International Journal Of Humanities Education And Social Sciences ***(IJHESS)*** *E-ISSN:* **2808-1765**
Volume 2, Number 2, October 2022, *Page. 493 –505*
Email : editorijhess@gmail.com

Archive Management System as Complementary Learning Media In the Digital Era

Andi Basuki[1)], Madziatul Churiyah[2)], Buyung Adi Dharma[3)], Dewi Ayu Sakdiyyah[4)]
[1,2,3,4)]Faculty of Economics and Business, Universitas Negeri Malang, Indonesia

[*]Coresponding Author
Email : andi.basuki.fe@um.ac.id

Abstract

This research is a development research that aims to produce learning innovations in the psychomotor domain for practice in archival subjects. The research design adapts the Borg and Gall model which consists of eight stages, namely, (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revision, (6) products testing, (7) product revision, (8) mass production. This research was conducted at the Office Administration Vocational School in Malang City. Data collection is done through filling out a questionnaire to determine the feasibility of the product being developed. The result of this research and development is a learning media called STELAR which is feasible and valid to be applied in the learning process, especially in the Office Administration Department. This is based on the results of the validation of material experts and media experts who obtained an average score of 93.53%, while from the test on students the results obtained 90%. Therefore, STELAR learning media can be used as an alternative learning media for practice in the Office Administration Department.

Keywords: Learning Innovation, Archives, Office Administration

INTRODUCTION

Archives are records of events in various formats that are used for information and retrieval of important data in a company or office. There are five archive storage systems, namely the alphabetical system, the problem system, the chronological system, the number system, and the regional system (Saeroji, 2014). An archivist must have adequate competence to support the company's success (Handayani & Sari, 2018). The competence of an archivist and secretary can be achieved through various pieces of training or schools. One of the schools that facilitates the study program is the Vocational High School (SMK). The office administration program in the 2013 Curriculum has one archiving subject that includes 13 basic competencies. One of these basic competencies is the 3.12 basic competency which carries out the administration of electronic records and at the 4.12 basic competency students can carry out the administration of the electronic archive. However, the application of basic competencies cannot be implemented in the learning process.

Learning is still done conventionally in the classroom using whiteboard media or Microsoft PowerPoint, without trying to archive using E-Archive. Vocational High Schools (SMK) in office administration expertise competencies have digital archiving subjects where these subjects have only been held in the 2013 curriculum. Given the importance of digital archiving subjects, vocational students need to understand the basics of archiving theory as well as be able to practice them in the world of work after graduation.

One of the learning media commonly used is the module and the archive system. After seeing some of the problems that occurred in the research subjects, especially students of the Office of the Vocational School in Malang City, it was observed that there were obstacles in the learning media used. In addition to the theories in the book, students should also be given demonstrations or direct practical assignments on how to archive with a digital system. Some students admitted that they were bored and did not understand the lesson because they only

imagined and read theory. This is very unfortunate, especially considering the development of the 2013 curriculum which demands competence.

Appropriate learning is applied in the 2013 curriculum, which emphasizes learning by doing as an effort to train students' competencies (Permansah & Murwaningsih, 2018). E-filling competencies or digital archives are new competencies and require special training to be able to carry out digital archive storage methods (Sutisna, et.al., 2021). Because it is relatively new, there are not many systems that are devoted to digital archiving learning media in the classroom. Even though it's new, of course, there are special criteria for setting the Minimum Completeness Criteria (KKM) standards for these subjects.

After the implementation of the new subjects, some students did not appear to have reached the KKM, therefore learning in a class with a special system might have a positive impact on students. One of the special systems that can be used for learning media in the classroom is the archive management system (STELAR). It is hoped that the learning media in the form of STELAR can be used to improve the learning outcomes of SMK students in digital archiving subjects and can achieve the newly defined competencies in the 2013 curriculum. Student learning outcomes assessed can be seen from the results of the practices that have been carried out.

The practice follows the previously taught materials which are then realized through the system. In this system, students can perform a simulation of organizing archives according to the required system (according to the questions given). Student learning outcomes can be measured from several aspects, namely affective aspects (attitudes), cognitive aspects (knowledge), and psychomotor aspects (skills). Student learning outcomes are skills and abilities possessed by students after students experience the learning process and receive learning. These three aspects can be measured after students accept the learning process with the system that the researcher made. The psychomotor aspect or student skills will be the aspect with the most percentage in the measurement. Vocational school students' skills are the main thing and are much needed.

