

The Effect of Using Quizizz Learning Media and Critical Thinking Ability on Cultural Arts Learning Outcomes in Class X MAN 2 Medan Model

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Abstract. The aims of this study were to: (1) find out whether the learning outcomes of the group of students taught with the Quizizz learning media were higher than the group of students taught with the Power Point learning media, (2) to determine whether the cultural arts group of students with high critical thinking skills has better learning outcomes than the group with low critical thinking skills, and (3) find out whether there is an interaction between Quizizz learning media and Power Point learning media with critical thinking skills in influencing cultural arts learning outcomes. The research population was all students of class X IPS MAN 2 Model Medan consisting of 5 classes. The samples chosen to be the Quizizz media learning class were class X IPS-4 and class X IPS-3 as the Power Point media learning class. Cluster random sampling is the method of sampling. The Scheffe test is used after the two-way ANOVA with a significance level of $\alpha = 0.05$. The outcomes revealed (1) Students' arts and culture learning outcomes were higher when they were taught with the Quizizz learning media than when they were taught with the Power Point learning media. Students who were instructed using Quizizz learning materials had an overall higher average learning outcome ($=28.41$) than students who were instructed using Power Point learning materials ($=26.79$); (2) In the cultural arts, students with strong critical thinking skills perform better than students with weak critical thinking skills.; (3) There is a connection between critical thinking abilities and learning media: Power Point learning materials are superior to Quizizz learning materials for students with low critical thinking abilities, whereas Quizizz learning materials are superior for students with high critical thinking abilities. In this case, the average learning outcomes of students with high critical thinking abilities who are taught with Quizizz learning media and Power Point learning media are higher than the average learning outcomes of students.

Keywords: Learning Media, Critical Thinking Ability, Learning Outcomes

1. Introduction

Education is one of the ways a person takes to make big changes in life. Basically, education can be obtained anywhere, anytime and by anyone. Everyone has the right to a proper education. In Indonesia, there are many institutions and agencies that provide both formal and non-formal education. In formal institutions, education can be found in schools, both public schools and private schools. And non-formal education can be obtained by someone through non-formal educational institutions such as play groups, studios, training centers, Islamic

boarding schools. "Education and teaching is a conscious effort of purpose that is systematically directed at changing behavior towards the maturity of learners".¹

Formal educational institutions in Indonesia starting from the elementary, junior high, and high school levels teach dozens of subjects, both practical and theoretical. A person's effort to change a new behavior as a whole as a result of his own experience interacting with his environment is called learning. The changes are relatively constant and second-hand.² One of the dozens of subjects taught is the subject of Cultural Arts. Cultural Arts subjects are further divided into several subjects, one of which is fine arts. Fine art is one of the subjects that dominates practicum activities without compromising theory as the basic foundation for students before practicing. Fine arts is a subject that requires students to be more active, skilled, creative, innovative, characterized, disciplined, critical and responsible. In the 2013 curriculum of SMA class X in arts and culture subjects, especially fine arts, students are required to be able to understand the concepts, procedures, and functions of criticism in works of art. The definition of criticism of a work of art is not interpreted as a criticism that corners the work or its creator. Similar to appreciation, art criticism is basically an activity to respond to works of art. The difference is only in the focus of art criticism which is more aimed at showing the strengths and weaknesses of a work of art.³

The Covid-19 pandemic, which struck Indonesia and other countries at the beginning of March 2020, posed challenges to all business endeavors. The Covid-19 pandemic has also caused a lot of problems and changes in the education sector. During the Covid-19 pandemic, all teaching and learning activities are conducted online, despite the fact that face-to-face instruction is recommended. On Monday, February 7, 2022, class X MAN 2 Model Medan was observed repeatedly. One cultural arts teacher asserts that the outcomes of learning arts and culture, particularly fine arts, have decreased since the beginning of the Covid-19 pandemic, as the teaching and learning process has been conducted online. The learning outcomes, which are the outcomes of the interaction of learning actions, are typically indicated by the teacher's test scores..⁴

The use of Quizizz media had a significant impact on the biology learning outcomes of students in class X MIPA SMAN 3 Maros, as shown in his study, "The Effect of Quizizz Media in Online Learning on Students' Biology Learning Outcomes." According to the findings of his research, students who were taught biology using Quizizz media had better learning outcomes than students who were taught biology using traditional media.⁵

