

# Development of Microsoft Access-Based E-Archive Learning Media Applications on Archival Subjects 10<sup>th</sup> Grade of Office Administration

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## ABSTRACT

Advances in technology require a teacher as an educator to continue renewing in creating learning media that is capable of supporting learners in understanding the theoretical or practical material. The purpose of this research is to (1) generate a Microsoft Access-based E-Archive Learning Media on archival subject in 10th grade of Office Administration class, (2) to determine the feasibility of learning media based on the Microsoft Access E-Archive in the archives subject to material expert validation, media expert validation and limited group validation. The research uses the modified Research and Development Model by Sugiyono. This study takes two types of data, namely quantitative data and qualitative data. This research ended in Microsoft Access-Based E-Archive Learning Media on 10th graders of Office Administration course on 7 basic competencies, specifically Basic Competencies 3.7 to 3.13 Validation results with material experts are 97% from the feasibility aspect of material quality and the quality of content and objectives, validation with media experts is 96% seen from the feasibility aspect of technical quality, content quality and purpose as well as instructional quality, and limited group trials are 85%. From the results of the validation, this learning Media is well worth to be tested by students.

**Keywords:** media learning e-archive, Microsoft access, courses archives

## 1. INTRODUCTION

The current age has progressed and led to the Era of the 4.0 Industrial Revolution, consequently, all human activities involve technology. Resources are broadly defined as including knowledge, technology, power, materials, human, time, money and work [1]. The development of information and computer technology implementation in the learning process has been shifting among them: (1) the training switch on visualization; (2) classroom may be anywhere and anytime; (3) paper alternate to the online system; (4) physical facilities switching on the network and; and (5) cycle time switching on real time. Based on this it proves that

learning activities are influenced by computerized trends [2]. The school principal has a responsibility as a commander for teachers in carrying out the school activities including learning activities, so that professional school principals ought to always be able to support and guide teachers in carrying out the learning [3]. A teacher also has a role in teaching activity toward the students.

Teaching isn't always an easy job. A teaching which has a good quality consists of several interrelated components. Thus, teaching requires a heavy duty for a teacher. Teachers are professionals in making learning plans, implementing quality learning processes, also

assessing and evaluating learning outcomes [4]. Instructional media is one of the important components that teachers must master. Instructional media plays a role in improving the knowledge, attention, and skills of learners who can encourage learning activities. According to the level, it can be seen the importance of learning media role at this time. The media currently involves technological advances. So, it requires development and innovation in learning. The use of the media is in order to manifest the improvement of the quality of education. Improving the quality of education is one of the prioritized programs for national development [5].

Vocational High School has a wide range of expertise programs. Office administration program is one of the expertise programs that is offered at Vocational High School. It has a focus on the field of office. There is an archive subject in the department that is steeped in the archive storage and deletion. The archive is the data that is used as a reference decision making so that the archive in the search requires speed so that it can support quickly and precisely the decision making [6]. Thus, the archive requires a good procedure order system. Based on the descriptions, the implementation of learning in archival subjects ought to use technology and information systems. The technology used in the learning media in the future can facilitate teachers in practicing the archival material.

The office administration program in the Curriculum 2013 has one of the archival subjects in which it includes 13 basic competencies. One of the basic competencies is basic competency of 3.12 which implements the administration of electronic records and in basic competency of 4.12 students are able to perform the administration of electronic archives. However, the implementation of basic competencies has not been able to be carried out in the learning process. The learning is still carried out conventionally in the classroom using whiteboard/blackboard or Microsoft Power Points as media, without working towards archiving using the E-Archive.

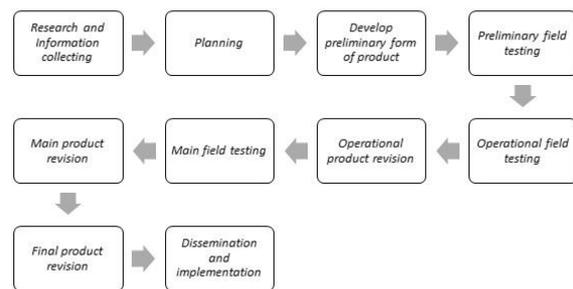
This problem is one of the problems that are covered by Public Vocational High School 1 Boyolangu Tulungagung District, East Java, Indonesia. In addition to the constraints in the lack of a poor teacher and supporting means of learning is not maximized. Based on the results of observations that have been done by interviewing the teacher archive of the subjects of the Samsistini Point explained that the basic competencies of 3.12 and 4.12 are not able to convey properly, resulting from unexplained material constraints as well as the competence of the unequal teachers in conducting electronic record practice learning as stated in the archive subject syllabus. There is a computer lab at school, but it has not been utilized well. Based on the problem, the use of facilities and infrastructure is assessed less maximum

which causes the quality of learning and learning objectives has not been absolutely achieved.