Learning media is part of a learning resource which is a combination of software (learning materials) and hardware (learning tools).) (Muhson, 2010). The general meaning is anything that can channel information from the source of information to the recipient of the information. The teaching and learning process is also a communication process, so the media used in learning is called learning media. In general, the meaning of media is anything that can channel information from information sources to recipients of the information. So learning media is "software" in the form of messages or educational information that is presented using an assistive device (Hardware) so that the message/information can reach students.

The word electronic archive is taken from the term Electronic Archive (e-archive) which means a system of collecting and storing information in the form of electronic documents to make it easy to view, manage, find and reuse. (Nyfantoro et.al., 2020). Meanwhile, according to Saifudin & Setiaji, (2019), The system is a network of procedures that are interconnected and gathered together to carry out activities or goals that have been determined. In a digital archive system, there are archive management activities, which is an archival process in managing incoming and outgoing mail using a specified archive storage system, and it also includes discovery and archive maintenance activities.

The manual archive management system can be designed into an electronic archive system using a website-based application. According to Saifudin & Setiaji, (2019) the website is an information page provided through internal channels so that it can be accessed worldwide, as long as it is connected to the internet network. Websites are classified into several types, namely: (1) Static Websites are websites that have fixed or unchanging pages, (2) Dynamic

Websites, website page that is structured to be able to make changes to the website content as often as possible, (3) Interactive Websites. An interactive Website is a website where users can interact and argue about each user's ideas.

RESEARCH METHODS

This study uses a research and development approach (Research & Development) with the Borg and Gall model. The research and development model is research and development that aims to develop a product and test the feasibility or effectiveness of the product. The Borg and Gall development research model was chosen because the process of product development stages is detailed, detailed, and adapted to the needs of the field.

Research and development (Research and Development) are longitudinal (gradually can be multi-years). It is said to be multi years because it can be used for a long time. In addition, this research and development are used to produce products that can be used by the community or schools. To function, a test is needed in research to test the effectiveness of the resulting product.

Researchers use research and development (Research & Development) to produce a product in the form of an archive system. This product can be used as a learning medium for archiving subjects for class XI, Department of Office Administration in Malang City. The resulting archive system uses a website-based application called the Archives Management System (STELAR).

The stages of research and development using the Borg and Gall model were modified into 8 stages according to research needs. The stages are described in the following chart:

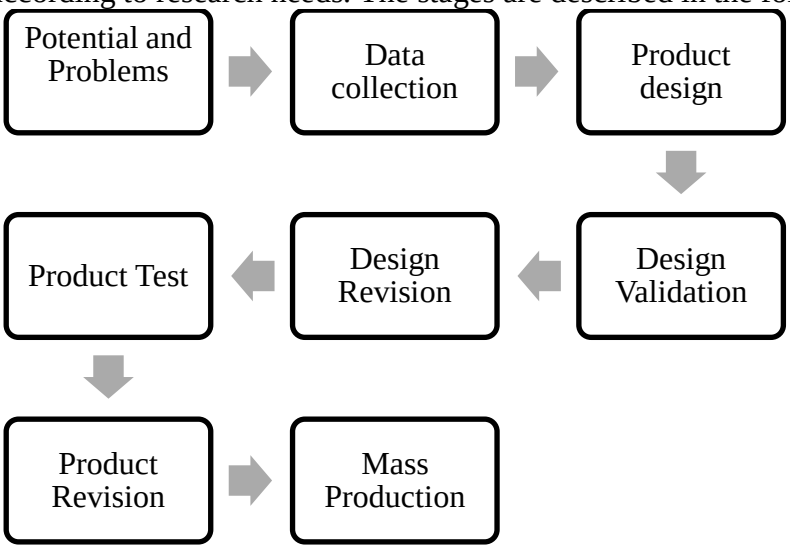

Figure 1. Research Steps

Product Test

1. **Test Design**

Products are validated first by material experts and media experts. Then it was tested in small groups.

2. **Trial Subject**

The experimental subjects in this study were teachers and students of the Office Administration Vocational School in Malang City.

