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The Effect Of Using *Pageflip Professional 3d Interactive Media* On The Learning Outcomes Of Crafts And Entrepreneurship Of Grade X Students SMA Muhammadiyah Pangsidi School

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Abstrak

Pengaruh Penggunaan Media Interaktif *3D Page Flip Professional* Terhadap Hasil Belajar Prakarya Dan Kewirausahaan Siswa Kelas X SMA Muhammadiyah Pangsidi". Dibimbing oleh Muhammad Takdir dan Madaling. Tujuan dari penelitian ini adalah untuk melihat bagaimana penggunaan media interaktif *3D Page Flip Professional* mempengaruhi hasil belajar siswakesel X SMA Muhammadiyah Pangsidi. Penelitian ini menggunakan pendekatan kuantitatif yang melibatkan siswa Kelas X Muhammadiyah Pangsidi. Quasi Eksperimen dengan One Group Pretest-Posttest Design dengan teknik analisis non parametrik Wilcoxon digunakan dalam penelitian ini. Variabel dalam penelitian ini ada dua, dua variabel yang digunakan yaitu penggunaan media interaktif *3D Page Flip Professional* merupakan variabel bebas (X) dan Hasil belajar merupakan variabel terikat (Y). Jumlah populasi dalam penelitian ini sebanyak 26 orang, Probability Sampling dengan Simple Random Sampling adalah jenis sampel yang digunakan. Ada dua jenis prosedur pengumpulan data yang digunakan: tes dan dokumentasi. Pengumpulan data tes dilakukan dengan memberikan pretest kepada kelompok eksperimen kemudian diberi perlakuan dengan menggunakan media interaktif *3D Page Flip Professional* dan selanjutnya diberikan tes akhir. Hasil penelitian menunjukkan nilai signifikansinya  $0,00 < 0,05$ . Selain itu, nilai rata-rata yang diperoleh siswa meningkat. Nilai post-test yang diperoleh siswa yakni 86,31 sedangkan untuk nilai pre-test hanya 69,47. Hipotesis diterima pada akhir uji hipotesis dengan program aplikasi SPSS for Windows 25.0. Hal ini menunjukkan adanya pengaruh yang signifikan. sebelum siswa diberi perlakuan dan setelah diberi perlakuan.

Kata Kunci: *Media Interaktif, 3D Page Flip Professional, Hasil Belajar, Prakarya dan Kewirausahaan*

## Abstract

The Effect of Using 3D Page Flip Professional Interactive Media on the Learning Outcomes of Crafts and Entrepreneurship of Class X Students of SMA Muhammadiyah Pangsid". Guided by Muhammad Destiny and Madaling. The purpose of this study was to see how the use of interactive media 3D Page Flip Professional affects the learning outcomes of grade X students of SMA Muhammadiyah Pangsid. This study used a quantitative approach involving Class X students of Muhammadiyah Pangsid. Quasi-Experiment with One Group Pretest-Posttest Design with Wilcoxon's non-parametric analysis technique was used in this study. There are two variables in this study, two variables used, namely the use of interactive media 3D Page Flip Professional is an independent variable (X) and learning outcomes are dependent variables (Y). The total population in this study was 26 people, Probability Sampling with Simple Random Sampling was the type of sample used. There are two types of data collection procedures used: tests and documentation. Test data collection was carried out by giving a pretest to the experimental group then given treatment using interactive media 3D Page Flip Professional and then given a final test. The results showed a significance value of  $0.00 < 0.05$ . In addition, the average score obtained by students increases. The post-test score obtained by students is 86.31 while for the pre-test score is only 69.47. The hypothesis is accepted at the end of the hypothesis test with the SPSS for Windows 25.0 application program. This indicates a significant influence. before students are given treatment and after being treated.

Keyword: *Interactive Media, Professional 3D Page Flip, Learning Outcomes, Crafts and Entrepreneurship*

## INTRODUCTION

Almost every country in the world is now suffering from a Corona virus epidemic or outbreak. Covid-19 or Corona virus is a virus that spreads very quickly and is a deadly virus. Indonesia itself is introducing a large-scale social restriction program (PSBB) that is implemented in each region. Significant improvements have been made to policies, such as the environment, health systems and the education sector. Problems in education have always been an interesting topic of discussion among the wider community, especially education experts. This is natural because everyone is interested and involved in education (M Usman, 2016).

