International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 06, 2020
ISSN: 1475-7192

Development of Digital Media for Learning Arabic Al-Qur'an language for Blind Students

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***ABSTRACT**--The purpose of this study is to develop digital media for learning Arabic Al-Qur'an language for blind students. The research procedure has two steps, first, developing digital media learning and supplementary materials, second, testing developed media. Data were analyzed to calculate percentages, averages, standard deviations, and t-tests. The findings revealed that: the learning media developed consisted of four components, namely objectives, strategies, content structure, assessment instruments, learning material, and evaluation. Effectiveness test, with pretest and posttest with 0.05 statistically significant differences and so are normal studies. Based on the test results from the average difference between the pre-test and post-test values. The test results found that the value of t equal to -7,238 with sig. (2-tailed) 0,000. This shows that there is a difference between the pre-test value and the post-test value and because the t-value found is negative then this shows that the post-test value is better than the pre-test value, it can be concluded that digital media is effective for language learning Arabic Al-Qur'an in helping blind students. The results showed a significant increase in learning outcomes of 1.04 units based on a comparison of pretest and posttest meaning that the media developed were effective for use. This research implies that digital media is very effective in helping to learn for blind students.*

***Keywords**-- Digital Media, Blind Student, Learning Arabic Alqur' an.*

I. INTRODUCTION

Education must be possessed by every human being because it is a basic foundation in developing one's potential in living a decent life. To get Education requires a lot of attention and help from others who can guide him. People with limitations such as blind people have the same rights to education because blind people also have the same potential as other people in general. The instructional process is needed to be able to facilitate blind students in getting a proper education. The teacher acts as a facilitator in the instructional process in charge of making instructional designs while students must be active in following the instructional process. Teachers more often ignore differences in the characteristics of students' backgrounds and environments in designing instructional activities that will be carried out in class. Based on this the teacher needs to be updated the instructional process, especially for children who have special limitations such as visual impairment by developing new instructional media based on which can facilitate the instructional process supported by the latest technology namely the development of digital media that can facilitate blind students and improve their learning outcomes.

Children with full or partial visual impairments feel the need for technological assistance in increasing instructional so that instructional can be achieved. Children with visual impairments usually rely heavily on touch and hearing as a substitute for the sense of sight in knowing their environment. Characteristics and barriers of

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Received: 27 Feb 2019 | Revised: 20 Mar 2019 | Accepted: 30 Apr 2020

children with special needs require various forms of special education services. Tailored to the capabilities and potential possessed. Therefore, in learning to understand and deepen the Arabic language of the Koran, blind people need the help of technology to be able to develop their potential so that they can feel life like normal people.

The use of digital media at the instructional orientation stage will greatly assist the effectiveness of the instructional process and the delivery of messages to blind students. In addition to arousing the motivation and interest of blind students, digital media can also help blind students improve understanding, attractively, and reliably, facilitate interpretation of learning resources, and condense information. The use of digital media can arouse desires and interests, arouse motivation and stimulate learning activities of blind students. The opinion is supported by Karo-Karo (2018) who said that: Digital media can help the instructional process of blind students in instructional which in turn is expected to improve the learning outcomes achieved (Karo-Karo & Rohani, 2018). Techno-based Instructional Innovation Information and Communication is one method that must be used in instructional to prepare for the future of blind children from an early age. The purpose of this research is to develop digital media to study Alquran Arabic for blind students, so that in accordance with the spirit of the second verse of the Alquran Joseph"Lo! We have revealed it, a lecture in Arabic,that ye may understand(Suyuti (al), 1994).

II. LITERATURE REVIEW

For many, access to digital technology and media (DTM), such as computers, tablets, social media, apps, etc., is ubiquitous in nearly every aspect of life (Mourlam et al., 2018). As a result of increased DTM access, both adults and children spend more time using DTM than in the past (Mifsud & Petrova, 2017). Digital media has become an increasingly powerful influence on the lives of both adults and children. Modern technologies afford an almost limitless and instantaneous ability to be connected around the globe. The normal way of life increasingly relies on and draws people to, being able to access media quickly (Gerwin et al., 2018). Today's student lives in a digital and media-saturated world overflowing with information and communication technology tools to the extent that they are now referred to as "digital natives" (Ihmeideh & Alkhawaldeh, 2017). Students at a very early age begin to notice the existence of technology tools and digital media in their environments such as personal computers, laptops, tablets, smartphones with an Internet connection, televisions, handheld digital games, and other mobile devices. Student's curiosity is often aroused by the interaction their family members and those around them have with these technology tools. Thus, technology and digital media (TDM) have become a part of the student's world (Paciga & Donohue, 2017).