On the other hand, archival subjects are one of the subjects belonging to the C2 (Vocational Specialization Content) group which is the basic subject of the competency of the office administration skills program. The subject should be done as good as possible and can be one of the competency characteristics of this department as a provision of learners after graduating from school. The existence of learning media that facilitates the practice of E-Archive, is expected to increase interest and understanding of students to archival subjects, especially the administration of electronic archives.

**2. METHODS**

The research methods utilized by the researcher is a method of Research and Development developed by Sugiyono which is modified by researchers because of the limited cost and purpose of this research to recognize the feasibility of media so researchers feel sufficient until the fifth stage, that is the final product. The research was additionally hampered by the Covid-19 pandemic. The research steps used are as in Figure 1.



**Figure 1 Steps to Research and Development**

The study took two data, which are: (1) quantitative data obtained from the results of filling out the questionnaire by the test subjects, namely the results of filling out the validation questionnaire by material experts and the results of filling out the questionnaire by media experts; and (2) qualitative data obtained from the results of the content of criticism, suggestion, and record validator at the time of the trial used for product repair In this study used two data collection instruments, namely using polls and interviews. The test subjects in this study were nine students from the 10th grade of Office Administration 3. The result of the validation and trial will be calculated in the equation by using the formula as Figure 2.

$$V\text{-ah} = \frac{TSe}{TSh} \times 100$$

In (1), Expert validation (V-ah) is obtained from attribute total empiric score achieved from expert (TSe)

divided by the expected total score (TSh), and then multiplied constant value (100%). As a reference and to know the conclusion of the presentation analysis results above, then developed the criteria of validity in Table 1.

**Table 1 Validity Criteria**

No	Validity Criteria	Validity Rate
1	81% - 100%	Very valid, very effective, very complete, can be used without repairing
2	61% - 80%	Quite valid, quite effective, complete enough, can be used but needs minor improvements
3	41% - 60%	Less valid, less effective or less complete, need major improvement, it is advisable not to use
4	21% - 40%	Not valid, ineffective, incomplete, cannot be used
5	0% - 20%	Very invalid, very ineffective, very incomplete, cannot be used

**3. RESULTS**

This Research and Development results in the learning of E-Archive based on Microsoft Access to support instructional subjects that consist of even semester material (basic competencies of 3.7 to 3.13) and the Electronic Archive Practice page. The learning Media consists of the application description Menu, instructions for use, Developer profile and main menu containing sub-menus of core competencies/basic competencies, basic competency materials 3.7 to 3.13, E-Archive and competency test. The E-Archive learning Media display can be seen in the Figure 2, 3, 4, and 5.

This learning media has been validated by the validator of the material experts and the media experts with the following similar results Table 2. From the data Table 2, it can be assumed that this media is very well worth using and the learning media is ready to be used tasted on student.

**Table 2 Data Overall Validation Results**

No.	Validation	Presented	Eligibility criteria
1	Material experts	97%	Very decent
2	Media experts	96%	Very decent
3.	Limited group trial	85%	Very decent
Average		92,6 %	Very decent



**Figure 2 Home Page Display**



**Figure 3 Main Menu display**



**Figure 4 Login view to E-Archive Menu**



**Figure 5 E-Archive Submenu View**

**4. DISCUSSION**

*a. Media Learning E-Archive based on Microsoft Access on the subject archives*

This Research and Development generates a product in the form of Microsoft Access-based E-Archive learning Media that can be operated on a computer. Endorson mentioned that computers can interact precisely and accurately, running fast, and storing huge and secure data, has made the computer a suitable and dominant media in the field of education alongside other Media [9]. This media creation is adapted to the needs of students by looking at the goals of learning media users and facilities provided by the school. The intention of this learning media user is the students of class X office administration SMK Negeri 1 Boyolangu who have a laboratory office containing computers for each student in a class to practice or learning that requires using a computer.

The making of this instructional media aims to recognize the cognitive and psychomotor students' needs

in learning the archives subjects, especially electronic archives. The media is created using the help of Microsoft Access applications that allow learners to store data or practice electronic archival storage into the learning media.

Wyat and Looper say that learning with the highest significance is learning that offers learners the opportunity to engage in activities [9]. This learning media provides students with the opportunity to conduct electronic record administration practices and can conduct learning activities on cognitive material that has been provided in the media. This media additionally provides the opportunity to create a report to students, by printing an agenda book that will be created automatically if learners input a new archive on the media. Sasongko & Diartono also declared that in the manufacture of incoming mail reports and outgoing mail will be faster. Other ease of using Microsoft Access is reasonably-priced as compared to archival system applications, even for free because it is included in Microsoft Office [10].