Quizizz is an internet-based learning platform that can be accessed by everyone using laptops and smartphones that are connected to the internet.⁶ Quizizz is a digital game that is also a fun multiplayer classroom activity.⁷ Quizizz is a quiz-based platform that is combined in the form of games and can be used as a medium for learning. In order to improve student learning outcomes, the use of Quizizz as an online learning medium in the field of cultural arts studies, particularly fine arts in art criticism content, is regarded as very appropriate. By using Quizizz as a learning medium, a teacher can directly control the class during online and offline learning simultaneously. Even teachers can design presentations and quizzes at the same time. Teachers can directly control student learning activities both at home and at school. By using Quizizz learning media, teachers can also give assignments with automatic deadlines so that students are more disciplined and on time in doing assignments.

Based on the above background, the researcher is interested in conducting a study entitled "The Effect of Using Quizizz Learning Media and Critical Thinking Ability on Learning Outcomes of Class X MAN 2 Medan Model Arts and Culture".

2. Method

This study uses an experimental method (quasi-experimental) by conducting experiments on samples or research subjects who are in an experimental class that has been formed previously without changing the class situation and learning schedule. We will compare the effects of Quizizz and Power Point learning media on student learning outcomes using this design. The two experimental groups, each made up of students with varying degrees of critical thinking ability, will use these two learning tools. The research design used is a 2 x 2 factorial design as shown in the following table:

Table 1. Research Design Design

Critical Thinking Ability	Learning Media	
	Quizizz (A ₁)	Power Point (A ₂)
High (B ₁)	A ₁ B ₁	A ₂ B ₁
Low (B ₂)	A ₁ B ₂	A ₂ B ₂

Table 2. Description of the Research Design

A ₁	: Groups of students who are taught with Quizizz learning media.
A ₂	: Groups of students who are taught with Power Point learning media
B ₁	: Group of students who have high critical thinking skills.
B ₂	: Group of students who have low critical thinking skills.
A ₁ B ₁	: Groups of students who are taught with Quizizz learning media and have high critical thinking skills
A ₁ B ₂	: Groups of students who are taught with Quizizz learning media and have low critical thinking skills
A ₂ B ₁	: Groups of students who are taught using Power Point learning media and have high critical thinking skills
A ₂ B ₂	: Groups of students who are taught using Power Point learning media and have low critical thinking skills

The entire class X of IPS MAN 2 Model Medan's five classes served as the study population. Class X IPS-4 and class X IPS-3 were the Power Point media learning classes chosen as the samples for the Quizizz media learning class. Group irregular inspection is the method of testing. With a significance level of = 0.05, the two-way ANOVA was followed by the Scheffe test.

3. Results and Discussion

The scores of MAN 2 Medan Model students who were instructed using the Quizizz learning platform and MAN 2 Medan Model students who were instructed using the Power Point learning platform for their Cultural Arts learning outcomes, which were grouped into critical thinking skills, make up the description of the data that is presented in the study. high and low capacity for critical thinking.

3.1 Learning Outcomes of Cultural Arts Taught with Quizizz Learning Media and High Critical Thinking Ability

The description of the displayed learning outcome data includes the mean, mode, median, variance, standard deviation, maximum and minimum scores, as well as a frequency distribution table.

The mean of data on the learning outcomes of Cultural Arts students in MAN 2 Medan Model who were instructed with Quizizz learning materials and had high critical thinking skills was 32.36; mode = 32.16; average is 32.30; variation of 4.59; 2.14 standard deviation; 36 is the maximum score; and 28 is the minimum score.

Table 3 shows the distribution of scores on the learning outcomes for Cultural Arts students in MAN 2 Medan Model who use Quizizz learning media and have high critical thinking skills. as follows:

Table 3. Data Description of Student Learning Outcomes Taught With Quizizz Learning Media And High Critical Thinking Ability

Interval Class	f _{absolute}	f _{relatively}
28 – 29	1	7,14
30 – 31	4	28,57
32 – 33	5	35,71
34 – 35	3	21,44
36 – 37	1	7,14
Total	14	100

3.2 Learning Outcomes of Cultural Arts Taught with Power Point Learning Media and High Critical Thinking Ability

The mean of the data on the learning outcomes of Cultural Arts students in MAN 2 Medan Model who were taught with Power Point learning media and had high critical thinking skills is 28.09; mode = 29.00; average is 28.255; variation of 7.88; 2.80 standard deviation; 34 is the maximum score; and a 23 minimum score.