In the field of education, the government through the Ministry of Education and Culture has set laws that education still has in Indonesia, but with a new system, namely learning from home (Salsabila, 2020). The Ministry of Education and Culture promotes the introduction of online teaching and learning processes. In practice, instructors or teachers need to find ways to also provide instructional resources that students can quickly embrace. Similarly, students are expected to be able to respond to circumstances and environments.

Teachers and students are two elements that cannot be separated from each other

in the learning process. In learning activities during the Covid 19 pandemic, it is undeniable that teachers have difficulty integrating successful instruction. Despite the fact that they cannot communicate individually with students, many teachers cannot maximize the use of technology (Mulyasa, 2020).

In its implementation, online learning certainly cannot be separated from the role of technology. Teachers are expected to be more imaginative in carrying out training exercises, especially those related to the distribution of learning materials. Technology can facilitate all needs in the teaching and learning process. The development of technology is very important, so that students are required to be able to master all fields of science, so that learning aims to improve quality and quantity (Nilasari, 2020).

In addition to impacting students, distance learning also has an impact on subjects, as each subject has its own hurdles for illustrating and presenting content lessons. One of the obstacles in the application of learning is the subjects of crafts and entrepreneurship. In this subject, more emphasis is placed on providing direct experience such as practice. So if the use of media is less than optimal, it will have an impact on student learning outcomes. One of the efforts teachers can make to inspire their students in crafts and entrepreneurship is the use of educational technology in the teaching and learning process which is associated with teaching with the media. The function of media in education is to generate the latest will and attention, increase achievement, motivation and interest in learning process activities, and others affect psychologically to students.

The word media comes from Latin, meaning 'Middle', 'Intermediate', or 'Introduction'. The term "internet" is sometimes synonymous with or replaced with the word "technology" which comes from the Latin word *tekne* (English art) and *logos* "science" in Indonesian (Arsyad, 2019: 3-4).

Through the use of media, teachers can increase and guide students' attention so as to generate motivation and overcome the limitations of senses, space and time as well as provide unity of observation and perception and can also be used as a method to control the direction and speed of learning (Zulkifli N, Handi Ferdiansyah, 2021).

From the situation and experience of initial observations in the field, the use of interactive learning media is underutilized. In the learning process, teachers only use textbooks as their teaching resources and hold the learning process as usual, namely lectures, discussions, questions and answers and sending material to students (Peprizal & Syah, 2020). Media that are widely used today, such as printed books and electronic books in learning that only contain mediocre text and images are considered less attractive so as to reduce student interest in learning which will certainly be affected by the results received

by students disrupted.

3D Page Flip Professional is a program that can be used to create teaching materials in the form of digital E-books with 3D effects. This application is able to translate learning materials in the form of PDF, OpenOffice, Microsoft Office, Photos into beautiful 3D flash E-books in various formats. With educational materials in the form of 3D Flash, new nuances can be applied to the learning experience, so teachers and students will read from various points of view with 3D effects. Moreover, interactive media 3D Page Flip Professional can be used as an innovative and interesting learning media. So it is expected to facilitate the understanding of students (N, Zulkifli, 2022).

By providing an engaging, creative and fun learning experience, students can appreciate, understand and remember lessons faster. Students can get information faster if a friendly environment is created, and something fun is easy to remember and store in one's memory.

Based on this explanation, further research was carried out on the use of interactive media 3D Page Flip Professional in improving student learning outcomes. Therefore, the title of the study was determined "The Effect of Using 3D Page Flip Professional Interactive Media on the Learning Outcomes of Crafts and Entrepreneurship of Class X Students of SMA Muhammadiyah Pangsidi".

## RESEARCH METHODS

This research is a type of quantitative research using experimental design. This research uses a Quasi-Experimental design in the form of One-Group Pretest-Posttest Design. According to (Sugiyono, 2013) One-Group Pretest-Posttest Design is a research design that already exists Pre-test before receiving treatment. The subjects of this study were students of SMA Muhammadiyah Pangsidi class X Science with a total population of 19 students. Data collection techniques use test techniques, and documentation techniques. Data analysis techniques The data analysis technique used in this presentation is the Mean formula, which is as follows according to Sutrisno Hadi (1987: 2688).

