach in the traditional way. According to Arrajiv et al., (2021) with the rapid development of information and communication technology, teachers must have innovations, one of which is applying digital literacy as learning in the classroom. The role of the teacher here is very important to determine the quality of students in the class (Gusnardi, 2020). Therefore, in the learning process in schools, teachers need to apply digital literacy which can be used to grow, hone, and develop students' creative thinking.

According to Amand in Hayati et al. (2022) digital literacy is able to make someone think critically, creatively, innovatively, solve problems, communicate smoothly, and collaborate with many people. Digital literacy in the world of education is important because literacy is a means for students to understand, recognize and practice the knowledge they get at school. The use of digital technology is an innovation in the world of education.

At this stage it is expected to be a stimulus in developing students' creative thinking. Digital literacy has a role in developing students' knowledge of certain subject matter by encouraging their curiosity and creativity. According to Sutisna (2020) digital literacy is knowledge in using digital media to obtain information and use digital media wisely. In addition, digital literacy is also needed for students to understand information.

Digital literacy can be accessed by students widely and unlimitedly through many sources on digital media. This broad and unlimited access can certainly be easily for every student to collect information, where every student has the freedom to seek various information from the sources available on digital media. Sources that can be accessed by students when carrying out digital literacy are through e-books/e-learning, web, URLs and others. Anggraini et al. (2019) expressed the opinion that digital literacy is an important skill to pay attention to in the 21st century era in order to ensure that each individual has learning and innovation skills, skills in using technology, information media and information literacy and can work and survive using social skills. (social skills). In realizing all of these things then one way through the world of education.

In fact, in the world of education apart from digital literacy skills, independent learning also affects creative thinking skills. Learning independence is needed by students so that they are able to solve the problems they face and are able to make their own decisions. According to Ethics Rahmawati & Indriyani Setyaningsih (2021) learning independence is an ability that students must have to have awareness in learning without being ordered by others. The importance of independent learning is owned by these students means that they must be independent in learning, meaning that these students are able to have attitudes and behaviors, feel things, think and make decisions according to their abilities. The meaning of being independent here is not just students learning alone without any help from a teacher or peers, instead students are trained to have learning initiatives by seeking ideas from various sources and then formulating ideas or developing them. Therefore, an independent individual is an individual who dares to make decisions based on an understanding of all the consequences of his actions.

Related research has been investigated by several researchers including Hidayat et al. (2020) independent learning is an effort to increase knowledge, creativity, skills or development of achievement, which includes: independently determining and managing teaching materials, time, place, and being able to explore the various learning resources

needed. According to Apriani (2020) students who have high learning independence will be more confident in exploring lessons compared to those with low learning independence.

According to Maratusyolihat et al. (2021) found that there was a significant influence of learning independence on students' creative thinking. From this it can be concluded that independent learning affects the ability to think creatively. According to Pratiwi et al. (2021) in his research concluded that the results of the study used the triangulation method, namely by comparing the results of written tests with interview tests showing that: students with high learning independence occupy the category of very creative creative thinking where students are able to fulfill all indicators of creative thinking well. Then Selegi & Aryaningrum (2022) concluded that digital literacy can increase creativity. Proper use of digital literacy can generate creative ideas so as to enhance creative thinking. Several studies have found that independent learning affects creative thinking, but the effect is not significant, such as research from Yeni et al. (2020) which states that there is no effect of independent learning on the ability to think creatively.

Based on the description above, the purpose of this study was to determine the effect of digital literacy skills and learning independence on students' creative thinking in the economics subject at SMA Negeri 15 Pekanbaru class XI IPS both partially and simultaneously.

