THE INFLUENCE OF TECHNOLOGY-BASED MEDIA OF DIGITAL JAVANESE SCRIPT AMONG JUNIOR HIGH SCHOOL STUDENTS

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Abstract

The impact of advances in digital technology has eroded the existence of the Javanese language as one of the regional languages used in Indonesia. The Javanese Script, an important component of the Javanese language, is less attractive to the younger generation. Digital literacy can be used to develop culture because it fits the characteristics of the current generation as digital natives. Now, people can write Javanese scripts using a computer because the Javanese Script has been successfully included in the digital standard writing system (Unicode) since 2009. This is also utilised by developing a Javanese script keyboard called Aksaraya which can be installed on the IPad. The method chosen in this research is quasi-experimental. It was carried out by giving treatment with Aksaraya media to reveal its influence through a pretest-posttest control group design experimental design. The analysis in this study is the Paired sample T-Test with the help of SPSS 21 for windows. In this study, the population used was SMP Negeri 4 Pakem, while the sample taken was the eighth-grade students. Their conceptual understanding of data is gained from tests conducted before and after using digital-based Javanese script learning media. The analysis showed that the students' mean scores after using digital-based Javanese writing learning media were higher (80.05) than before (60.96). It showed the correlations (0.670) that indicated a strong relationship with Sig. (0.000) < $\alpha = 0.05$. It can be concluded that Aksaraya learning media significantly influences students' learning results.
Keywords: *digital, Javanese Script, technology, media*

INTRODUCTION

The nation's cultural values can be reflected in the customs that are owned by each region. A great country should continue to preserve the heritage of its ancestors in the form of art, culture and traditions, one of which is the legacy of Javanese writing, better-known as the Javanese Script in the Java archipelago. The Javanese Script is increasingly unrecognised by the people themselves, including the younger generation. In general, the Indonesian people already use the official language, Indonesian and Latin script in their daily communication. "The use of the Javanese script at present is only limited as a regional symbol which is attached to the names of streets, meeting buildings, government buildings, and others" (Indria, 2008: 143). It is clear that the Javanese Script is rarely used, so its existence

is getting rare. Writing a Javanese script is one of the learning materials integrated into Javanese language subjects. The local government has made various efforts to preserve the Javanese Script, such as incorporating the Javanese Script into teaching materials for Javanese language subjects at the elementary, junior high, and senior and vocational high schools.

Script refers to a treasury of letters, numbers and punctuation that is unique and stylish. Script comes from the local community and becomes a product of local culture, for example, Javanese Script, Batak Script, Balinese Script, Japanese Script. It is a form of letters, numbers and punctuation that was originally created by hand (hand lettering). Hand Lettering reflects a style (signature) born from complex and conceptual aesthetic values (Heller, 2004). The types of letters that exist in the computer system (fonts) are categorised according to the anatomy of the letters, including typefaces divided into groups of related letters (Serif) and non-related letters (Sans Serif) while creative typefaces, including local scripts are in the Symbol, Wingdings, Handwriting groups. The forms of letters that are used today are the result of crosses of the typefaces of Romein, Egyptian, Sans Serif, Miscellaneous, Script (Satrio, 2016)

Digital literacy can be used to develop and improve Javanese Script. One of the digital skills that have been implemented to develop culture is the digital use of Javanese Script. The use of digital Javanese Script has been socialised to several Javanese teachers so that teachers have digital skills including; (1) be able to install the Ngayogyan font on a computer and Aksaraya keyboard on an IOS-based device, (2) be able to type Javanese Script skillfully, (3) be able to produce learning materials using digital Javanese Script. According to Hamalik in Arsyad (2011: 15-16), learning media can help students improve understanding, present data interestingly and reliably, facilitate interpretation, and condense information. Using media in teaching and learning activities will be effective if the media is appropriate, in this case, the use of technology in the form of digital characters. Currently, people can write Javanese Script using a computer because the Javanese Script has been included in the digital standard writing system (Unicode) since 2009. Making Javanese Script into a computer system requires some adjustments to the programming code in the font-making software.