1. Convert score data to grades (student score conversion)

$$N = \frac{SP}{SM} \times 100$$

Information:

SP :Acquisition score

SM :Max score

N :Student grades

Table 3.5 Classification of Student Grades

| Value  | Classification |
|--------|----------------|
| 87-100 | Excellent      |
| 73-86  | Good           |
| 59-72  | Enough         |
| 45-58  | Less           |
| 30-44  | Very Lacking   |
| <30    | Bad            |

## 2. Normality Test

The type of normality test used in this study is a non-parametric Wilcoxon type statistical. The Wilcoxon test is a Non Parametric test of 2 paired data groups. This test method can be used for data analysis both nominal and ordinal scales because usually this form of data is not normally distributed. In terms of the amount of data, non-parametric statistics are generally used for small amounts of data ( $n < 30$ ).

## 3. Test Wilcoxon's Hypothesis

1. If the value is Asymp.Sig. (2-tailed) is smaller than  $< 0.05$ , then  $H_1$  is accepted,  $H_0$  is rejected. This indicates that there is a significant difference between the test results of experimental class students.
2. Conversely if Asymp.Sig. (2-tailed) greater than  $> 0.05$ ,  $H_1$  rejected,  $H_0$  accepted. This indicates that there is no significant difference between the test results of experimental class students.
3. Student learning outcomes are then processed using the SPSS application Version 25.0 For Windows.

## RESULTS AND DISCUSSION

### A. Research Results

#### 1.Data Presentation

The data presented below are the results of research conducted at SMA Muhammdiyah Pangsidi, on the subjects of Crafts and Entrepreneurship by taking Class X Science totaling 19 students as an experimental sample. In this study, experimental classes will be taught using the 3D Page Flip Professional application. Before the treatment, students will first be given a Pre-test (initial test test) with 5 essay questions, then Post-test (final test test) with the same questions. The material taught

in the Crafts and Entrepreneurship lesson in this study is entrepreneurship in processing preserved food from animal materials.

To measure the level of student learning outcomes before carrying out the learning process using the 3D Page Flip Professional application, students do Pre-test questions before learning using the 3D Page Flip Professional application. Furthermore, students do Post-test questions after using the 3D Page Flip Professional application.

Each Pre-test and Post-test result of students at SMA Muhammadiyah Pangsid amounted to 19 students of Class X Science, for more details can be seen in the following table.

| Tabel 1 Test Scores of Class X Students of SMA Muhammadiyah Pangsid |                  |
|---|------------------|
| Test Results  |                  |
| Pre-test Scores   | Post-test Scores |
| 70  | 85               |
| 65  | 85               |
| 70  | 90               |
| 65  | 85               |
| 65  | 85               |
| 70  | 90               |
| 75  | 85               |
| 70  | 80               |
| 65  | 85               |
| 75  | 90               |
| 65  | 85               |
| 70  | 85               |
| 70  | 80               |
| 75  | 90               |
| 65  | 95               |
| 70  | 80               |
| 75  | 90               |
| 70  | 85               |
| 70  | 90               |

Data Source : Data/Test Results

## 2. Data Analysis and Hypothesis Test

Data analysis in this study was processed using the SPSS 25.0 For Windows application program.

Tabel 2 Frequency Pre-test

Pre-test

|       | Frequency | Precent | Valid<br>Precent | Commulative<br>Precent |
|-------|-----------|---------|------------------|------------------------|
| Valid | 6         | 31.6    | 31.6             | 31.6                   |
| 65    | 9         | 47.1    | 47.1             | 78.9                   |
|       | 4         | 21.1    | 21.1             |                        |
| 70    | 19        | 100.0   | 100.0            |                        |
| 75    |           |         |                  |                        |
| Total |           |         |                  |                        |

From table 1, the Frequency column shows the number of Class X students who obtained Pre-test scores, namely students who obtained 65 scores as many as 6 students classified in the sufficient category. Students who obtained a score of 70 as many as 9 students were also categorized as sufficient, and for students who obtained a score of 75 as many as 4 students were also categorized as good. The KKM score that students must achieve is 75 so, the number of students who do not achieve the KKM score is 15 students.