RESEARCH METHODS

This research is a quantitative research, namely the type of data is in the form of a numeric or number system so that it further strengthens the analysis. Researchers used descriptive research methods. According to Syahza (2021) the purpose of descriptive research is to make descriptions of situations or events. This research was conducted at Pekanbaru 15 State Senior High School, Jalan Cipta Karya KM. 3, Tuah Madani, Pekanbaru City. The implementation time starts from January to February. The population in this study were all students of class XI IPS at SMA Negeri 12 Pekanbaru, totaling 144 students. In this study, 36 students took class XI IPS 4 as the research sample. The sampling technique in this study was purposive sampling. Data collection techniques using questionnaires and creative thinking tests. The instruments used in this study were digital literacy skills and independent learning in the form of questionnaires, while creative thinking used tests. The creative thinking test is the provision of written test questions to students. As for this research, the test is in the form of essay questions to find out how much students' creative thinking abilities are. Data analysis techniques used descriptive analysis, classical assumption test, multiple linear regression analysis, and hypothesis testing using SPSS version 16.

RESEARCH RESULTS AND DISCUSSION

Before testing the hypothesis, the researcher collected data that supports this research, namely the questionnaire description.

Table 1. Data Description of Digital Literacy Ability Variables

Classification	Category	Frequency	Percentage (%)
43-50	Very good	15	41,7
35-42	Good	21	58,3
27-34	Enough	0	0
19-26	Not enough	0	0
10-18	Very less	0	0
	Total	**36**	**100%**

Based on Table 1 it can be seen that as many as 21 students 58.3% have good digital literacy skills. This is because the average total score of the respondents' answers is in the

range of a total score of 35 to 42 with a total score of 100. So it can be concluded that the level of digital literacy ability in general in class XI IPS students of SMAN 15 Pekanbaru is categorized as good. Then the results of digital literacy skills are also supported by 3 indicators, namely: (1) Students understand internet search, (2) Students can evaluate the content of the information they get, (3) Students can compile knowledge from information obtained from digital media.

Table 2. Descriptive Data of Learning Independence Variables

Classification	Category	Frequency	Percentage (%)
43-50	Very good	20	55,6
35-42	Good	16	44,4
27-34	Enough	0	0
19-26	Not enough	0	0
10-18	Very less	0	0
	Total	**36**	**100%**

Based on research conducted at SMAN 15 Pekanbaru, it can be seen in table 2 regarding student learning independence, that the best percentage is in the very good category of 20 students as much as 55.6%. This is because the average total score of the respondents' answers is in the range of 43 to 50 with a total value of 100. This means that student learning independence is very good. Then the results of independent learning are also supported by 5 indicators, namely: (1) Initiative (2) Responsibility (3) Motivation (4) Confidence (5) Discipline.

Table 3. Descriptive Data on Creative Thinking Variables

Classification	Category	Frequency	Percentage (%)
65-80	Very good	1	2,8
49-64	Good	24	66,6
33-48	Enough	11	30,6
17-32	Not enough	0	0
0-16	Very less	0	0
	Total	**36**	**100%**

Based on research conducted at SMAN 15 Pekanbaru, it can be seen in table 3 about students' creative thinking, that the best percentage is in the good category of 24 students as much as 66.6%. This is because the average total score of the respondents' answers is in the range of 49-64 with a total value of 100. This means that students' creative thinking in economics class XI IPS SMAN 15 Pekanbaru is quite good. This is caused by factors originating from students. Factors originating from students are digital literacy skills and learning independence. Then the results of creative thinking are also supported by 4 indicators, namely: (1) Fluency of Thinking (2) Dexterity of Thinking (3) Thinking Originally (4) Elaboration.

Table 4. Normality Test Results

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Digital Literacy Ability	.157	36	.024	.960	36	.221
Independent Learning	.156	36	.026	.953	36	.126
Creative Thinking	.137	36	.086	.941	36	.056
a. Lilliefors Significance Correction						

Based on the results of the normality test with the Shapiro-Wilk statistical test in table 4, it can be seen that the significance value of Digital Literacy Ability (X1) is 0.221, the Learning Independence variable (X2) is 0.126, the creative thinking variable (Y) is 0.056. This shows if the value is greater than 0.05 (sig > 0.05). Therefore, it can be concluded that the data on digital literacy skills, independent learning, and creative thinking are normally distributed.