3. **Data Type**

The types of data obtained in this study are qualitative and quantitative data.

4. Data Collection Instruments

This study used a data collection instrument in the form of a questionnaire. The following Table 1 contains a grid of questionnaire instruments for material experts.

Table 1. Materials Expert Questionnaire Instrument Grid

Aspect	Indicator	Item Number
Usability	App name suitability	1
	Compatibility of the application with the filing system	2
	Clarity of instructions and orders	3
Contents	Conformity of contents with menu and needs	4
	Language used	5
	Agenda book	6
	Disposition	7
	Incoming mail flow	8
	Outgoing mail flow	9
	Alphabet system archive storage system	10
	Number system archive storage system	11
	Region system archive storage system	12
	System archive storage system problem	13
	Date system archive storage system	14

Meanwhile, in Table 2, the following is a grid of questionnaire instruments for media experts.

Table 2. Grid of the media expert questionnaire

Aspect	Indikacator	Item Number
Appearance	Attractive initial view	1
	Content attraction	2
	Pulling the icon from the app	3
	Complete menu	4
	Menu setup	5
	Linkages between menus	6
Writing	Combination of font styles	7
	Color combinations	8
	Font Size	9
Ease	Easy menu access	10
	Ease of entering data	11
	Ease of printing letters	12
	Ease of storing letters	13
	Data security	14

Table 3. Grid of Questionnaires for Trial Students

No.	Indikacator	Number of Items	Number of Items
	Ease of use	6	1-6
	Usefulness	3	7-9
	Motivation	1	10

5. Data analysis technique

The data analysis techniques used are qualitative data analysis techniques and quantitative data analysis techniques.

a. Qualitative Data Analysis

This data includes the criticisms and suggestions that have been given by the experts and the test group.

b. Quantitative Data Analysis Techniques

The data obtained were then analyzed using quantitative analysis techniques.

The data processing formula used is as follows:

$$P = \frac{X}{Xi} \text{ x } 100\%$$

To determine the conclusions that have been reached, the criteria are set in Table 4 below:

Table 4 Criteria for Product Feasibility

Score	Percentage	Criteria
5	80% -100	Very feasible/very precise/very easy/very interesting
4	60%- 79,9%	Appropriate/appropriate, easy, and interesting
3	40%- 59,9%	Inappropriate/inappropriate, less appropriate, less easy, and less attractive.
2	20%- 39,9%	Inappropriate/inappropriate, not easy, and unattractive.
1	0% - 19,9%	Very inappropriate/very imprecise, very uneasy, and very unattractive.

Source:Sugiyono (2016)

RESULTS AND DISCUSSION

The purpose of this research and development is to produce a website-based digital archive application product that can be used by OTKP Vocational School students in Malang City, namely in Archiving Subjects. On the other hand, it is also to test the feasibility level of website-based digital archive application products that have been developed through media expert validation and material expert validation as well as user testing. The application that has been developed is named STELAR and can be accessed via a browser at the address https://adp-stelar.com/. Currently, there is an effort to digitize education in Indonesia which is based on the very rapid development of technology and the recent conditions that encourage education to be carried out on a digital basis, namely remote learning. (Azhari & Fajri, 2022; Churiyah dkk., 2020).

For Generation Z and Generation Alpha students, the application of technology in digital learning is not a problem. This is because they are digital native figures whose daily lives are very close to digital devices (Kirschner & De Bruyckere, 2017; Thompson, 2013). This condition must be facilitated by the existence of qualified digital technology-based

learning media, one of which can be done by utilizing the application that has been developed in this research and development, namely the STELAR application. The STELAR application can be accessed via a browser from various devices via the internet. In its use, the STELAR application is designed for teachers and students.

