

MICROSOFT ACCESS-BASED *E-ARSIP* FOR IMPROVEMENT OF STUDENT LEARNING OUTCOMES OF ARCHIVING

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ABSTRACT

Media and technology are important components in providing knowledge to students. Through the media, knowledge transfer becomes more effective and efficient to understand by students. It is especially in learning outcomes of archiving that really need practice to understand the knowledge given. This study is oriented and focused on developing Microsoft Access-based E-Arsip media to improve student learning outcomes of archiving. This research method is product validation through a limited test on students who become research samples. The findings in this study are that Microsoft Access-based E-Arsip media meet the requirements and can be used in efforts to improve student learning outcomes of archiving.

KEYWORDS: Education, Media, Archiving, Learning Outcomes

INTRODUCTION

New technologies in the world of education make opportunities for educators or teachers to utilize the technologies to support teaching and learning processes and activities in the classroom and outside the classroom (Bullock, 2015; Akyuz & Yavuz, 2015; All, Nunez, & Looy, 2015). Advances in technology in the world of education require teachers as educators to be able to innovate in creating learning media that can support students' understanding in learning subject materials both theory and practice (Kingsley, 2007; Norman & Furnes, 2015) independently (Manisaligil, 2012). In addition to simplifying the delivery of material from teacher to student, the use of learning media can also increase student interest and willingness in certain subjects (Kronenberg, 2015; Hidayati & Wuryandari, 2012; Gan, Menkhoff, & Smith, 2015; Gabriel, M., A., Campbell, B., Wiebe, S., MacDonald, R., J., & McAuley, A., 2012; Cheung, 2009). Therefore, the position of learning media in the world of education can be categorized as very important.

Learning media that are adapted to reality in the field or the needs of the work circumstances are expected to facilitate students in independent learning so that they can learn according to their abilities and it can meet the results that students must understand as well as can be applied to the work circumstances. This refers to government programs related to (Presidential Instruction Number 9 of 2016) and programming to fulfill students' rights to obtain and use digital media facilities, so as to provide information and support to students in the learning process (Karman: 2016; Andrea, Jenny, Joanna & Amalia, 2016; & Menin, A., Perham, J., Vong, J., & Wachtel, A., 2016) according to the reality of work (Andrews, Tynan & James, 2011; Yang, 2015).

Based on field surveys, the Vocational High Schools of Office Administration in Surakarta region shows that teachers still lack digital learning media to support theory through curriculum-based learning media of 2013. Students feel bored with the learning media applied and the learning process is still focused on theory, there is no practice or simulation according to the work circumstances. In the learning process, the teachers have not used the media as a tool for learning activities, so that it reduces the effectiveness of learning that has an impact on student learning outcomes that are still low or have not yet reached the Minimum Criteria of Mastery Learning (KKM).

Table 1 Student Learning Outcomes Data of Archiving of Grade X of Office Administration in Vocational High Schools in Surakarta.

School Name	Complete >=75	Not Complete <=75	Average Score
SMK N 1 Surakarta	9	27	69.72
SMK N 3 Surakarta	32	4	79.74
SMK N 6 Surakarta	14	22	73

(Source: Primary Data of Vocational High Schools for Office Administration Expertise in Surakarta 2018/2019)

Definition of Research Variables

Learning Outcomes

Kunandar (2013) explains that learning outcomes are certain competencies or abilities including cognitive, affective, and psychomotor achieved or mastered by students after participating in the teaching and learning process. There are several functions of learning outcome evaluation, including (1) Administrative functions for compiling a list of grades and filling out report cards (2) Promotional functions for determining grade promotion (3) Diagnostic functions for identifying student learning difficulties and planning teaching improvement programs (4) Sources of data for Guidance and Counseling department to supply particular student data that requires guidance and counseling (5) Consideration material for development in the future programs including curriculum development, methods, and teaching and learning process devices (Shah, 2011). Learning outcomes can be classified into three types, consisting of the cognitive domain, the affective domain, and the psychomotor domain (Sudjana, 2010).

