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The Effectiveness of Electronic Record Information System for Education (ERISE) on Improving Electronic Filing Skills in the New Normal Era

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Abstract. The study aimed to determine the effectiveness of the Electronic Record Information System for Education (ERISE) program in improving the learning outcomes of the skills aspects among students of the Vocational School of Automation and Office Management Program (AOMP) in managing electronic filing. The study used a quasi-experimental method with a one-group pretest-posttest design. The population was class X of the Vocational School of AOMP in the Special Region of Yogyakarta and Central Java Province. The sample selection technique used a purposive sampling technique with a total of 104 students as the sample. Data collection techniques were tests and documentation. The data analysis techniques were descriptive analysis and non-parametric statistical analysis with the Mann-Whitney U test. Based on data analysis, it concluded that 1) there was a significant difference in learning outcomes in skills aspects before and after using ERISE, and 2) there was an increase in learning outcomes of skills aspects by 72.96% before and after using ERISE. Based on the finding, the (ERISE) application can be used as a practicum media of digital filing for the new normal period.

Keywords: Electronic Filing · ERISE · Skills

1 Introduction

The Covid-19 pandemic is impacting the education sector, especially learning and teaching environments [1]. According to UNESCO data, more than three-quarters of schools worldwide are closed to stop the spread of this virus. The peak period occurred in early April 2020 with 75.4% of the school was close, and affect more than 1.3 billion students in 139 countries [2].

Online learning is Distance learning or training courses using communication and information technology such as the Internet, CD-ROM (both direct and indirect) [3]. Online learning will certainly be less meaningful without the synergy among strategies, methods, and the right learning media. The main barrier in the online learning system is in practical subjects or courses, especially in vocational education [4].

Vocational education programs aim at producing graduates who have abilities in certain work fields so that graduates can directly work in industry, government institutions, or self-employment. Therefore, the teaching in the vocational education program is structured by prioritizing the practical or skills subject compared to the theoretical subject [5].

Practical learning is a subject facing big challenges during the pandemic. Practical learning that is usually conducted in the laboratory or face-to-face in class, but in the pandemic situation, it must be conducted online at home [6].

A filing subject is a practical subject that is also impacted by the Covid-19 pandemic. Filing learning might not be conducted only by providing theoretical material. With the enactment of safety protocols during the pandemic the practicum is impossible to be conducted directly in the laboratory or classroom. On the other hand, the practicum activity might not be simply eliminated so that it is under the objectives of filing learning.

According to [7], filing is a document containing information, both paper, and electronic formats that are used for various activity functions. Filing always relates to information because it is information that is created, received, and stored in various forms and media, both by individuals and organizations. A filing must be managed properly because the value and level of importance are different, such as for juridical purposes, historical evidence, and business transactions. Managing filing means managing information. Filing management today must follow the Industrial Revolution 4.0, which is based on digital technology. Digital filing management is carried out in stages following the information cycle, starting from the stages of creation, maintenance and use, and disposition [8].

Filing learning in Vocational School is still dominated by manual filing management practice, in filing and physical storage media. The portion of digital filing management materials is still poor. For example, the Automation and Office Management Program in the Vocational School curriculum, which was previously known as Office Administration, consists of a filing subject. The filing subject has 20 basic competencies, but only one basic competency discusses the digital filing material. The research by [9] found out that most of the teachers of AOMP or Office Administration in Vocational School have not mastered the material of digital filing, so they face difficulty to teach this material to their students. Not only in the aspect of not mastering the material but most of the AOMP teachers in vocational schools in the Special Region of Yogyakarta and Central Java have also not been able to design learning media following the needs of students.

Based on pre-research observations, the Covid-19 pandemic has made it more difficult for vocational school teachers to conduct electronic filing practicum learning so that they only teach theoretical filling material. This, certainly, will arise a problem as filing subjects not only require understanding the theory but also need skills.

During the new normal period of the Covid-19 pandemic, the learning media used by vocational teachers of AOMP include WhatsApp Group, LMS Moodle, Google Classroom, Zoom, and Google Meet. The application is used to explain the theory of filing to students. However, those media have not facilitated the practicum and assessment of skills aspects in managing electronic filing.

Based on the problems of the background, it needs an effort to make it easy for teachers to teach digital or electronic filing practice learning, especially in the new

Table 1. The One Group Pretest Posttest Design

O	X	O
Pre-test	Treatment	Post-test

normal period by providing appropriate learning media. According to [10], learning media is a tool for the learning process whose function is to clarify the meaning of the message, and it aims to achieve learning objectives better. In this study, the media used to improve the electronic filing skills of students in vocational school is the ERISE application.

ERISE is a web-based filing management information system as a product of research conducted by Sutirman, Yuliansah, and Kusuma in 2020 to support the learning of digital filing in AOMP. The ERISE program is developed as a learning media so that students can learn independently at home in groups to simulate the process of managing electronic filing online.