The features contained in the student account are::

1. Class (join the class and create a group).
2. Leaders (Concept of Letters, Incoming Letters, Outgoing Letters TTD)
3. Secretary (Incoming Mail Management, Making Outgoing Letters, Retention)
4. Archives (Outgoing Mail Management, Create Outgoing Mail, Retention, Mail Classification)

While the features contained in the teacher account are:

1) Manage Class
2) Create Assignments and Materials
3) View Assignments per group

The following are pictures and features of the STELLAR Application product

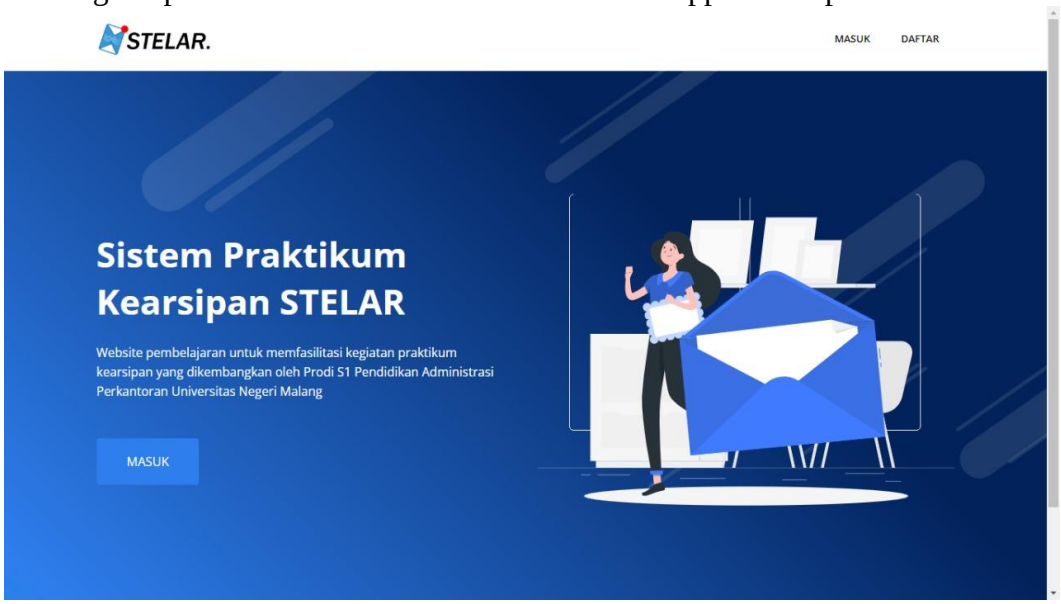

Figure 2. Landing page STELLAR

The landing page is the front page for registering and entering the office practicum system.

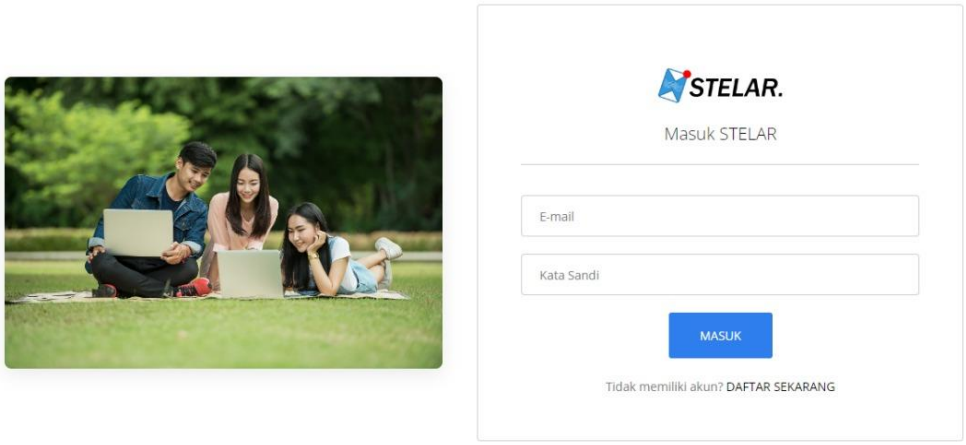

Figure 3. Login STELLAR

The Login page on STELAR is the page used to enter the STELAR system.

