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The Effectiveness of Microsoft Sway-Based Media on the Learning Outcome of Cultural Art Subject in the Elementary School

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Abstract. The study aimed to determine student Cultural Arts learning outcomes and find significant differences in student Cultural Arts learning outcomes before and after using Microsoft Sway application media. The research design used was One-Group Pretest-Posttest Design involving 32 students. Samples are taken based on saturated sampling techniques. Data collection uses test results in the form of a pretest and posttest. The data analysis used is descriptive, hypothesis test, and gain test. The results showed that the average post-test value was higher than the average pretest value. The results of the hypothesis test which showed a significant difference in the use of Microsoft Sway application media to cultural arts learning outcomes. This shows that using Microsoft Sway application media can effectively improve student learning outcomes.

Keywords: learning outcomes, Microsoft sway; Media; Cultural Art Subject;

INTRODUCTION

The world of education has entered the 4.0 industrial revolution era. The era obligates teachers and students to master science and technology. Science and technology develop rapidly and shift conventional works to modern methods using IT or digital (Kristiawan, 2014). Changes in the educator working system aim to improve the quality of education. It aligns with Lase (2019), stating that the country can successfully face the 4.0 industrial revolution era when it masters the new technology and global challenges. Therefore, the government should improve the quality of education through digital technology or implement a model learning model. The use of learning media can be more optimal when it is innovated using digital technology because it can reach more information (Widiastuti, 2019).

Learning media can deliver information containing learning goals (Hasan et al., 2021). The media can assist the learning activities in delivering the message more clearly to achieve the learning goals more effectively and efficiently (Nurrita, 2018). Learning media can help teachers explain complex material to facilitate a better learning process (Susanti & Suripah, 2021).

Learning media is the instrument used to make communication and interaction between teachers and students in the learning process at school more effective (Usmeldi, 2017). Media can stimulate students' motivation and interest.

Besides that, it can ease their understanding through interesting and accurate data presentation. It assists students in interpreting data and receiving information (Tarigan & Siagian, 2015). Learning media is important in assisting teachers in delivering information about the learning material, including the Cultural Arts subject.

Cultural Art includes fine arts, dance, music, drama, and crafts (Muin & Ramasari, 2019). Teaching cultural art is important in preserving cultural values (Warandi, 2019). Art education, especially dance, can help students to develop their skills and creativity. It is confirmed by Suhaya (2016) that art education, including fine arts, dance, and music, should facilitate students' develop their creativity. Teaching dance needs concrete media to help students understand the material. Therefore, the presence of learning media that can help teachers to deliver the material is necessary.

Microsoft Sway is a practical web-based modern learning media. It contains interesting features like text, videos, and pictures. They are presented online at *sway.com* (Usodo & Deshinta, 2016). The layout of Sway material is made various to improve students' learning interest and reduce their boredom with learning. As it is practical, teachers easy to use it, and it does not need programming skills (Tunru & Putri, 2021).

Sudarmoyo (2018) found that the Sway application is helpful learning media. Junaedah and Nafiah (2020) proved that implementing a modern learning media using the *Microsoft Sway* application could improve students' learning outcomes. Markamah and Nugrahani (2022) also found that using *Microsoft Sway to teach* cultural art effectively boosts students' learning motivation and influences their learning outcomes.

Based on the field observation, the learning outcome of SDN 25 Borong uttie, Sinjai Regency students in the Cultural Arts subject tended to be low. It can be seen from their average final semester exam score under the minimum completeness criteria determined by the school (71). Only 40% of students (out of the total number of 32) passed the standard score. Most students were not interested in studying the Cultural Art subject material. They thought they did not have skills in the subject and perceived the learning as boring. Teachers generally rely on conventional media, and the materials are limited. Those two factors influenced students' learning outcomes. Therefore, teachers should make changes and innovations with the learning activities, including creative learning media, so that the learning activities can be effective and efficient. Here, we proposed a learning media with modern technology, namely Microsoft Sway.