In addition to this significant learning media is very effective to enhance the ability of learners in learning the archives of subjects, which is in line with Rapidle opinion that the impact of learning activities there is an increase in the ability of students will increase by 90% when students say and do the learning activities themselves [2]. In this case, it is the learners who in the process of learning to perform directly and say the process of practice with the oral, for example demonstration of the material learned, the students will get an increase of ability of 90% from earlier than he studied.

***b. Media Feasibility Learning E-Archive based on Microsoft Access***

Media Feasibility test Results learning the Microsoft Access-based E-Archive at the archival subjects indicates that the media developed is taken into highly feasible consideration of the material experts and the media experts by observing the aspects contained in the developed media. The validation results by the 97% material validator which means that material incorporated into the media is well-deserved for the learning process, validation results by a material expert validator of 96% meaning that the media developed is very viable for use in the product trial process.

It is based on a poll that contains aspects of technical quality, content quality and purpose as well as instructional quality. It can be defined that the media of E-Archive learning has been very feasible, such as the combination of color, accuracy of image addition, size and font type has been very interesting and the media is easy to operate. Limited group trial results gained 85% which means it is well worth testing for larger groups. The validation is conducted towards the limited group as it is seen from the aspect of learning motivation, it is

important because self-motivation can drive someone in achieving something with proper methods. A student's motivation will determine their willingness in putting a certain amount of efforts both in group (organizational) and personal matters [11].

As a supporting media in the learning process, as Chou, Pao-Nan, Chang, Chi-Cheng, Lu, Pei-Fen that the media benefits in the learning process are the teaching materials will have a clearer meaning so that learners can understand and allow learners to better master the learning objectives. This E-Archive learning Media is a learning media that can be used for practice so that the theories learned will be greater apparent if implemented to practice using this media [12]. This E-Archive learning Media has several advantages, including the following.

*1) Learning Becomes more Enjoyable*

In the use of this Microsoft Access-based E-Archive learning Media learners will have the opportunity to become an archive, in which case they have a role to play. Backed by Wirawan opinion & Rahmanto in his research that digital Media learning is one of the practical learning devices that emphasizes students 'understanding of the archive's handling process as an effort to create joyful learning media. Therefore, learning using the media practice and playing a role can improve the pleasure in the learning process. In addition, the media is designed with interesting colors, it can trigger the spirit and decrease boredom in learners during the learning process.

*2) The Media can Improve the Activation and Attention of Learners*

This Media of learning can improve the liveliness and attention of the students because the design and colors that make the spirit of learning emerge. Oktarina in his research explains that learning media based on Microsoft Access can improve the activation and attention of students during the learning process and the ability of lecturers in the management of principal learning Inventory [13].

*3) The Media can Accommodate Archives or Databases in Large Quantities*

This learning Media is created using a Microsoft Access application that can store a large number of databases. Microsoft access is an application that can process databases that are used to design, create, and process types of data with a large capacity. In addition, Access is more powerful for storing non-numeric data, such as names and descriptions [14].

*4) Offline Data Access*

This learning Media is operated offline, ie without using the Internet because the data is already interconnected. This can happen because of the key functions that the command can add to the willingness of the developer. With this offline data access can certainly

save costs because there is no need to pay internet bills and just use a computer. This learning Media was developed by raising several benefits, including the following:

1) *Can be Used as a Learning Resource*

This learning Media contains the study subject matter even semester, which is basic competencies of 3.7 up to 3.13 which is enough to be a source of student learning in the study of an even semester of archival subjects. As Wirawan et al mentioned that materials are easier to understand when using learning media, so that learners can answer good questions [12].

2) *Can be Used as Practice Media*

The learning media has a special menu, which is the menu E-Archive containing features addition of new archives, features agenda, features loan and search, as well as Features Circulation Book archives of borrowers. Thus, this learning Media can be a media of practice for students to improve their psychomotor skills in the administration of electronic records.

3) *Can be Used as Evaluation Media*

The learning media comes with a menu of competency tests that contain questions that learners can work with to evaluate the knowledge of the material they have learned. Learners can answer the questions that are already provided and then write the answer into a paper answer sheet.

## 5. CONCLUSION

Based on a product review developed by the conclusion researcher is a Microsoft Access-based E-Archive learning Media on 10th grade class study subjects through the validation phase of material experts and media experts. Based on material expert assessment of 97%, media experts are 96% and product trials are 85%. From the result, if averaged then the result is 92.5% which means that the learning media developed by the researcher is very worthy to be tasted on students.

Furthermore, the media can be developed again by adding material or matter of the frequency of the teacher in accordance with the latest material development. The Media can be used by learners to create self-studies in the study of archives subjects. Learners are expected to continue to exercise in order to achieve maximum levels of cognitive and psychomotor skills.

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