The importance of vocabulary knowledge in the scenario of language learning has been reiterated (Ghanbaran & Ketabi, 2014). It is estimated that good comprehension of a written text needs at least 95%–99% coverage of the lexical items(Laufer & Ravenhorst-Kalovski, 2010). On the one hand, being aware of the central role of vocabulary knowledge in language learning (Atay & Ozbulgan, 2007), researchers and practitioners in the field of language education have been intensively testing, developing, or comparing factors and means that can enhance vocabulary learning efficiency. On the other hand, digital media have been applied as a learning tool in nearly all domains of education since the last two decades due to its capability to foster "cognitive and behavioral change" (Steinkuehler & Squire, 2019). Hence, abundant studies have been developed either to test the effects or to compare the effectiveness of different types of digital on vocabulary learning(Moreno-ger et al., 2008).

Language learning has been increasingly investigated as a situated interactional event. This has encouraged scholars to analyze learning not only in classrooms or in different experimental situations but also in authentic environments outside the classroom, which is referred to as learning 'in the wild'(Eskildsen, 2018). As learning material, people's actions and interactional encounters are valuable, because these constitute the building blocks of speakers' everyday life and are therefore meaningful and relevant to them. If language learning and acquiring interactional competence is treated as the speakers' increased ability to tailor their talk to the current co-participants and the local circumstantial details of the interaction(Doehler & Berger, 2017).

The use of digital media and other technologies has brought an increasingly higher number of possibilities to augment educational resources. New technologies such as video-conference, interactive whiteboards, and others have empowered the possibilities for more interaction in learning environments (Freire et al., 2010). For the particular case of people with visual impairments, such as blind people, the use of assistive technologies is crucial to give them more autonomy to perform their routine tasks using the computer. The main assistive technology used by blind people is the screen reader. A screen reader is a software that "reads" the content displayed on the screen utilizing a speech synthesizer. With a screen reader, a blind user can interact with computer applications using the voice input and to listen to the output via voice. The development of such assistive technologies still presents many challenges to overcome. Many common activities carried out with a computer are still surrounded by barriers for people with different disabilities (Agarwal & Steele, 2016).

III. METHODOLOGY/MATERIALS

This research uses a quantitative approach based on research and development methods. The R&D method is used because this research produces products in the form of digital media. Research is in line with Borg & Gall's view that research and development of a process are used to develop and validate educational products (Gall et al., 2006). R&D is used to develop products, in research methods conducting expert validation and field trials. The next step is to evaluate and revise according to the input of the results of the expert validation and the results of the field test to meet the proper and effective criteria. In the field of Education, R&D is directed to develop effective products to meet school needs analysis and is applied research. This research is more focused on changes and uses in Education (Gall et al., 2006).

The data analysis technique used is quantitative analysis. used to analyze data by describing data collected according to the original without intending to make conclusions that apply to generalizations. Data obtained from the pretest, analyzed by comparing the value of learning outcomes, namely attitudes on pretest activities using conventional media and on activities while the post-test results using digital media are there significant differences in values.

IV. RESULTS AND FINDINGS

4.1Results

Based on the results of the identification of needs and analysis of instructional objectives Development of digital media in preliminary research. This is done so that blind students easily understand the contents of the material in the developed digital media. The results of the product being developed are referred to as draft_1. In

the next stage, this product is validated by a team of experts namely material experts, media experts, and instructional design experts to test the feasibility of the product being developed so that it can be used by blind students. The results of the feasibility tests conducted by a team of experts can be seen in Table 1 below.

Table1: Results Validation Expert Team

No.	Expert Team Assessment	Score	Max. Score	Percentage Results	Adjective
1.	Expert Instructional Design	68	80	85%	Very Agree
2.	Expert Instructional Material	138	160	86%	Very Agree
3.	Expert Instructional Media	98	120	82%	Agree
	Totaly	**304**	**360**	**84%**	**Agree**

Based on the results of the feasibility test in table 1 that the developed digital media is appropriate to be used in facilitating learning Arabic Al-Qur'an for blind children, the results of the expert team's validation test can be displayed in diagram form as shown in Figure 1 below.