Microsoft Sway can help teachers to make interactive media. As a digital-based media, it can improve students' and teachers' digital skills. Students will follow the subject using a gadget they have. Based on the observation, the media that the teacher has designed would be shared through WhatsApp groups, and students would assess it during the class. Besides daily quizzes, the learning can be combined with *Microsoft Sway*. Consequently, the media can ease teachers in delivering the learning material or assessing students' tasks. Later, it can contribute to the increase of students learning motivation and interest so that their learning outcomes can be better.

However, to improve the learning outcome, the effectiveness of media should be measured. Effectiveness indicates whether a goal can be achieved by comparing the target and the achievement (Hidayati, 2017). Learning effectiveness refers to how successfully the learning targets are achieved. Miarso (2004) argued that learning effectiveness is the educational quality standard indicated by the completeness of learning goals or how well a situation can be managed (Rohmawati, 2015). Learning effectiveness can be measured through 1) learning outcomes; 2) students' activities; 3) Learning completion; 4) students' responses (Firdaus, 2016). Because students' learning outcomes were low, we only measured the learning effectiveness based on that aspect.

According to Julhadi (2021), the learning outcome is obtained after following learning activities, indicating students' success in the subject. In line with that, Wu and Tai (2016) argued that the learning outcome can be seen from the effect or changes in students' knowledge, skill, attitude, and behavior at the end of the lesson. Students will be considered successful when there is a change in their behavior as a result of training or experience. Learning achievement or outcome is related to cognitive, affective, and psychomotor aspects (Wahyuningtyas & Sulasmono, 2020).

The learning result in this study refers to the assessment of the cognitive aspect. Cognitive aspects refer to knowledge. The

assessment was done through a pretest and posttest. The students' learning outcome was measured after they learned using a learning media.

Based on the discussion above, we carried out a study entitled: The Effectiveness of Microsoft Sway Media on The Learning Outcomes of Cultural Art Subject in Elementary School. The study aims to measure students' learning outcomes before and after using media with the Microsoft Sway application and to identify if there is a significant difference before and after using *Microsoft Sway media*.

METHOD

This study employed a quantitative approach with an experimental method. Because the groups were not selected randomly and the control class was absent, it is categorized as pre-experiment research. Sugiyono (2020) stated that a pre-experimental study has no control variable, and samples are not selected randomly. The study involved one experimental class with *a one-group pretest-posttest design*.

The population was all fifth-grade students of SDN 25 Borong Uttie, totaling 32. We selected the samples using the saturated sampling method. According to Siyoto (2015), saturated sampling involves all of the population members as the samples. The 32 samples were given a pretest to measure their learning outcome before using the media. Then, they were treated using Microsoft Sway media. The link to the material prepared by teachers using *Microsoft Sway was sent to* the class *WhatsApp group*. Then, each student accessed the material using their smartphone. After the treatment, we gave them a post-test to measure their learning outcome.

The data were collected using a test that measured the fifth-grade students' learning outcomes on the Cultural Art subject in SDN 25 Borong Uttie. The tests consisted of a pretest and a posttest. Each test had 20 multiple-choice questions about floor patterns and dance instruments. Data were analyzed using descriptive and inferential statistics with SPSS 28 version.

The descriptive analysis aimed to describe students' learning results before and after being treated with *Microsoft Sway*, while the inferential analysis was to test the research hypothesis. Before testing the hypothesis, we test the normality and homogeneity of data as a prerequisite. To measure the effectiveness levels of the media, we used the *n-gain* test to identify the effectiveness of the treatment. The effectiveness of Cultural Art learning outcome, SPSS v. 28, was utilized. The criteria of the effectiveness of Microsoft Sway referred to *N-gain* criteria by Meltzer (in Rachmawati, Baiduri, & Effendi, 2020)

Table 1. N-Gain Criteria

N-gain	Criteria
$0{,}7 \leq N\text{-}gain \leq 1$	High
$0{,}3 \leq N\text{-}gain \leq 0{,}7$	Medium
$N\text{-}gain < 0{,}3$	Low

RESULTS AND DISCUSSION

Results

Pretest Data of Students' Learning Outcome in Cultural Art Subject

The descriptive analysis of data from students' pretest in the table 2.