Problems related to electronic filing learning in vocational schools must immediately find a solution. The study examines the effectiveness of ERISE media on learning outcomes in the aspects of electronic filing skills among students of OTKP. The research is expected to produce meaningful findings to improve the learning quality of electronic filing in Vocational Schools of Automation and Office Management.

2   Research Method

The study was a quantitative approach. The method used a quasi-experimental method with One Group Pretest Posttest Design, a quasi-experiment where a group is measured and observed before and after the treatment. The method is presented in Table 1.

One-Group Pretest-Posttest Design on the dependent variable was measured as a group before (pretest) and after (posttest) a treatment. After treatment, the scores before and after the treatment were compared. This experiment compared the scores before and after treatment of practice using the ERISE application to students.

The population was of students of class X in THE Vocational School of AOMP in the Special Region of Yogyakarta and Central Java Province. The selected sample of the Vocational Schools was based on participation in the ERISE training activities that had been organized by the researchers, as many as 15 vocational schools from the Special Region of Yogyakarta and Central Java Province. The vocational schools involved as research sample from Yogyakarta were Muhammadiyah 1 Wates Vocational School, Pengasih State Vocational School 1, Bantul State Vocational School 1, Depok State Vocational School 1, Godean State Vocational School 1, Tempel State Vocational School 1, Yogyakarta State Vocational School 1, and Yogyakarta State Vocational School 7. Meanwhile, the Vocational Schools from Central Java province were Semarang State Vocational School 9, Purwodadi State Vocational School 1, Temanggung State Vocational School 1, Surakarta State Vocational School 3, Klaten State Vocational School 4, Jogonalan State Vocational School 1 and Muhammadiyah 2 Klaten Utara Vocational School.

Table 2. Hypothesis Test Result

	Skills
Mann-Whitney U	401,500
Wilcoxon W	5861,500
Z	−11,538
Asymp. Sig. (2-tailed)	0.000

Table 3. Comparison of Learning Outcomes

Aspect	Pretest	Posttest	Increase	% Increase
Skills	50	86.68	36.68	72.96%

The sample selection technique used the purposive sampling technique. The selected sample was students of Class X as the research subjects because they were taking filing subjects. Meanwhile, Class XI was in industrial practice and class XII was impossible to choose as a sample as they focused on exams. Due to the limitations of the researcher, it took 7 students from each school as a sample, and the total sample was 104 students.

The instrument was the skill assessment rubric. The assessed skill indicators were skills in storing incoming and outgoing letters, the disposition process of incoming and outgoing letters, and skills in filing the incoming and outgoing letters using the ERISE media.

The data analysis technique was performed using non-parametric statistical analysis with the Mann-Whitney U test technique and descriptive analysis. Non-parametric statistical analysis was used to test the hypothesis of differences in skill learning outcomes before and after learning using ERISE. Meanwhile, descriptive analysis was used to determine the increase in learning outcomes before and after using the ERISE application.

3   Results and Discussion

The data analysis process was performed using non-parametric statistical analysis with the Mann-Whitney U test technique. The decision-making process was a significant level of 0.05 (5%) with criteria Ho accepted if Asymp. Sig. (2-tailed) > 0.05. The results of the analysis using the Mann-Whitney U test technique were presented in Table 2.

Based on data in Table 2, the learning outcomes of the skills aspect were obtained P value (0.000) < 0.05. Following the decision-making criteria, the hypothesis test H0 was rejected. Then, it concluded that there was a significant difference in learning outcomes in skills aspects before and after using ERISE.

The differences in students learning outcomes in the skills aspect using ERISE application were presented in Table 3.

Based on Table 3, the student learning outcomes in the aspect of electronic filing skills have increased by 72.9% after practice using ERISE application.

Based on the hypothesis test and descriptive analysis, the ERISE program was effective in improving the students learning outcomes in skills aspects in filing learning, especially in the basic competencies of electronic filing management. This program has high attractive, easy to use, and useful advantages for students, especially as a learning medium for electronic filing management. On other hand, not many programs were easy to use for filing learning. Several filing programs with free access were Digital File Cabinet (DFC), Electronic File System (EFS), or programs developed following the Access-based learning needs (E-Filing) by [11].

ERISE is a web-based learning media that was developed following the needs of filing learning, especially electronic filing management. Learning through the web or web learning has long been studied as a learning medium in vocational education that contributes significantly to the world of education. With its various advantages, ERISE can offer students more experience, not only in the storage process but also in the complete process of the concept of digital filing management which must perform in three stages of the information cycle, starting from the creation, maintenance, and use, and disposition (Doran, 2012).

Vocational schools of AOMP are expected to produce competitive skilled students in the field of the administration who can work in an office. Aiming to fulfill the demands, students must learn various competencies, including filing. And, filing learning is a demand to follow the learning in the industrial revolution era, that produces administrative students who can compete in the digital era. Then, electronic filing management is a basic competency that is expected to meet the demands of preparing graduates to be able to work in the industrial revolution era.

