



# Development of Electronic Archive Book in Improving Learning Outcomes of Electronic Archive Management of Office Administration Education Students, Faculty of Economics, Unimed

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**Abstract:** *The innovative thing in this drafted Electronic Archive Management book is that it contains theory and practical steps for managing Electronic Archives based on SIKD. So that this book is expected to be used by students in practicing electronic archive storage. This research uses a research and development approach (R&D) to the Borg and Gall model with the following development steps: 1) Research and Information Collecting, 2) Planning, 3) Develop Primary Form of Product, 4) Preliminary Field, 5) Main Product Revision, 6) Main Field Testing, 7) Operational Product Revision, 8) Operational Field Testing, 9) Final Product Revision and 10) Dissemination and Implementation. Based on the significance value of the coefficients table, a significance value of  $0.000 < 0.05$  was obtained, so it was concluded that the Electronic Archive Management Book variable had an effect on the student learning outcomes variable. Based on the *t* value: it is known that the *t* count value is  $8.295 > t$  table 1.978, so it can be concluded that the Electronic Archive Management Book variable (X) has an effect on the Learning Outcome variable (Y).*

**Keywords:** *electronic archive book; learning outcomes; office administration*

## I. Introduction

The growing technology has influenced all aspects of human life, as well as in every government and private agency. The development of technology and the increasing need for information, demands the provision of information that is faster, more precise and accurate. Along with the implementation of administrative activity within an organization raise the number of archive and document. The addition of document/archive due to the activity of an organization if not managed properly will cause problem that archive cannot be found, beside that the number of archive requires more equipment and a large archive space to store archive resulting from administrative activity. Along with the development of information technology, currently correspondence uses correspondence files in the form of softcopy where documents or files that were previously created using paper and then stored in hardcopy are currently stored in the form of files on computer devices that are stored as electronic archives.

The use of computer and internet technology that is so massive currently demands electronic communication as well. Electronic file as a result of activity in an organization are called electronic archive. Electronic archives are archives contained in electronic storage media, which are generated, communicated, stored and/or accessed using electronic equipment (Faizatin & Mujayana, 2019). The use of electronic media in archive management is often referred to as an electronic filing system based on the use of computers (Lina, Rumetna,

Rupilele, Palisoa, & Sirajjudin, 2020). Retrieval of archive quickly, accurately, and completely is the main goal in electronic archive management (Alvintasari & Rosy, 2020).

The rapid development of information technology has touched all areas of work as well as archive. Related to the technological advance, the National Archive Office of the Republic of Indonesia designed the Dynamic Archival Information System (SIKD) (Mulyadi, 2021). This Archival Information System is an information system device that interacts with each other in processing archival data to achieve archival goals and functions which include storage, arrangement, grouping, control and maintenance of archive and archival information service. SIKD functions in maintaining authenticity, reliability, integrity and use of archive (Hendrawan & Ulum, 2017).

The implementation of SIKD in archive management in every organization can support paper usage savings, which in turn reduces organizational spending. Electronic archives encourage conservation/paperless efforts in the administrative activities within an organization. Transferring printed archives to electronic archives will transform management from paper-based to paperless (Yusuf, 2020). The e-archive policy also supports the Indonesian government's policy in implementing the Electronic-Based Government System (SPBE) (Prasojo & Kartini, 2022). Electronic archives support the implementation of paperless office (Salmin, 2019). The implementation of electronic archives will support the go green campaign and save the world. Paperless discourse and the implementation of electronic archive management are poured into a number of ideas, theories, scientific studies and government policies (Putranto, Nareswari, & Karomah, 2018).

Students of Office Administration Education Faculty of Economics, UNIMED are prepared to become administrative staff or teachers majoring in Office Administration at Vocational High Schools. One of the competencies that must be mastered by prospective graduates is managing electronic archive. However, the current reality is that graduates of Office Administration Education, Faculty of Economics, UNIMED have not been able to manage electronic archives. There is no electronic archive book that can guide students step by step in storing electronic archives based on SIKD. To improve the mastery of Electronic Archive competencies for students of Study Program of Office Administration Education, UNIMED, it is necessary to design an Electronic Archive Management book (Halilah, Amalia, Tjahjawati, Firmansyah, & Setiawan, 2020). The innovative thing in this drafted Electronic Archive Management book is that it contains theory and practical steps for managing Electronic Archives based on SIKD. So that this book is expected to be used by students in practicing electronic archive storage.