Microsoft Access-Based Learning Media

The word media is originated from the word medius in Latin language which literally means middle, intermediary, or introduction (Arsyad, 2015; Susilana & Riyana, 2009). Munir (2017) states that digital learning covers efforts taken by students with the principles of freedom, independence, flexibility, recency, compatibility, mobility, and efficiency. In the concept of digital learning, media is obviously needed to support the learning process, for example hardware such as computers,

internet, satellite, audio/video tapes, interactive TV and software such as power points, web, databases, digital learning media, e-modules and other programs. According to Ashari (2006), Microsoft Access is a system using a relational database that can organize data about different subjects into tables and then can make relationships between the tables. In designing a testing software, memory span that will be designed is a database that can facilitate the making of programs. The entire database is designed using Microsoft Access, while the program for designing memory span uses a visual basic programming language. Learning media has three main functions when the media is used by individuals, small groups, or large groups, consisting of (a) motivating interests or actions, (b) presenting information, and (c) giving instructions (Arsyad, 2014).

Archiving Subject

Archive is every written, printed, or typed record/document in a form, number, or picture that has a specific meaning or purpose as communication and information material recorded on paper, film paper, computer media, etc. stored according to a rule so that it can be found easily when needed (Endang, 2009). Furthermore, Endang (2009) states that archiving is a process of activities ranging from receiving, collecting, organizing, maintaining, and storing document according to a particular system, so that it can be found quickly and easily when needed. According to Endang (2009), an archiving system is a system of managing and rediscovering records based on the guidelines that have been selected to improve the effectiveness and efficiency of the use of time, place, energy, and cost.

RESEARCH METHODOLOGY

The approach in this study is quantitative by using a survey method through a questionnaire to determine the feasibility of the development product of learning media. The questionnaires were distributed to the research sample which includes 30 students as samples for a limited test of the product. The questionnaire uses a scale of attitude 1 to 5 with these details: strongly agree (SA), agree (A), quite disagree (QD), disagree (D), strongly disagree (SD). Product assessment variables consist of media aspects and effectiveness for students. The variable of media aspects consists of clarity and accuracy of content, accuracy and clarity of product appearance, language accuracy. The variable of effectiveness for students consists of practicality in use, media products can be used repeatedly, accuracy in the use of language, the ability of media products to arouse student learning interest, the ability of products to clarify and facilitate students in learning, and the use of products allows students to learn independently according their abilities and interests.

ANALISYS AND DISCUSSION

This product is a learning media with E-Arsip model using Microsoft Access. The following is the system flow of this product:

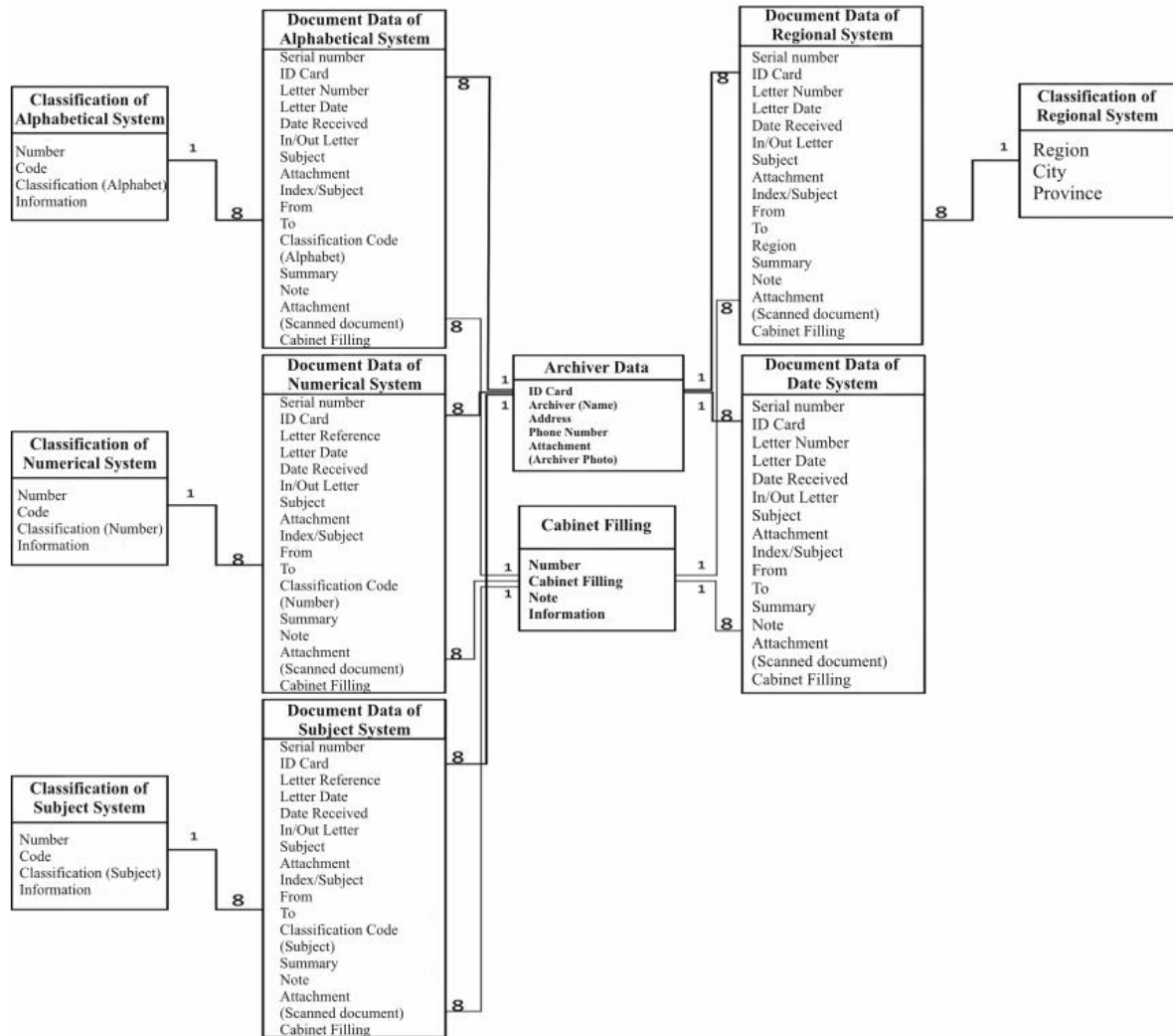


Figure 1. Class Diagram

The product that has been successfully designed is then validated by experts in their respective divisions. After being declared valid by the expert, the product is tested limited to respondents, that are students. The limited test uses a measurement tool that is a questionnaire. The questionnaire uses an attitude scale with 5 measurements. The following are the details of the variables that are revealed as statement items on the questionnaire:

Table 2. Instrument Points for Measuring Media Success

No.	Variable	Sub-Variable	Number of Item	Item Number	Instrument's Form
1	Media Aspects	a. Clarity and accuracy of content	5	1	Checklist
		b. Accuracy and clarity of product appearance		2, 3	Checklist
		c. Language accuracy		4, 5	Checklist
2	Effectiveness for Students	a. Practicality in use	8	6	Checklist
		b. Media products can be used repeatedly		7	Checklist
		c. Accuracy in the use of language		8	Checklist
		d. The ability of media products to arouse student learning interest		9	Checklist
		e. The ability of products to clarify and facilitate students in learning		10	Checklist
		f. The use of products allows students to learn independently according their abilities and interests		11, 12, 13	Checklist

Source: Primary Data processed, 2019

Furthermore, the instrument is distributed to students who are included in the sample with a total of 30 students. The following are the results of the data description of the students' answers:

Table 3. Data Frequency Distribution

Data Distribution	Media Aspects	Effectiveness for Students
Number of Respondents	30	30
Mean	4.43	4.73
Median	4	5
Mode	4	5
Standard Deviation	0.504	0.450
Minimum	4	4
Maximum	5	5
Total Number of Answers	133	142

Source: Primary Data processed, 2019

Based on table 3 about variable frequency distribution, the detailed explanation is as follows:

- 1) Mean shows the average value of the answers to statements given to respondents. Table 3 shows the average answer of the questionnaire on each variable used in this study. The variable of media aspects shows 4.43 and the average answer of the variable of effectiveness for students is 4.73
- 2) Median shows the midpoint of data when sorted and divided into two equal parts. Table 3 shows the median value of respondents' answers in each independent variable. The median of the variable of media aspects is 4 and for the variable of effectiveness for students is 5. These results show that most of the respondents answer in the attitude category of 5 for the variable of effectiveness for students.
- 3) Mode is the number that appears most often in data. The mode in this study shows the answers that often appear on questionnaires filled out by respondents. Table 3 shows the mode in the variable of media aspects which is 4 and the mode or answer that often appears in the answer in the variable of effectiveness for students is 5.
- 4) Standard deviation shows the average dispersion of data. Standard deviation is a statistical score used to determine the distribution of data in a sample and how close an individual data point is to the average sample score. A higher score of standard deviation indicates that the individual data point is far from average score. Table 3 shows the standard deviation for the variable of media aspects which is 0.504. The results show that the individual data point is ± 0.504 from the average score of the variable of media aspects. Next, table 3 shows the standard deviation for the variable of effectiveness for students which is 0.450. The results show that the individual data point is ± 0.450 from the average score of the variable of effectiveness for students. Based on these results, the variable of media aspects is answered by students with more diverse answers than the variable of effectiveness for students.
- 5) Minimum shows the lowest data. The minimum score in table 3 shows the lowest answer from the respondents in each variable. The lowest answer for all variables is 4. This shows that there are respondents who answer score of 4 for all variables in the answer columns.
- 6) Maximum shows the highest data. The maximum score in table 3 shows the highest answer from the respondents in each variable. The highest answer for all variables is 5. This shows that there are respondents who answer score of 5 for all variables in the answer columns.

The distribution of answers to the questionnaire can be seen in the diagram as follows:

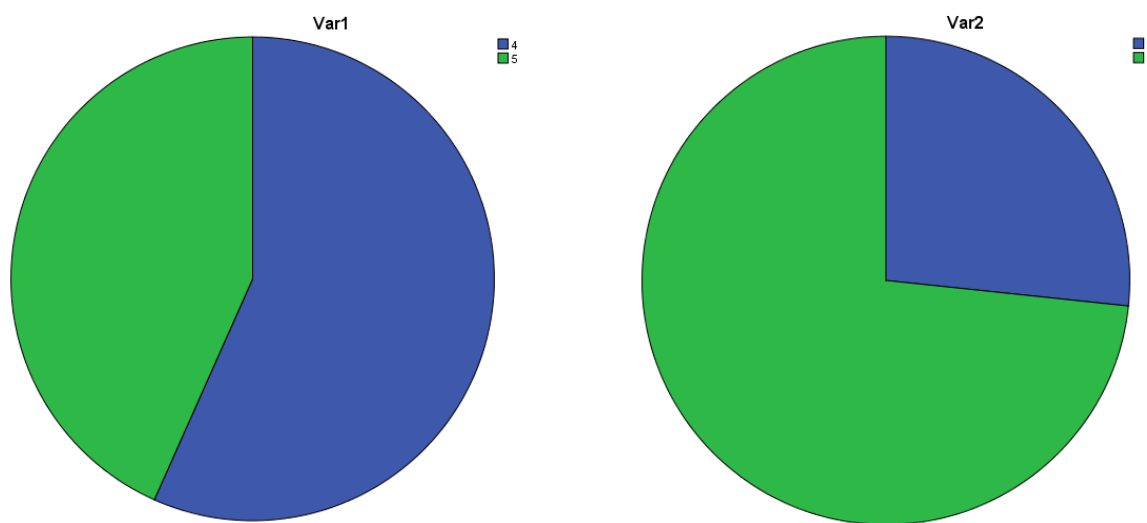


Figure 2. Distribution of Respondents' Answers

The figure above shows the distribution of respondents' answers. In the variable of media aspects, there are only two answers, which are 4 and 5. The answers in attitude 4 are 17 respondents and in attitude 5 are 13 respondents. In the variable of media effectiveness for students, the answers are also only 2, which are attitudes 4 and 5. In answer 4, there are 8 respondents and in answer 5, there are 22 respondents. These results show that the respondents are able to accept and state that the use and usefulness of the media is in the good category.

CONCLUSIONS

Based on the results of the analysis and discussion, it can be concluded that the Microsoft Access-based E-Arsip media that is used to improve student learning outcomes of archiving is appropriate to use. This is consistent with the answers of respondents who prefer to answer to attitudes 4 and 5, which are agree and strongly agree. In other findings, there are some things that must be improved in this media. First, it is necessary to add media usage guidelines. This is very necessary to help students' understanding of the media. Second, a help menu is added to help students who experience trouble when operating the media. Third, the flow of usage procedures should be presented in the form of infographics to make students' understanding effective.

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