Table 2. Description of students' pretest score

Descriptive Statistics	Scores
Number of samples (n)	32
Minimum	20
Maximum	55
Mean	40,47
Standard Deviation	9,449

The table 2 above shows that the lowest score obtained by students was 20, while the highest score was 55. After we processed the data, we found the average score of students' learning outcomes in class V SDN 25 Borong Uttie Kabupaten Sinjai before learning using *Microsoft Sway* was 40,47, with a standard deviation score of 9,449. The pretest data can also be seen in the figure 1.

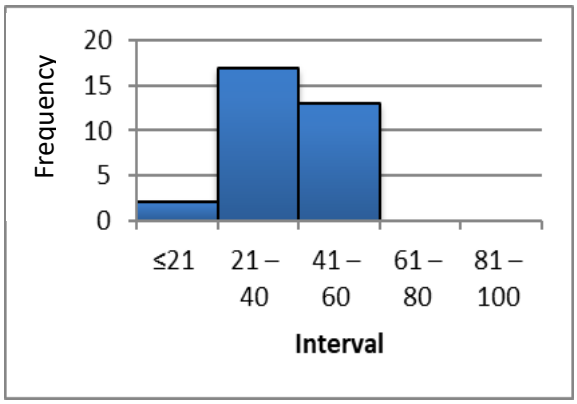

Figure 1. Students' Pretest Data

Based on the figure above, the score ≤ 21 has a frequency of 2. There are 17 scores between 21-40, scores in the range of 41-60 have a frequency of 13, and no scores in the ranges of 61-80 and 81-100. Thus, the highest frequency is in the interval 21-40 (17).

Data on students' learning outcomes in Cultural Art subject were classified into five categories as presented below in the tabel 3.

Table 3. Distribution of frequency and percentage of students' pretest score

No	Interval	Frequencies	Percentages (%)	Categories
1	81 – 100	0	0	Very Good
2	61 – 80	0	0	Good
3	41 – 60	13	40.625	Fair
4	21 – 40	17	53.125	Low
5	≤21	2	6.25	Very Low
Total		32	100	

Based on the descriptive analyses, it can be concluded that the pretest score was in the Low category as the highest percentage was in the category, and the learning outcome average score was 40.47. The average score is 21-40, with a frequency of 17 and a percentage of 53.125 (Low Category).

Posttest Data of Student's Cultural Art Subject Learning Outcomes

The results of descriptive data analysis on the score of the posttest distributed after they were taught using the table 4.

Table 4. Description of Students' Posttest Scores

Descriptive Statistics	Posttest
Number of Samples (n)	32
Minimum	45
Maximum	95
Mean	73.75
Standard Devasi	10.701

The table above shows that the lowest posttest score was 45 while the higher one was 95. After processing the data, we obtained an average score of 73,75 with a deviation standard of 10.701.

The post-test data can also be seen in the histogram figure 2.

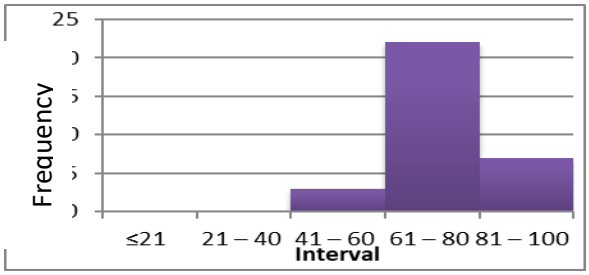

Figure 2. Students' Posttest Data

Based on the histogram above, the scores ≤ 21 and 21-40 have a frequency of 0. Scores between 41-60 have a frequency of 3, between 61-80 have a frequency of 22, and between 81-100 have a frequency of 7. Thus, the highest frequency was 61-80 (22).

If the students' learning outcome in Cultural Art subject was divided into five categories, the distributions of frequencies and percentages could be seen in the table 5.