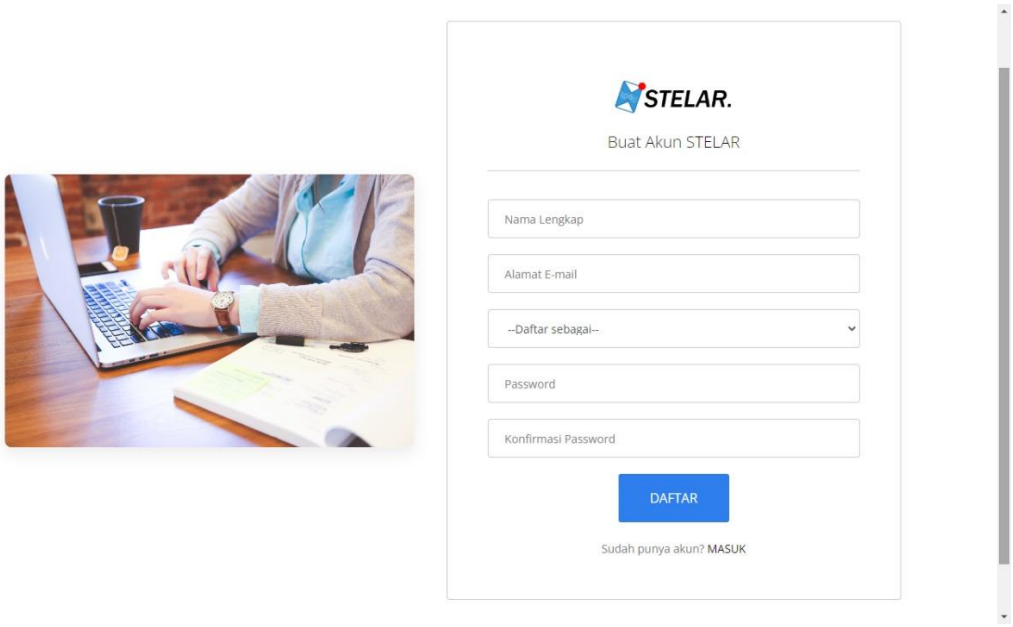

Figure 4. List of STELLAR

The registration page on STELAR is the page used to register into the STELAR system.

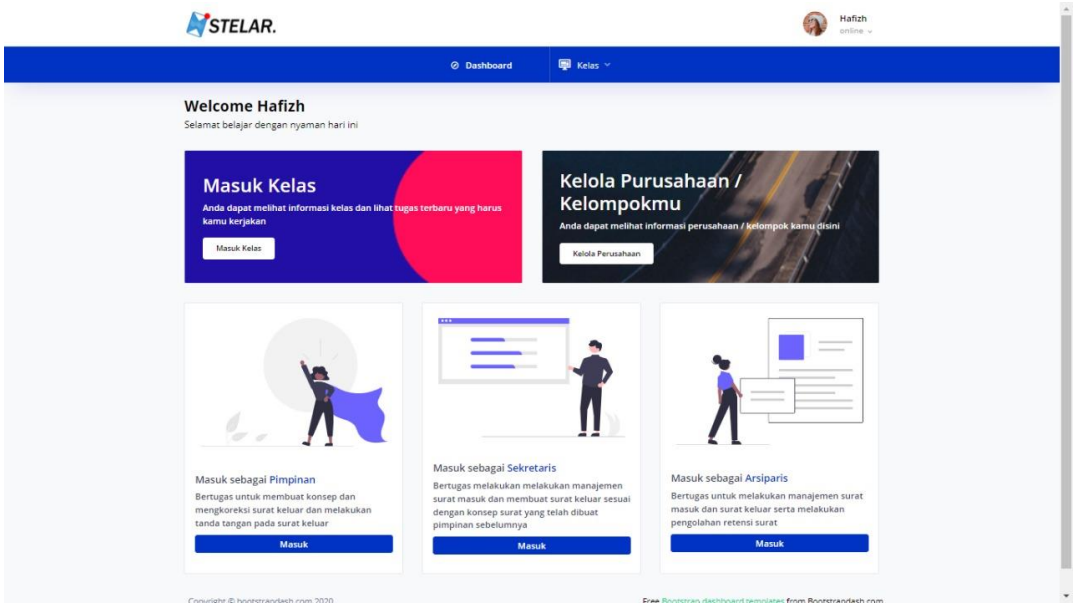

Figure 5. Features of the STELAR system

In this section, there are three types to enter the system, namely leaders, secretaries, and archivists. Students in groups can practice good archive management according to their respective roles.