Table 4 shows the distribution of scores for the Cultural Arts learning outcomes for MAN 2 Medan Model students who are taught with Power Point learning media and have high critical thinking skills. the following:

Table 4. Data Description of Student Learning Outcomes Taught with Power Point Learning Media and High Critical Thinking Ability

Interval Class	f _{absolute}	f _{relatively}
23 – 24	2	11,76
25 – 26	3	17,65
27 – 28	4	23,53
29 – 30	5	29,42
31 – 32	2	11,76
33 – 34	1	5,88
Total	17	100

3.3 Testing Requirements Analysis

Testing the requirements for data analysis of research results in this case is the data on learning outcomes of Cultural Arts students of MAN 2 Model Medan carried out through normality testing and homogeneity tests.

Normality Test. The Liliefors test was used for the normality test. In this case, Table 5 shows a summary of how the Liliefors formula was used to calculate the normality test of the learning outcomes of the Cultural Arts students at MAN 2 Medan Model.

Table 5. Summary of Normality Test Analysis

No	Group	L _{observation}	L _{table}	Information
1	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students Taught with Quizizz . Learning Media	0,0930	0,1519	Normal
2	Learning Outcomes of Cultural Arts Students of MAN 2 Medan Model Taught with Power Point Learning Media	0,0818	0,1437	Normal
3	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students with High Critical Thinking Ability	0,0930	0,1591	Normal
4	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students with Low Critical Thinking Ability	0,1178	0,1383	Normal
5	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students Taught with Quizizz Learning Media and High Critical Thinking Ability	0,1552	0,227	Normal
6	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students Taught with Quizizz Learning Media and Low Critical Thinking Ability	0,0764	0,190	Normal
7	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students Taught with Power Point Learning Media and High Critical Thinking Ability	0,0927	0,206	Normal
8	Cultural Arts Learning Outcomes of MAN 2 Medan Model Students Taught with Power Point Learning Media and Low Critical Thinking Ability	0,1146	0,186	Normal

Homogeneity Test. The homogeneity test was performed by comparing the variance of the data on the Art and Culture students' learning outcomes in MAN 2 Model Medan's treatment with Power Point learning media and critical thinking skills.

Table 6 displays a summary of the homogeneity test results for the Art and Culture students in MAN 2 Medan Model, comparing the group taught with Quizizz learning materials to the group taught with Power Point learning materials:

Table 6. Summary of Homogeneity Test Analysis of Student Groups Taught With Quizizz Learning Media and Power Point Learning Media

Sample Group	F _{Value}	F _{Table}	Infomation
High Critical Thinking Ability and Low Critical Thinking Ability	1,01	1,73	Homogeneity

Table 7 displays a summary of the homogeneity test results for the Art and Culture students in MAN 2 Medan Model who had high critical thinking skills and students who had low critical thinking skills:

Table 7. Summary of Homogeneity Test Analysis of Groups of Students with High Critical Thinking Ability and Low Critical Thinking Ability

Sample Group	F _{Value}	F _{Table}	Infomation
High Critical Thinking Ability and Low Critical Thinking Ability	1,32	1,74	Homogeneity

Table 8 provides a summary of the homogeneity test calculations for the Cultural Arts students in MAN 2 Medan Model as an interaction between learning media and critical thinking skills:

Table 8. Summary of Homogeneity Test Analysis of Learning Media and Critical Thinking Skills

Sample Group	χ^2_{Value}	χ^2_{Table}	Infomation
Interaction of Learning Media and Critical Thinking Ability	4,60	7,81	Homogeneity

Hypothesis Test. 2 x 2 factorial analysis of variance was used to test the first, second, and third research hypotheses. The learning method variables, Quizizz learning media and Power Point learning media, were distinguished by two factors, so the 2 x 2 factorial variance

analysis was chosen. In addition, there are two components to critical thinking ability: high critical thinking ability and low critical thinking ability.