Based on the descriptive analyses, it can be concluded that the pretest score was in the Good category as the highest percentage was in the Good category, and the learning outcome average score was 73.75. The average score is 61-80, with a frequency of 22 and a percentage of 68,75 (Good Category).

Table 5. Distribution of Frequencies and Percentages of Students' Posttest Scores.

No	Interval	Frequencies	Percentages (%)	Categories
1	81 – 100	7	21.875	Very Good
2	61 – 80	22	68.75	Good
3	41 – 60	3	9.375	Fair
4	21 – 40	0	0	Low
5	≤ 21	0	0	Very Low
Total		32	100	

Normality Test

The normality was tested using *Shapiro-Wilk* with *SPSS* version 28. It aims to assess if the data is normally distributed or not. Data are considered to distribute normally if the value of Sig > α and not normally distributed if the Sig value < α, (α = 0,05).

Based on the Shapiro-Wilk test, the significance value of the pretest data was 0,101, which is bigger than α (0,101 > 0,05). It shows

that the pretest data distribute normally. While the sig value of the post-test data was 0,288, which is bigger than the value of α (0,288 > 0,05). It means that the post-test data also have a normal distribution.

Homogeneity Test

The homogeneity was tested at the significance level of 5%. If α < 0,05, data are not homogenous; if α > 0,05, data are homogenous. Based on the homogeneity test m, the average significance score was 0,497. The pretest and posttest scores were from homogenous data groups as it is bigger than 0,05 (α > 0,05).

Hypothesis Test

The research hypothesis was tested using *Paired Sample Statistic* t-test to identify if there is a significant difference in students' learning outcomes in Cultural Arts subjects before and after the use of Microsoft Sway media.

The analysis shows that the sig value <0,001 is smaller than α (0,05); thus, H_0 is rejected. It means there is a significant difference in the learning outcomes of fifth-grade students of SDN 25 Borong Uttie, Sinjai Regency, in the Cultural Arts subject after implementing the media.

Test of the Effectiveness Levels (N-Gain)

The n-Gain test was used to measure the effectiveness of *Microsoft Sway* media. Based on the analysis, the average gain score was 0,5466 (52,79%). Based on the criteria table, the *n-gain* score 0,3 ≤ 0,5466 ≤ 0,7 was in the medium category. Thus, the use of *Microsoft Sway* media was effective for students' learning outcome improvement.

Discussion

Based on the analysis of findings of the learning outcomes of fifth-grade students *in* SDN 25 Borong Uttie Sinjai Regency in Cultural Art subject before and after implementing *Microsoft Sway media* using pretest and posttest, there is an increase in their average scores.

The present findings confirm Junaedah and Nafiah (2020) that implementing *Microsoft Sway can improve students' learning outcomes based on the average pretest and posttest scores. The study carried out by* (2021) also proved that there is an improvement in students' learning results after using *Microsoft Sway (pretest average score = 41.53; posttest average score* = 85,83). The study also found that the Microsoft Sway application is effective in being implemented in Cultural Arts subjects. Based on the observation, using Microsoft Sway can increase students' activeness and ease their understanding of the material. Media use is more effective for Cultural Art subjects, especially in dance, because it needs a concrete experience focusing on practice. The presence of video presented through Microsoft Sway can help students to understand the content of dance subjects.

It is in line with Markamah and Nugrahani (2022) that Microsoft Sway effectively improves students' motivation in Cultural Art subjects and influences their learning outcomes.

CONCLUSIONS AND SUGGESTIONS

Pretest and posttest distributed before and after the implementation of Microsoft Sway media had significantly different scores. The learning outcomes of the fifth-grade students of SDN 25 Borong Uttie, Sinjai regency in Cultural Art subject before the implementation of Microsoft Sway was in a low category. Still, it increased to the Good category after using the media. Thus, it can be concluded that students' learning outcome increases after implementing media. The media is more effective to be implemented in Cultural Art subject because it presents a real experience to students.

The study suggests teachers develop creative media like Microsoft Sway for online learning in the digital era. The next researchers can study the limitation of the present research and improve it in the next study.

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