## **II. Research Methods**

This research uses a research and development approach (R&D) to the Borg and Gall model with the following development steps: 1) Research and Information Collecting, 2) Planning, 3) Develop Primary Form of Product, 4) Preliminary Field, 5) Main Product Revision, 6) Main Field Testing, 7) Operational Product Revision, 8) Operational Field Testing, 9) Final Product Revision and 10) Dissemination and Implementation (Borg & Gall, 2003).

Location This research was conducted at Study Program of Office Administration Education, Economics Department, Faculty of Economics, UNIMED Willem Iskandar Street Pasar V Medan Estate. The sample in this research was the entire fifth semester students of

Class A, B and C of the Study Program of Office Administration Education who took the Electronic Archive Management course, totaling 135 students. The variable in this research is the Electronic Archives book as independent, while the dependent variable is the learning outcomes of the Electronic Archives course for students of Office Administration Education and Archivist Competence of UNIMED.

The data analysis technique in this research was using a qualitative descriptive analysis technique that described the results of product development in the form of an Electronic Archives Management book, namely the operational steps in developing an Electronic Archives book and testing the level of product feasibility to be implemented in the Electronic Archives Management course. The data obtained through the assessment instrument at the time of the trial were analyzed using qualitative descriptive statistics.

The results of data analysis are used as a basis for revising the developed Electronic Archive book product. Data on student opinions or responses collected through questionnaires were analyzed using descriptive statistics. The results of the questionnaire were analyzed and measured using a Likert scale with five categories: very feasible, quite feasible, fairly decent, less feasible, and not feasible. The data relates to the effectiveness of the Electronic Archives book developed in improving student learning outcomes in analysts using the Paired Sample T-Test and simple linear regression using SPSS 25.

### **III. Results and Discussion**

The initial step in developing the Electronic Archive Management book begins with conducting a needs analysis to determine learning objectives (Umbara, Rosyid, & Setiawan, 2019). Needs analysis is carried out to determine what is desired after citizens learn to carry out learning. In this step, the developer develops the instructional needs of the Electronic Archives Management course by observing and interviewing a number of students, lecturers and archivists. From the results of observations and interviews that the Electronic Archive Management material must ensure that students will find it easier to learn the Electronic Archive Management course material (Rosalin, 2017).

After identifying the learning objectives, the next step is to determine the steps that can be taken to achieve the learning objectives. The final step in the process of analyzing learning objectives is to determine the skills, knowledge, and attitudes known as entry behavior (initial behavior/input) required by residents to start learning (Mahfudzah, Abdul Hamid, & Tanjung, 2018). The initial behavioral identification stage can be identified through interviews with several students majoring in Office Administration, Economics Education Department, FE Unimed, that students have never taken an Electronic Archive course.

Learning materials designed based on the results of the identification of the need for Electronic Archive Management books. The Electronic Archive Management Book designed is equipped with examples and steps for storing electronic archives based on SIKD. The Electronic Archives Book developed consists of 10 (ten) chapters which include: 1) The Essence of Electronic Archives, 2) Creation and Receipt of Electronic Archives, 3) Transfer of Archive Media, 4) Archive authentication, 5) Registration of Incoming Manuscripts, 6) Registration of Outgoing Manuscripts, 7) Registration Without Follow Up, 8) Electronic Archive Preservation, 9) Electronic Archive Access, 10) Shrinkage of Electronic Archive.

After the draft book is finished, the research is continued by conducting trials on the draft book with 3 stages, namely: 1) Preliminary field testing; 2) main field testing; 3) operational field testing (Widiastutik, 2021).

**Table 1.** Test Results of Electronic Archive Management Book

Trial stage	Number of Respondents	Response to the draft book	Category
<i>Preliminary field testing</i>	10 people	3,2	feasible
<i>Main field testing</i>	20 people	3,5	feasible
<i>Operational field testing</i>	30 people	4,1	feasible

The results of the preliminary field testing with 10 samples known that the sample response in the draft book was 3.2 in the good category. The results of the main field testing with 20 samples showed the sample response to the acceptance of the developed book was 3.5 in the good category. The results of operational field testing with 30 samples showed a response to the developed book of 4.1 in the good category. To find out the effectiveness of using the Electronic Archives Management book, a pre-test and post-test were carried out during field trials (Dirgatama, Siswandari, & Indrawati, 2021).