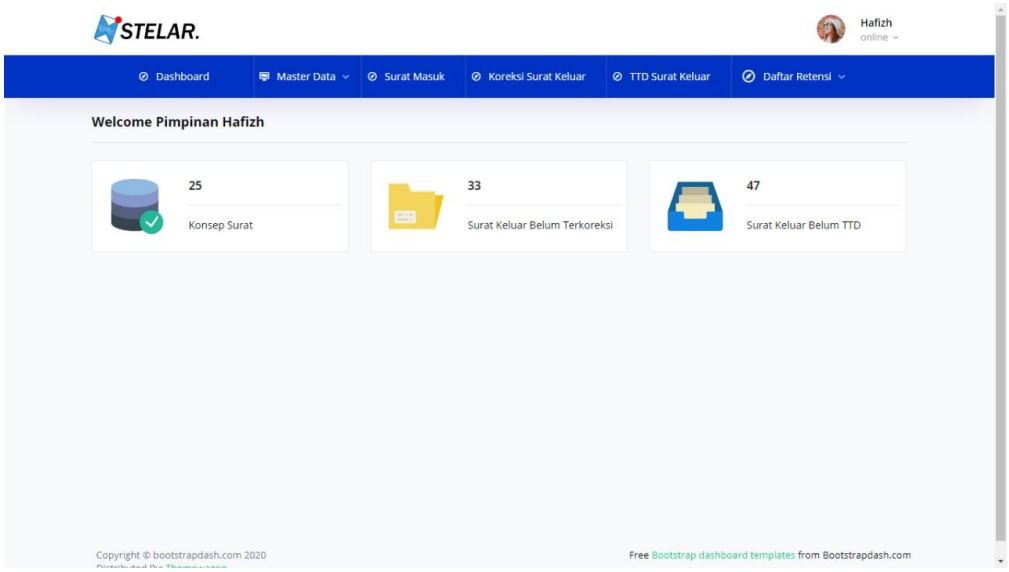

Figure 6. Login to the STELAR system account as Leader

In this section, the leadership can access the draft letter, outgoing mail has not been connected, and outgoing mail has not been TTD.

STELAR is a fun and meaningful learning solution as a manifestation of creating an immersive experience for students. There are six advantages of the STELAR application, namely: 1) being able to provide a quality and meaningful learning experience; 2) is a learning media that supports the implementation of distance learning; 3) becoming relevant

facilities that support students as digital natives; 4) utilize technology for the advancement of education in Indonesia; 5) produce output in the form of skills from students that can be utilized in a wider practice; and 6) can be done anywhere and anytime with due regard to the expected output.

The media developed is a simulation media in the practice of digital archiving. Simulations enable learners to not only create and practice routine situations, but also access experiences that would otherwise be unattainable due to difficulties, cost concerns, dangers, or impossibilities in real life. (Bonasai, 2019). In the STELAR Application product some features will realistically describe the archival practicum atmosphere so that even though students are not in the archiving practicum laboratory, they still get skills that are following the required skill specifications.

This media was developed considering that digital literacy and competence are currently needed to support the characteristics of students as digital native figures. This group of students is advised to use technology in their daily lives extensively, thus requiring more technology involved in the learning process (Nur Rakhmawati & Kusuma, 2016)

(Chang & Lai, 2021) their research also revealed that the Immersive Experience achieved by students allowed them to practice repeatedly without the supervision of an instructor and allowed students to practice skills repeatedly without using any equipment. Through the STELAR Application, students can continue to practice related skills that are currently needed in the field of office administration, namely managing archives, especially archives in a digital environment.

Data Presentation and Analysis

The process of validating the feasibility of the product that has been developed, namely a website-based digital archive application called the STELAR application, was assessed by a media expert and a material expert. The validator provides an assessment to determine whether the STELAR Application product that has been developed is valid or not to be used as a learning medium in the Archives Subject of the Office Administration Vocational School. Indicators of achievement in this study include the relevance of learning theory and practicum media, completeness of media presentations, and providing an easy understanding of theory through practice using this simulator media. Then the feasibility of the media is reviewed in terms of media validation based on the feasibility of display, practicum media, ease of access, navigation, and operation as well as suitability to the abilities and understanding of students. The following in Table 5 is the result of validation by material experts.