Table 5. Linearity Test Results

Linearity Test Results of Digital Literacy Ability (X1) on Creative Thinking (Y)

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Creative Thinking * Digital Literacy Skills	Between Groups	(Combined)	880.533	11	80.048	3.980	.002
		Linearity	497.211	1	497.211	24.722	.000
		Deviation from Linearity	383.322	10	38.332	1.906	.095
	Within Groups		482.689	24	20.112		
	Total		1363.222	35			

Learning Independence Linearity Test Results (X2) Against Creative Thinking (Y)

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Creative Thinking * Independent Learning	Between Groups	(Combined)	812.556	11	73.869	3.219	.008
		Linearity	566.535	1	566.535	24.692	.000
		Deviation from Linearity	246.021	10	24.602	1.072	.419
	Within Groups		550.667	24	22.944		
	Total		1363.222	35			

Based on table 5, the results of the linearity test can be seen in the digital literacy ability variable (X1), a deviation from linearity significance value of 0.095 > 0.05 is obtained. So it can be concluded that the data in this study were linear. This means that the relationship between digital literacy skills (X1) and creative thinking (Y) has a significant relationship. Then for the results of the linearity test of learning independence (X2) on creative thinking (Y) it is known that the independent learning variable (X2) obtained a deviation from linearity significance value of 0.419 > 0.05, so it can be concluded that the data in this study were linear. That is, learning independence (X2) to creative thinking (Y) has a significant relationship.

Table 6. Multicollinearity Test Results

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.151	8.094		.266	.792		
Digital Literacy Ability	.768	.305	.375	2.518	.017	.694	1.442
Independent Learning	.809	.286	.421	2.826	.008	.694	1.442
a. Dependent Variable: Creative Thinking							

Based on table 6 on the multicollinearity test it can be seen on the coefficients that the tolerance value of digital literacy skills (X1) is 0.694 and learning independence (X2) is 0.694. Then the value of VIF (Variance Inflation Factor) for all variables is less than 10, namely digital literacy ability (X1) of 1.442 and learning independence (X2) of 1.442. This means that this value is less than 10. Therefore, as the basis for decision making in the multicollinearity

test, it can be concluded that there are no symptoms of multicollinearity in the regression model.

Table 7. Multiple Linear Regression Analysis Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.151	8.094		.266	.792
	Digital Literacy Ability	.768	.305	.375	2.518	.017
	Independent Learning	.809	.286	.421	2.826	.008
a. Dependent Variable: Creative Thinking						

The test results of multiple linear regression analysis can be seen in the multiple linear regression equation as follows: **Y = α + β1 X1 + β2 X2 + e. Y = 2.151 + 0.768 (X1) + 0.809 (X2) + 0.508.** The description is as follows:

1. The constant value (a) is 2.151. This means that if digital literacy skills (X1) and learning independence (X2) are assumed to be 0, then the creative thinking variable (Y) is 2.151.
2. The regression coefficient value of the digital literacy ability variable (X1) is 0.768. This means that if the digital literacy ability variable (X1) increases by 1%, it increases the digital literacy ability variable by 0.768.
3. The value of the regression coefficient of the learning independence variable is (X2) 0.809. This means that if the value of the independent learning variable (X2) increases by 1%, it will increase the learning independence variable by 0.809.

Based on the results of the multiple linear regression above, it can be concluded that the direction of the relationship between the variable digital literacy ability (X1) and independent learning (X2) towards creative thinking (Y) has a positive relationship, namely the variable digital literacy ability (X1) and independent learning (X2) is increased or repaired, then the dependent variable, namely the results of creative thinking (Y) will experience one unit.

Table 8. Simultaneous Significant Test Results (Test F)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	671.186	2	335.593	16.003	.000a
	Residual	692.037	33	20.971		
	Total	1363.222	35			
a. Predictors: (Constant), Learning Independence, Digital Literacy Ability						
b. Dependent Variable: Creative Thinking						

From table 8 it is known that the value of Sig. Is equal to 0.000. It is known that the Sig. 0.000 < 0.05. Then the statistical calculations show that the calculated F value is 16.003 > F table 3.28. Based on this value, H0 is rejected, meaning that digital literacy skills and independent learning simultaneously influence students' creative thinking in economics at SMAN 15 Pekanbaru class XI IPS.