The complete calculation of the research hypothesis testing uses 2 x 2 factorial analysis of variance as seen in Table 9 as follows:

Table 9. Summary of 2 x 2 . Factorial ANOVA

Source of Variation	dk	Jk	Rjk	F _{value}	F _{table (1,68)} ($\alpha = 0,05$)
Learning Media	1	293,21	293,21	33,58	
Critical Thinking Ability	1	62,32	62,32	7,13	
Interaction	1	90,36	90,36	10,35	3,984
Error	68	594,11	8,73		
Total	71	1040	-		

After testing the hypothesis and the third hypothesis, it is determined that learning media and critical thinking skills interact, necessitating additional testing. Using the Scheffe formula, additional tests were carried out in this instance. The summary of the calculation of the Scheffe test can be seen in Table 10 as follows:

Table 10. Summary of Scheffe . Test

Statistical Hypothesis		F _{value}	F _{table (3,76)} ($\alpha = 0,05$)
H _O : $\mu_{11} = \mu_{12}$	H _a : $\mu_{11} > \mu_{12}$	3,78	2,726
H _O : $\mu_{11} = \mu_{21}$	H _a : $\mu_{11} > \mu_{21}$	6,63	2,726
H _O : $\mu_{11} = \mu_{22}$	H _a : $\mu_{11} > \mu_{22}$	6,18	2,726
H _O : $\mu_{12} = \mu_{21}$	H _a : $\mu_{12} > \mu_{21}$	2,80	2,726
H _O : $\mu_{12} = \mu_{22}$	H _a : $\mu_{12} > \mu_{22}$	1,91	2,726
H _O : $\mu_{21} = \mu_{22}$	H _a : $\mu_{21} > \mu_{22}$	1,32	2,726

3.4 Discussion

The Influence of Learning Media on Cultural Arts Learning Outcomes. In light of the preceding explanation, It has been established that the standard of learning outcomes MAN 2 Medan Model Arts and Culture students who are instructed using the Quizizz learning media (= 28.41) are superior to the average learning outcomes of MAN 2 Medan Model students who are instructed using the Power Point learning media.= 26.79).

This demonstrates that the Quizizz learning media have been shown to improve students' learning outcomes for arts and culture in general, specifically their cognitive abilities, particularly when it comes to material criticism of fine art works for the

MAN 2 Medan Model as a whole. This is true for groups of students who have strong critical thinking skills as well as groups of students who have thinking skills low on criticism.

The Influence of Critical Thinking Ability on Cultural Arts Learning Outcomes.

Additionally, this study demonstrates that students in MAN 2 Model Medan Arts and Culture who possessed strong critical thinking skills had superior learning outcomes (= 29.81) when they were taught with Quizizz and Power Point learning materials, respectively. MAN 2 Medan Model students with low critical thinking skills (=26.10) are learning about the arts and culture. This demonstrates that students' ability to think critically without paying attention to the learning media used affects their Arts and Culture learning outcomes, specifically cognitive abilities.

Interaction of Learning Media and Critical Thinking Ability to Cultural Arts Learning Outcomes.

The average student learning outcomes of MAN 2 Medan Model students with high critical thinking skills in the Quizizz learning media (=32.36) are higher than those of MAN 2 Medan Model students with low critical thinking skills (=25,40). In the Cultural Arts, students with high critical thinking abilities performed better than students with low critical thinking abilities in the Cultural Arts in the Power Point learning media (=26.43).

This demonstrates that students' cultural arts learning outcomes are significantly influenced by their ability to think critically. In both Quizizz and Power Point lessons, students with high critical thinking skills perform better than students with low critical thinking skills.

4. Conclusion

The following conclusions can be drawn from the hypothesis testing results: When teaching students' arts and culture with the Quizizz learning tool, students had better learning outcomes than when teaching them cultural arts with the Power Point tool. The way that Fvalue 33.58 is more noteworthy than Ftable 3.984 shows that the utilization of Quizizz learning media impacts Social Expressions learning results. The difference in average learning outcomes (=28.41) between students who used Power Point learning media and those who used Quizizz learning media (= 26.79) was larger overall. As a result, students' learning outcomes are enhanced when the Quizizz learning media are utilized for Cultural Arts instruction.

When it comes to learning about the arts and culture, students who have strong critical thinking skills perform better than students who have weaker critical thinking skills. Cultural arts learning outcomes are influenced by critical thinking skills, as evidenced by the fact that Fvalue 7.13 is greater than Ftable 3.984. Additionally, when taught with Quizizz and Power Point, students with high critical thinking skills had significantly better average learning outcomes (=26.10) than students with low critical thinking skills. This difference was the same as 29.81.

Quizizz learning materials are superior to Power Point learning materials for students with high critical thinking skills, whereas Power Point learning materials are superior for students with low critical thinking skills. Media learning and critical thinking skills interact in this way. This is demonstrated by the fact that Fvalue 10.35 is greater than Ftable 3.984.

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