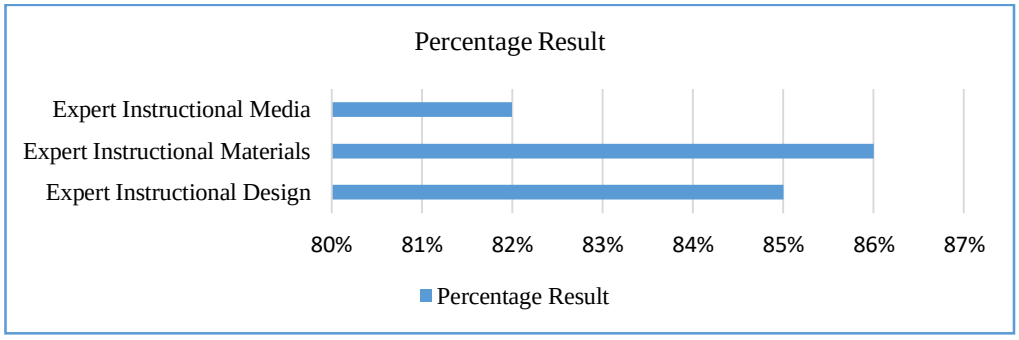

Figure1: Results Validation Expert Team

Field trials aim to see the effectiveness of digital media developed in achieving instructional goals that have been determined. Besides, to obtain information about instructional components, material components, and display components. This trial was conducted with 15 blind students, adjusted for the number of blind students in South Jakarta and South Tangerang. Blind students are given digital media to study the Koran in Arabic and given sheets of responses to get responses about digital media that they learn this is done because it is to identify the advantages and disadvantages of digital media in instructional materials, instructional objectives, and learning outcomes. Following the main goal of developing digital media to learn the Arabic language of the Alquran. Besides the field trial criteria, namely conducting tests to see the learning outcomes of the Alquran Arabic by doing pretest and posttest. Likewise with the response of blind students who learn by using digital media in following instructional developers following instructional material that has been done starting from the initial step. Data analysis was performed using the Pairing Samples t-test, to measure the proportion of learning outcomes conducted before using

digital media compared to learning outcomes after using digital media. The results of the analysis can be seen in Table 2 below.

Table 2: Statistic Descriptive Results Analysis Pre-Test and Post-Test

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test	75.8000	15	3.93156	1.01512
	Post-Test	80.2000	15	2.11119	.54511

Based on table 2 above, the pre-test results on 15 blind students have an average value of 75.8 with a standard deviation of 3.83 and an average error of 1.02, while the post-test results on 15 blind students have an average value of 80.2 with a standard deviation of 2.1 and an average standard error of 0.55, from the results of a descriptive analysis it can be concluded that digital media is effectively used to help blind students in learning the Alquran Arabic with a value of 5.3 units. To see whether the two data have a relationship can be seen in Table 3 below.

Table 3: Paired Samples Correlations

Component	N	Correlation	Sig,
Pair 1 Pre-Test & Post Tes	15	0.866	0.000

Based on table 3 above that sig. < 0.05 means that the two data have a relationship of 0.866, it can be concluded that the relationship between them is strong. To find out the average difference test can be seen in Table 4 below.

Table 4: Results Tes Average Difference

Component	Meant	Std. Deviation	t	df	Sig. (2-tailed)
Pair 1 Pre-Test & Post Tes	**-4.40000**	**2.35433**	**-7.238**	**14**	**0.000**

Based on the test results in the average difference between the pre-test and post-test values. The test results found that the value of t equal to -7,238 with sig. (2-tailed) 0,000. This shows that there is a difference between the pre-test value and the post-test value and because the t-value found is negative then this shows that the post-test value is better than the pre-test value, it can be concluded that digital media is effective for language learning Alquran Arabic in helping blind students.

4.2 Findings

The results of this study produce learning products in the form of innovative digital media that can help blind students in learning Arabic Al-Qur'an systematically designed. The development of digital media is carried out properly and effectively. Product results are developed before being tested with prospective users, the product is validated by a team of experts to determine the feasibility of the product produced. The validation test process was carried out by three experts namely learning material experts, learning design experts, and learning media experts. Based on the validation test of the three experts, the digital media was declared feasible to use.

The digital media used learning has been revised based on the assessment of a team of instructional material experts, instructional design experts, and media experts and in field trials with prospective users namely blind students in South Jakarta and South Tangerang with the result that the product developed is effective because it is based on the results average difference test that the post-test results are better than the pre-test results. This result is supported by the opinion of Nie (2017) stating that the media increases efficiency in the use of study time, especially short breaks during the workday, new strategies for reading subject matter and costs (Nie et al., 2017). This research is also supported by researchers Sousa and Rocha (2019) stating that digital learning can be a driver for skills development(Sousa & Rocha, 2019). Also supported by researchers Hawlitschek and Joeckel (2017) that digital media can motivate students to improve skills, and participants increase their performance and satisfaction with performance in digital media(Sartika, 2017). The results of this study were strengthened by Jarudin, Ibrahim, and Suyitno effective digital media as learning aids(Jarudin et al., 2018, 2020; Rohman et al., 2020; Rusmono et al., 2020; Sangadji et al., 2020).

V. CONCLUSION

Based on the needs analysis found that learning methods that will be developed using digital media instructional methods. With this learning plan, it is hoped that blind students can be more motivated to learn the Arabic Qur'an. It is also hoped that this digital media can improve the ability of learning outcomes. The results of the expert team's validation show that from all aspects and use it is feasible to use. The effectiveness of the digital media tested on 15 blind students was declared very effective. The results of the development of digital media have particular implications in improving the quality of learning as an adjunct, complementary to learning and a substitute for learning methods so that students have choices in the learning process.

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