Therefore, the ERISE was created as a learning medium to accommodate filing learning in the industrial revolution era, as well as web-based learning in the new normal period. The research showed the differences in learning outcomes in managing electronic filing before and after using ERISE media. Most of the teachers in the Vocational School of AOMP were difficult to teach the subject of electronic filing management because they have not mastered the material and not much available media for electronic filing learning. The finding supported the previous findings, that filing learning in vocational schools mostly focuses on manual filing, the limitations of learning media to support digital filing learning, and teachers have not fully mastered the materials of electronic filing management [9, 11, 12].

The ERISE application in a website can provide new experiences for students in the learning of electronic filing management so that it can stimulate the learning motivation. This proves the previous studies about the advantages of website-based learning media or WBL in improving students' understanding and learning motivation [13–15].

The Utilization of web learning can also increase interaction between students [16, 17]. Through web-based ERISE application, students can learn independently, self-learning, and need experience in arranging electronic filing management. The theory of experience cone by [18], learning with real experience will have an impact on the learning understanding of up to 90%. Practical learning through ERISE answered various doubts about learning in the covid-19 pandemic, especially in vocational schools [19].

Fig. 1. Recommendations for Learning Media on Filing Practicum in the New Normal Period

4   Conclusion and Recommendation

Based on the finding and discussion, concluded that ERISE was effective in improving the skills of a student of the Automation and Office Management Program in electronic filing materials. This study recommends teachers and students, who are studying electronic filing, use the ERISE application in the learning process.

The ERISE application is easy to use for practicing filing management, both at home and at school. And, it is the right learning media for use as a learning media in the new normal period. The ERISE application will complete other online learning media that have been used by teachers, such as WhatsApp Group, Zoom, Google Classroom, Moodle, and others. ERISE is needed because filing learning does not only the knowledge aspect but also the skill aspect. Aspects of skills in electronic filing need to be developed by vocational students aiming they can compete in the world of work (Fig. 1).

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FINAL GRADE

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GENERAL COMMENTS

Instructor

CLAIM & FOCUS

State a clear claim on the scientific topic and maintain a focus on it throughout.

MEETS EXPECTATIONS	A precise claim/topic sentence is made based on the scientific topic and/or source(s). The response maintains a strong focus on developing the claim/topic sentence, thoroughly addressing the demands of the task.
APPROACHES EXPECTATIONS	A claim/topic sentence is made based on the scientific topic and/or source(s). The response may not completely address the demands of the task, or it does not maintain focus on developing it.
DOESN'T MEET EXPECTATIONS	A claim/topic sentence is vague, unclear, or missing. The response does not focus on or address the demands of the task.

EVIDENCE

Represent relevant scientific information accurately.

MEETS EXPECTATIONS	The most appropriate data and evidence are presented to support the claim/topic sentence, and all information is scientifically accurate.
APPROACHES EXPECTATIONS	Appropriate data and evidence may be presented to support the topic sentence, but it may be inadequate or contain some scientific inaccuracies.
DOESN'T MEET EXPECTATIONS	Evidence is general, inappropriate, or inadequate in support of the claim/topic sentence, or is largely inaccurate.

REASONING

Explain how evidence supports the claim/topic sentence.

MEETS EXPECTATIONS	The response demonstrates reasoning and understanding of the scientific topic and/or source(s), and sufficiently explains the relationship between claim and evidence.
APPROACHES EXPECTATIONS	Some reasoning and understanding of the scientific topic and/or source(s) are demonstrated. The response attempts to explain the relationship between claim and evidence.
DOESN'T MEET EXPECTATIONS	The response does not demonstrate reasoning and understanding of the scientific topic and/or source(s), and explanation of the relationship between claim and evidence is minimal.

ORGANIZATION

Organize your ideas in a logical sequence.

MEETS EXPECTATIONS	An effective organizational structure enhances the reader's understanding of the scientific information. The relationships between ideas are made clear with effective transitional phrases.
APPROACHES EXPECTATIONS	An organizational structure is evident, but may not be fully developed or appropriate. Transitional phrases may be used but the relationships between ideas are somewhat unclear.
DOESN'T MEET EXPECTATIONS	An organizational structure is largely absent and the relationships between ideas are unclear.

LANGUAGE

Communicate ideas clearly using vocabulary specific to the scientific topic.

MEETS EXPECTATIONS	Ideas are presented clearly, using vocabulary specific to the scientific topic. If errors in conventions are present, they do not interfere with meaning.
APPROACHES EXPECTATIONS	Ideas are mostly clear, using some vocabulary specific to the scientific topic. Some errors in conventions are present that may interfere with meaning.

DOESN'T MEET EXPECTATIONS	Ideas are not clear, using little to no vocabulary specific to the scientific topic. Several errors in conventions interfere with meaning.