Colson (2007) states that digitally developing artwork including Javanese Script requires a balance of four schemes: (1) the conception of the idea, (2) the technological innovation needed, (3) the craft or production skills, (4) the chance or wildcard component. Digital literacy in the context of this research is knowledge about the results of digital processing of a cultural product, namely the Javanese Script. The basic idea is to digitally create Javanese script with the help of a letter processing program. Javanese Script packaged in interactive media has proven to be a fun learning tool and helps students memorise characters (Kusuma, 2015). The concept of fun learning (edutainment) can improve Javanese script-writing skills. Javanese script edutainment can be achieved with skills in making interactive media and animation (Wijayanti, 2012). This study aims to examine the influence on students' learning results and learning interests through the habituation of digital Javanese Script. The use of digital Javanese Script is expected to create a new and fun learning atmosphere for students so they can improve their understanding of Javanese script material.

METHOD

Based on the research objectives, the method chosen in this study was quasi-experimental. It was carried out by treating research subjects through a pretest-posttest control group design experimental design (Arikunto, 2013). The selected research subjects were 80 students of the eight-grade. The analysis in this study was the Paired sample T-Test. The analysis uses two measurements on the same subject to determine a particular effect or treatment, which this class was given treatment before and after using learning media based on the research design, (Sugiyono,2013). This research is composed of one group. The first treatment was before using learning media to write Javanese Script based on Android (iOS/digital) and the second treatment used digital-based Javanese script learning media. In this study, the population used was SMP Negeri 4 Pakem, while the sample taken was class VIII students. Student conceptual understanding data is known from tests conducted before and after using digital-based Javanese script learning media. Concept understanding data obtained were then analysed. The first data analysis technique is the paired samples correlations. Paired samples correlations are used to examine whether there is a significant relationship between scores before and after using Android-based (iOS/digital) learning

media. The next step is to do a paired samples test to test the hypothesis through a simple t-test. Data testing is conducted using the help of SPSS. Ho hypothesis is accepted; there is no significant difference and Ho is rejected; there is a significant difference. The conclusion is determined through the probability value of the t-test with the following rules.

If the sig.t-test value is > 0.05, then Ho is accepted

If the sig.t-test value ≤, then Ho is rejected

RESULTS AND DISCUSSION

The research activity began with reinforcement socialisation for eighth-grade students. Then, the students installed the Aksaraya keyboard from the AppStore on their iPads. After the installation of the Aksaraya keyboard was well practised, the participants were then given structured exercises on using the Javanese Script using their respective iPad devices. After installing the keyboard, the students practised writing motivational sentences in Javanese Script on their respective social media to confirm and get used to using the application. This habituation is carried out by making Javanese Script Memes. Memes can be interpreted as modified images with the addition of short words for specific purposes (Wahyu, 2017). In recent times, memes have often been used to entertain and criticise certain policies (Listiorini, 2017; Lukmantoro, 2017). The instructional steps consist of searching for several images (those containing funny impressions) through search engines or students' collections (select those that do not have the potential to offend SARA, pornography, violence, and politics). Then students are asked to compose/continue a *parikan, cangkriman, paribasan, sesanti* or other words according to the picture's context. After that, students discuss to determine three (or five) four favourite words in the meme. After the meme was finished, they were asked to post it on their social media. Another activity is to make comic strips which are also widely known among educators as one of the effective media in language learning, especially to improve students' writing competence (Budiman, Mahdum and Burhan, 2011; Rokhayani and Utari, 2014; Hamidah, Usman and Muhsin, 2015; Humola and Talib, 2015). Comic strip is a series of images that are presented briefly and serially and are usually published in magazines or newspapers (Soedarso, 2015). Comic strip is an attractive medium and can be applied in learning because it does not recognise age group or

social level (Budiman, Mahdum and Burhan, 2011; Rokhayani and Utari, 2014). Applying this learning media in the classroom can motivate students, make learning fun, explore students' ideas (Hamidah, Usman and Muhsin, 2015), and increase student participation and involvement in learning (Humola and Talib, 2015).