Table 9. Test Results t

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.151	8.094		.266	.792		
	Digital Literacy Ability	.768	.305	.375	2.518	.017	.694	1.442

Independent Learning	.809	.286	.421	2.826	.008	.694	1.442

a. Dependent Variable: Creative Thinking

Based on Table 9, the following conclusions can be drawn:
1. Digital Literacy Ability. Sig. Value Amounting to 0.017. Then it can be known the value of Sig. 0.017 <0.05. Then the results of statistical calculations show the value of t-count = 2.518 > t-table = 2.034. Then the results of this test mean that H1 is accepted and the digital literacy ability variable has a positive and significant effect on creative thinking.
2. Independent Learning. Sig. Value Amounting to 0.008. Then it can be known the value of Sig. 0.008 < 0.05. Then the results of statistical calculations t-count = 2.826 > t-table = 2.034. So the results of this test indicate that H2 is accepted and the learning independence variable has a positive and significant effect on creative thinking.

This shows that digital literacy skills and independent learning have an effect on creative thinking in economics subjects at SMAN 15 Pekanbaru class XI IPS.

Table 10. Test Results for the Coefficient of Determination

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702[a]	.492	.462	4.579
a. Predictors: (Constant), Learning Independence, Digital Literacy Ability				
b. Dependent Variable: Creative Thinking				

From table 10 it is known that R Square is 0.492 or 49.2%. This means that the variables of digital literacy ability and learning independence simultaneously influence creative thinking by 49.2%, the remaining 50.8% are influenced by variables other than the variables examined in this study.

CONCLUSION
Based on the results of a research analysis regarding the effect of digital literacy skills and independent learning on students' creative thinking in economics subjects at SMA Negeri 15 Pekanbaru class XI IPS, it can be concluded as follows: Digital literacy skills have a positive effect on students' creative thinking in economics subjects at SMA Negeri 15 Pekanbaru class XI IPS. This means that the higher the students' digital literacy skills, the students have higher creative thinking. The reason is because students who have high digital literacy skills will have a high level of creative thinking. Learning independence has a positive effect on students' creative thinking in economics subjects at SMA Negeri 15 Pekanbaru class XI IPS. This means that high learning independence has a great influence on students in increasing students' creative thinking. Digital literacy skills and learning independence have a positive and significant effect of 49.2% on students' creative thinking in economics subjects. Because students who have high creative thinking need digital literacy skills and independent learning. This means that digital literacy skills and independent learning have a significant effect on students' creative thinking.

Researchers recommend the results of research on the effect of digital literacy skills and learning independence in class XI students at SMAN 15 Pekanbaru, the researchers provide recommendations that are expected to provide benefits, namely: Recommendations for Students; Digital literacy skills are classified as good and should be improved in order to obtain optimal creative thinking, namely by making good use of digital sources to search for, obtain various learning information to increase knowledge. In addition, students are expected

to be able to control themselves when to use devices to study and when to use devices to play games; The independence of student learning is classified as good and it is hoped that it will continue to instill an attitude of independent learning. The aim of this effort is that students are able to analyze difficult problems, be able to work individually or in collaboration with groups, and have the courage to express ideas. This learning independence emphasizes learning activities that are full of responsibility so that students are able to achieve learning achievements. For Teachers; Teachers have an important role in the teaching and learning process. It is hoped that teachers can maximize digital literacy in the learning process. It is intended that students are not easily bored during the learning process. The teacher's role in guidance and direction in digital use is certainly a major factor in the formation of digital literacy in order to improve students' creative thinking. In addition, the teacher is also expected to be able to maximize student learning independence during the learning process so that it can increase students' creative thinking. For Further Research; This research is addressed to further researchers to carry out further development of this research by using a larger sample. In addition, considering the many factors that can affect creative thinking, it is necessary to develop similar research on factors that influence students' creative thinking, because this study only discusses two variables, namely digital literacy skills and learning independence so it is necessary to conduct research on these factors. other factors to complete this research.

Acknowledge

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