Tabel 3 Frequency Post-test

Post-test

|          | Frequency | Precent | Valid Precent | Commulative Precent |
|----------|-----------|---------|---------------|---------------------|
| Valid 80 | 3         | 15.8    | 15.8          | 15.8                |
| 85       | 9         | 47.4    | 47.4          | 63.2                |
| 90       | 6         | 31.6    | 31.6          | 94.7                |
| 95       | 1         | 5.3     | 5.3           | 100.0               |
| Total    | 19        | 100.0   | 100.0         |                     |

From table 2, the Frequency column shows the number of Class X students who obtained Post-test scores, namely students who obtained 80 scores as many as 3 students classified in the good category, Students who obtained 85 scores as many as 9 students

were also categorized as good, for students who obtained 90 scores as many as 6 students who were categorized as very good, and students who obtained 95 scores as many as 1 student were also categorized as very good. The KKM score that students must achieve is 75 so, all students reach the KKM score, which is as many as 19 students. From the values of Pre-test and Post-test results, for more details can be seen in the following table 4.

Tabel 4 Deskriptif Statistik

| Descriptive Statistics |    |       |                |         |         |
|------------------------|----|-------|----------------|---------|---------|
|                        | N  | Mean  | Std. Deviation | Minimum | Maximum |
| Pre-test               | 19 | 69.47 | 3.68           | 65.00   | 75.00   |
| Post-test              | 19 | 86.31 | 4.02           | 80.00   | 95.00   |

Based on table 4, the Mean of the Pre-test results is 69.47 and Post-test is 86, 31, Pre-test Standard Deviation is 3.68 and Post-test is 4.02, the smallest value is 65.00 and the highest value is 95.00.

Furthermore, Wilcoxon hypothesis test was carried out to determine whether there was an effect on the use of the 3D Page Flip Professional application based on Non-Parametric statistical tests processed with the SPSS 25.0 For Windows application program:

Test Statisticsa

|                               | Posttest - Pretest |
|-------------------------------|--------------------|
| Z                             | -3.874b            |
| Asymp. Sig. (2-tailed)        | .000               |
| a. Wilcoxon Signed Ranks Test |                    |
| b. Based on negative ranks.   |                    |

Based on the "Test Statistics" Output above, it is known to Asymp. Sig. (2-tailed) is worth 0.00. Since the value of 0.00 is less than  $< 0.5$ , it can be concluded that "H1 is accepted". This means that there is a difference between learning outcomes for Pre-test and Post-test, so it can be concluded that "there is an influence of the use of interactive media 3D Page Flip Professional on student learning outcomes".

## B. Discussion

This study was conducted with the aim of determining the effect of using interactive media 3D Page Flip Professional on the learning outcomes of Crafts and Entrepreneurship of grade X students of SMA Muhammadiyah Pangsid entrepreneurial material for processing preserved food from animal materials. This research was carried out at SMA Muhammadiyah Pangsid by taking class X science as a research sample.

Based on the results of this study, researchers found that the results of Post-test entrepreneurial learning of preserved food processing from animal materials after being taught using the 3D Page Flip Professional application were higher than the learning outcomes before using the application, this means that there is an influence so that it is effectively used in learning.

This is evidenced by the P-value of the Pre-test and Post-test (sig 2-tailed) of 0.00 smaller than 0.05 ( $0.00 < 0.05$ ), this indicates that  $H_0$  is rejected and  $H_1$  is accepted which means there is a significant difference before students are given treatment and after being treated.

The results of this research analysis show that the use of media has a positive and significant influence on learning outcomes, where the use of media will make it easier for teachers to communicate the content learned and make it easier for students to understand the material learned (Ferdiansyah, 2019) so that the use of interactive media 3D Page Flip Professional is good for use in learning.

Thus, based on these facts, the working hypothesis or alternative hypothesis that "The Use of 3D Page Flip Professional Interactive Media on the Learning Outcomes of Crafts and Entrepreneurship of Class X Students of SMA Muhammadiyah Pangsid", is accepted and the null or nil hypothesis states that: "There is no effect of using interactive media 3D Page Flip Professional results of craft learning and entrepreneurship of grade X students of SMA Muhammadiyah Pangsid", rejected.

## CONCLUSION

Based on the results of this study, it can be concluded that the use of 3D Page Flip Professional interactive media in learning makes the learning outcomes of grade X students of SMA Muhammadiyah Pangsid higher than before using interactive media. Based on the results of the study by testing the hypothesis through data analysis, the average Post-test value of 86.31 was higher than the Pre-test result of 69.47 and the 2-tailed Sig value (P-value) of 0.00 was smaller than 0.05 which indicates that  $H_0$  was rejected and  $H_1$  was accepted. The difference in the results of these scores shows a significant influence on

student learning outcomes using interactive media 3D Page Flip Professional in grade X students of SMA Muhammadiyah Pangsid.

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