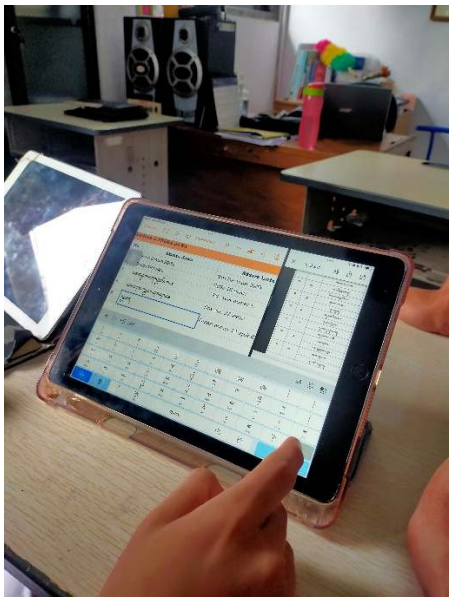

Figure 1. Aksaraya Installation on students'Ipads

Figure 2. Students' status on social media with digital Javanese script

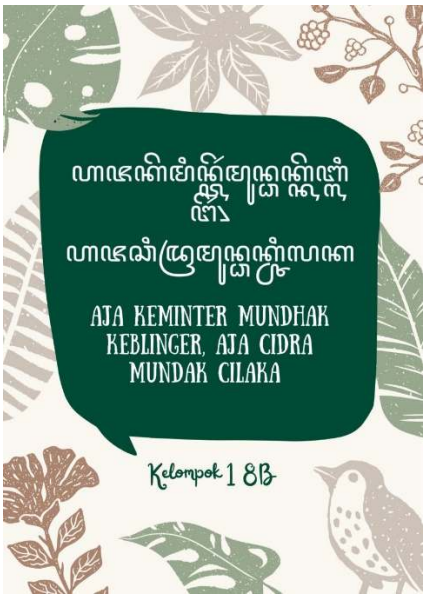

Figure 3. Posters made by students using Aksaraya

The research continued with testing the effectiveness of using applications in supporting student achievement in the form of quantitative data. Achievement data obtained and then analysed. This study only has one group with different treatment. The treatment is in the form of learning Javanese with the Aksaraya application and learning without the application. Based on these data obtained the average value of student achievement. Achievement data is followed by analysis to answer the hypothesis in the form of being accepted or rejected. The results of data analysis obtained the average student achievement in Javanese Script writing material as shown in Figure 3.

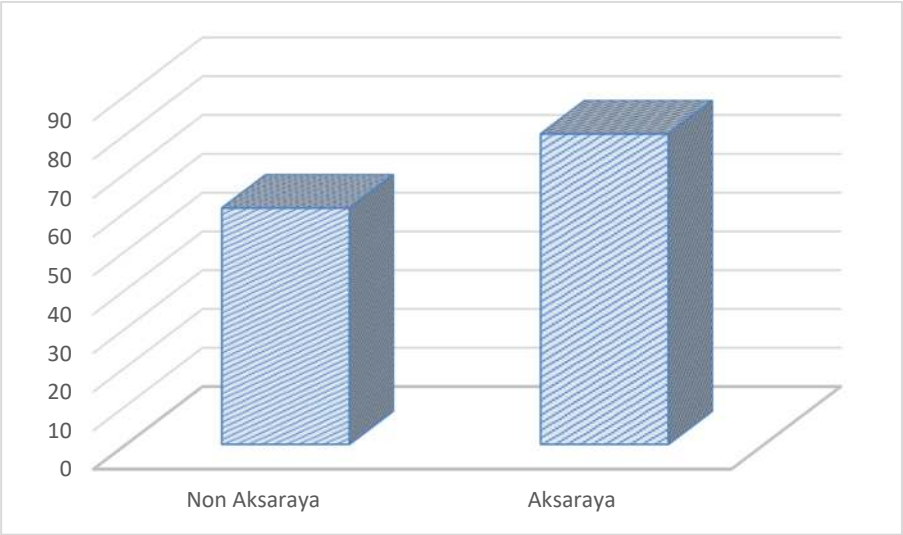

Figure 3. Students mean score before and after the media application

The graph shows that the average value of achievement before using learning media is 60.96, and after using learning media is 80.05. The data shows that the average value after using learning media is bigger than before using learning media. Student achievement data is tested in the next step through paired samples correlation. The results of the paired samples correlation test with SPSS are as follows.

Table 1. Paired sample correlation

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	non_aksaraya & aksaraya	80	.670	.000

Based on the table above, the value of correlations (0.670) is obtained which shows a strong relationship (Sarwono: 2006) by looking at Sig. (0.000) < α = 0.05. It can be concluded that before and after using learning media have a significant relationship.