Table 5. Results of Material Expert Assessment

Aspect	Indikacator	Earned Score (x)	Ideal Score (xi)
Usability	Appropriate name of the application	5	5
	Compatibility of the application with the filing system	5	5
	Clarity of instructions and orders	4	5
Isi	1. Conformity of contents with menu and needs	5	5
	2. Language used	5	5
	3. Agenda book	4	5
	4. Disposition	4	5
	5. Incoming mail flow	5	5
	6. Outgoing mail flow	5	5
	7. Alphabet system archive storage system	4	5

Aspect	Indikacator	Earned Score (x)	Ideal Score (xi)
	8. Number system archive storage system	5	5
	9. Region system archive storage system	5	5
	10. System archive storage system problem	4	5
	11. Date system archive storage system	5	5
	Total	65	70

$$\textbf{Percentage} = \frac{x}{xi} \text{ x } 100\%$$
$$= \frac{92}{100} \text{ x } 100\%$$
$$= 92{,}85\ \%$$

Based on Table 5, the expert validators assess three aspects of the assessment. The determination of this aspect of the assessment is adjusted to the needs of each assessor for the product being developed. Based on the results of the calculation of the material expert's questionnaire assessment of the STELAR learning media that has been developed, the results are 92.85%. In addition to the assessment by material experts, this research and development product was also assessed by media experts which are presented in Table 6 below.

Table 6. The results of the assessment of the Media expert validator

Aspect	Indikacator	Earned Score (x)	Ideal Score (xi)
Appearance	Interesting initial view	5	5
	Content attraction	5	5
	Draw an icon from the app	4	5
	Complete menu	5	5
	Menu arrangement	4	5
	Linkage between menus	5	5
Writing	Combination of font styles	4	5
	Color combination	5	5
	Font Size	4	5
Kemudahan	Easy menu access	5	5
	Ease of entering data	5	5
	Ease of printing letters	5	5
	Ease of storing letters	5	5
	Data security	5	5
Total		66	70

$$\textbf{Percentage} = \frac{x}{xi} \text{ x } 100\%$$

$$= \frac{66}{75} \text{ x } 100\%$$

$$= 94{,}2\ \%$$

Based on the results of the calculation of the questionnaire assessment by media experts, in this case, lecturers who are experts in the development of learning media. Provide an assessment of the STELAR learning media that has been developed which includes four aspects of the assessment. The determination of this aspect of the assessment is adjusted to the needs of each assessor for the product being developed. Based on the results of the calculation of the media expert's questionnaire assessment of the STELAR learning media, the results were 94.2%. These results indicate that the STELAR learning media is valid and feasible to use in learning.

The results of the assessment by an expert validator indicate that this learning media is suitable for use in learning so follow-up research is needed, namely field trials at the Office Administration Vocational School in Malang City. Based on the results of small group trials, the following results were obtained.

Table 7. The results of the trials

Aspect	Indicator	Earned Score (x)	Ideal Score (xi)
Ease	Ease of accessing the application	26	30
	Ease of learning the menu	28	30
	Ease of understanding language or terms	25	30
	Ease of entering data	29	30
	Ease of editing data	27	30
	Ease of operation of the application	27	30
Usefulness	Assist in learning activities	27	30
	Useful for archiving practicum, correspondence, and cognitive evaluation	28	30
	Data security	26	30
Motivation	Motivating to learn independently	27	30
	Total	270	300

$$\textbf{Percentage} = \frac{x}{xi} \text{ x } 100\%$$

$$= \frac{270}{300} \text{ x } 100\%$$

$$= 90\ \%$$

Based on the calculation results of the test questionnaire assessment of the STELAR application is 90%. This states that the learning media developed is feasible to be used as a learning media for Archival Subjects following the eligibility criteria. Digital archiving simulator media is more effective for improving learning outcomes as seen from the immersive experience of students when using this product, where the average psychomotor value of students is better. This proves that the implementation of the digital archive simulator media has met the requirements as a medium to create an immersive experience in the 21st Century Skills challenge. It is important to conduct similar research on a wider subject and varied research variables, to see the validity of similar products. Digital learning also needs to be measured to other variables.