Testing the effectiveness of using the Electronic Archives Management book can be seen from the Paired Samples Test table (Muhid, 2019):

**Tabel. 2. Paired Samples Test**

		Pair 1 Preetest - Posttest
Paired Differences	Mean	-14.55556
	Std. Deviation	9.95262
	Std. Error Mean	.85659
	95% Confidence Interval of the Difference	Lower
Upper		-12.86138
t		-16.993
df		134
Sig. (2-tailed)		.000

Based on the output table of "Paired Samples Test" above, the Sig value is known. (2-tailed) is  $0.000 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted. Furthermore, it is also known that the t count value is  $16.993 > t$  table 1.978 so it can be concluded that there is an average difference between the Pre Test and Post Test learning outcomes, which means that there is an influence on the use of Electronic Archive Management book in improving student learning outcomes in the Electronic Archive Management course in Study Program of Office Administration Education, UNIMED.

The results of the simple linear regression test are as follows:

**Table 3.** Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.582 <sup>a</sup>	.339	.334	8.88653

a. Predictors: (Constant), MAE Book

The table above explains the value of the correlation / relationship (R) which is equal to 0.582 from the output obtained by the coefficient of determination (R Square) of 0.339 which contains archives of the influence of the independent variable of Archives Management Book on the dependent variable (study results) is 33.9%.

**Table 4. ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5386.936	1	5386.936	68.215	.000 <sup>b</sup>
	Residual	10503.064	133	78.970		
	Total	15890.000	134			

- a. Dependent Variable: Learning Outcomes
- b. Predictors: (Constant), MAE Book

From the ANOVA table it is known that the F count value = 68.215 with a significant level of  $0.000 < 0.05$ , then the regression model can be used to predict the learning outcomes variable or in other words there is an influence of the Electronic Archive Management Book variable (X) on the Learning Outcome variable (Y).

**Table 5. Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	37.293	3.914		9.527	.000
	MAE Book	.582	.071	.582	8.259	.000

- a. Dependent Variable: Learning Outcomes

Output Coefficients: Constant value (a) is 37.293, while the Electronic Archive Management Book variable (b/regression coefficient) is 0.582, so the regression equation can be written:

$$Y = a + bX$$

$$Y = 37,293 + 0,582 X$$

The equation can be translated:

- The constant of 37,293 contains a consistent value archive of the Learning Outcomes variable which is 37,293.
- The X regression coefficient of 0.439 states that for every 1% addition to the value of the Electronic Archives Management Book, the value of learning outcomes increases by 0.582. The regression coefficient is positive, so it can be said that the direction of the influence of the variable X on Y is positive. Or in other words, there is a positive influence on the use of the Electronic Archive Management book on the Learning Outcomes of the Electronic Archive Management course for Students of the Study Program of Office Administration Education.

Decision making in a simple regression test:

- Based on the significance value of the coefficients table, a significance value of  $0.000 < 0.05$  was obtained, so it was concluded that the Electronic Archive Management Book variable had an effect on the student learning outcomes variable.

- Based on the t value: it is known that the t count value is  $8.295 > t$  table 1.978, so it can be concluded that the Electronic Archive Management Book variable (X) has an effect on the Learning Outcome variable (Y).

#### IV. Conclusion

1. The Electronic Archive Management Book consists of 10 chapters which contain: 1) The Essence of Electronic Archive, 2) Creation and Receipt of Electronic Archive, 3) Transfer of Archive Media, 4) Archive authentication, 5) Registration of Incoming Manuscript, 6) Registration of Outgoing Manuscript, 7) Registration Without Follow Up, 8) Preservation of Electronic Archive, 9) Access of Electronic Archive, 10) Shrinkage of Electronic Archive.
2. The response of 10 samples in the preliminary field testing was 3.2 in the good category. The results of the main field testing with 20 samples were 3.5 in the good category. The results of operational field testing with 30 samples showed a response to the developed book of 4.1 in the good category.
3. Test the effectiveness of using the Electronic Archive Management book known Sig value. (2-tailed) is  $0.000 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted. Furthermore, it is also known that the t count value is  $16.993 > t$  table 1.978 so it can be concluded that there is an average difference between the Pre Test and Post Test learning outcomes, which means that there is an influence on the use of Electronic Archive Management book in improving student learning outcomes in the Electronic Archives Management course.
4. The results of the simple linear regression test show that t count is  $8.295 > t$  table 1.978, so it can be concluded that the Electronic Archive Management Book variable (X) has an effect on the Learning Outcome variable (Y).

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