Table 2. Paired sample test

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 non_aksaraya - aksaraya	-19.08750	3.43914	.38451	-19.85284	-18.32216	-49.641	79	.000

Based on the Table 2, it is obtained that sig.(2-tailed) is 0.000 < 0.005, soo it can be concluded that there is a significant difference between the average values before using the media and after using the media. This condition indicates that there is an increase in learning achievement in writing Javanese script using learning media. Table 2 shows that there are differences in the average before and after using learning media and the standard deviation of these averages. Next, testing the value before and after using learning media has increased significantly. The calculated t value (-49,641) indicates that Sig. (2-tailed) is 0.000 because of Sig. (2-tailed) (0.000) < α (0.005), then Ho is rejected. Therefore, the increase in achievement before and after using the media is significant.

Writing Javanese script is one of the materials that students find difficult. Difficulties are experienced because there are rules in each writing and the forms of letters are similar so it is difficult to distinguish. Conditions in the field made the implementation of Javanese language learning unsatisfactory (Rahayu, 2011). Learning or introducing Javanese Script is one of the cultural delivery activities. If the introduction is not carried out, the Javanese Script which is one of the identities of the Javanese people can become extinct. According to Sumadi (2021), at the Javanese Script Congress, it was stated that Script was starting to be minimally used, even the younger generation did not know it anymore. Therefore, a media is needed that can make it easier for children to learn Javanese script, especially in accordance with the characteristics of current students who fall into the category of digital natives. In line with the current developments, the use of technology is needed to be able to follow people's lifestyles. With the development of a digital-based Javanese script application, students will be more interested in delivering material. Utilisation of this media has several advantages, including being able to display text data through each student's device. Proper

learning must be done so that it can motivate student learning (Annisa, W and Rio, 2017). Learning media is introduction to the Javanese Script through this habituation can increase. The results showed that the use of digital-based Javanese script writing learning media could improve students' Javanese writing skills. This condition can be seen from the average ability to write Javanese Script, which has increased before and after. The average value before using the media is 60.96 and after using the media is 80.05. Statistically testing the hypothesis for a correlation value of (0.670) is very strong if Sig. (0.000) < $\alpha = 0.05$. It can be stated that the conditions before and after using learning media have a significant relationship.

The findings of the student interviews lend further support to this conclusion. They claimed that learning materials with a digital component made it simpler for them to understand Javanese letters. Additionally, they grow more eager to apply this Javanese Script to their daily activities, particularly those involving social media. Students can practice Javanese script material explained by the teacher at home with ease and fun. Submission of material through digital-based media has proven to have fostered an energetic and enthusiastic attitude which is quite high even though the material is repeated. These circumstances show how effectively metacognition skills may be used and inspire students to think critically and adaptively. Several previous studies stated that the Javanese Script is one of the special literacy systems of regional languages in Indonesia, namely Javanese. However, at present, the popularity of the Javanese Script is decreasing. If left unchecked, the Javanese Script could become extinct. A good way to preserve a culture is to introduce it to the younger generation who are the nation's successors. Even though the government has issued rules and policies that regulate learning local languages in the classroom, student interest remains lacking (Avianto & Prasida, 2018). The innovation of digitising Javanese Script and its application in learning is the use of interactive and interesting digital-based Javanese learning media. This educational technology can be used in the classroom by teachers to enhance learning. Students can learn the Javanese Script, study it, and develop a greater interest in the local language. Teachers can use this digital learning material to assess their students' knowledge of Javanese Script. The practice of digitising the Javanese Script was well-received by many people, especially students, who found it very beneficial.

Digital device applications are software that can be operated as learning media where users can access learning content inside and outside the classroom. The position of this application is as a supplement (additional) so that students can freely use and utilise the material without the need for assistance from the teacher (Rahardjo et al., 2019). Mobile learning applications also have accuracy, speed, and attractiveness advantages without changing the essence of learning. The trial process has obtained good results, namely valid and feasible for students to use. The data that has been calculated has shown that the application is feasible and can be utilised in the learning process. In response, the students responded that they could help the learning process by learning on their own or independently without the need for the help of others.

CONCLUSION

Students are habituated by posting encouraging lines in Javanese Script on social media in the form of memes and comic scripts, respectively. Based on the issues, the goals of the study, and the findings of the analysis, it was determined that learning Javanese writing through the use of digital learning resources was more effective than learning without them. The results of the analysis showed that the students' mean scores after using digital-based Javanese writing learning media were higher (80.05) than before (60.96). It showed the correlations (0.670) that indicated a strong relationship with Sig. (0.000) < $\alpha = 0.05$. It can be concluded that Aksaraya learning media significantly influences students' learning results.

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