CONCLUSION

Based on the results of research and development, it can be concluded that this research produces a learning media called STELAR for students of Vocational Schools of the Office Administration Department with valid categories and suitable for use in the learning process. This is based on the results of the validation of material experts who obtained a value of 92,85%, media experts got a score of 94,2%, and field trials at Office Department Vocational Schools in Malang City obtained a score of 90%. This learning media is also equipped with digital archiving practice questions that are following cases or problems that exist in an office. As for accessing this STELAR learning media, it can be done via the link https://adp-stelar.com/.

REFERENCES

Azhari, B., & Fajri, I. (2022). Distance learning during the COVID-19 pandemic: School closure in Indonesia. *International Journal of Mathematical Education in Science and Technology*, *53*(7), 1934–1954. https://doi.org/10.1080/0020739X.2021.1875072

Bonasai. (2019). *Immersive experiences in education immersive experiences in education.* Chang, Y. M., & Lai, C. L. (2021). Exploring the experiences of nursing students in using immersive virtual reality to learn nursing skills. *Nurse Education Today*, *97*, 104670. https://doi.org/10.1016/j.nedt.2020.104670

Churiyah, M., Sholikhan, S., Filianti, F., & Sakdiyyah, D. A. (2020). Indonesia Education Readiness Conducting Distance Learning in Covid-19 Pandemic Situation. *International Journal of Multicultural and Multireligious Understanding*, *7*(6), 491. https://doi.org/10.18415/ijmmu.v7i6.1833

Handayani, F., & Sari, R. (2018). Analisis Kompetensi Arsiparis Profesional di Indonesia. *Jurnal Ilmu Perpustakaan dan Informasi*, *3*(2), 226–237.

Kirschner, P. A., & De Bruyckere, P. (2017). The myths of the digital native and the multitasker. *Teaching and Teacher Education*, *67*, 135–142. https://doi.org/10.1016/j.tate.2017.06.001

Muhson, A. (2010). Pengembangan Media Pembelajaran Berbasis Teknologi Informasi. *Jurnal Pendidikan Akuntansi Indonesia*, *8*(2). https://doi.org/10.21831/jpai.v8i2.949

Nur Rakhmawati, D. E., & Kusuma, A. W. (2016). DIGITAL NATIVE: A STUDY ON THE FIRST-YEAR STUDENT. *LiNGUA: Jurnal Ilmu Bahasa dan Sastra*, *10*(2), 82. https://doi.org/10.18860/ling.v10i2.3261

Nyfantoro, F., Salim, T. A., & Mirmani, A. (2020). Perkembangan Pengelolaan Arsip Elektronik di Indonesia: Tinjauan Pustaka Sistematis. *Diplomatika: Jurnal Kearsipan Terapan*, *3*(1), 1. https://doi.org/10.22146/diplomatika.48495

Permansah, S., & Murwaningsih, T. (2018). Media Pembelajaran Digital: Kajian Literatur Tentang Dampak Penggunaan Media Pembelajaran Digital di SMK. *Permansah & Murwaningsih, 2018*, 72–76.

Saeroji, A. (2014). Inovasi Media Pembelajaran Kearsipan Electronik Arsip (E-Arsip) Berbasis Microsoft Office Access. *Dinamika Pendidikan*, *9*(2), 177–185.

Saifudin, S., & Setiaji, A. Y. (2019). Sistem Informasi Arsip Surat (Sinau) Berbasis Web Pada Kantor Desa Karangsalam Kecamatan Baturraden. *EVOLUSI : Jurnal Sains dan Manajemen*, *7*(2). https://doi.org/10.31294/evolusi.v7i2.6751

Sugiyono, P., Dr. (2016). *Metode Penelitian dan Pengembangan (Research and Development)*. CV. Alfabeta.

Sutisna, M., Tiorida, E., Gaffar, M. R., Pramono, T. D., Mukaram, M., & Firmansyah, Y. (2021). Knowledge Sharing Penggunaan Aplikasi Pengarsipan Elektronik dengan IWSM dan Aplikasi Wordpress di Mitra SMKN 1 Cisarua. *Jurnal Pengabdian Masyarakat Madani (JPMM)*, *1*(2), 147–154. https://doi.org/10.51805/jpmm.v1i2.28

Thompson, P. (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computers & Education*, *65*, 12–33. https://doi.org/10.1016/j.compedu.2012.12.022