



Analysis Content Validity of Electronic Records for learning to improve the skills of the Archives Practice Course in Higher Education: Aiken Validity and Lawshe

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Abstract

The purpose of this study was to investigate the elements of the validity of evaluation instruments and learning media for archiving courses in tertiary institutions. Pre-service teachers, especially in vocational schools, have an essential role in the education sector. They are given training and education to provide learning services to equip vocational students with intermediate-level skills. For this reason, assessing learning media is a critical and complex step for selecting the feasibility of learning media to teach prospective teachers. A practical approach through content validity is used to find existing content validity indices. So far, this research has been included in the study of narrative judgments and quantification of content validity. Data collection was carried out by five expert judgments from experts and practitioners in shooting learning and administration. The study results found that the learning media in the form of electronic recordings was stated to be very valid according to the Lawshe method, and the instrument evaluation was stated to be valid according to the Aiken method. Next, the use of evaluation instruments and Electronic Archives is highly recommended to be able to see their effectiveness.

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INTRODUCTION

Preparing professional teachers has become a priority in any country because professional teachers are diagraphs as a challenge and essential for the development and progress of the nation (Muhyadi et al., 2018). Novita (2022) states that the Indonesian Education Personnel Education Institute has graduated many pre-service teachers but with different qualities caused by several contextual factors such as policy, socio-economic, education system, and geographical challenges. Educational institutions have an essential role in producing graduates of the highest quality. Higher education institutions are directly asked to train and prepare digital competence pre-service teachers (PST) because they will pass on their expertise to prospective students and their teaching subjects (Global Partnership for Education, 2020).

The integration of ICT in the learning process is a controversial issue that is increasingly attracting attention for research. De Witte et al. (2014) argued that investment in ICT infrastructure in educational institutions had become one of the main priorities of education policy over the past decade. However, there are still inconsistencies about the effectiveness and efficiency of ICT, which are unconvincing, such as research by Stojanović et al. (2021), which found that the use of ICT in learning is effective for increasing student achievement and motivation in mathematics. Nikolić et al. (2019) also found that using computers (ICT) in the learning process empirically contributes to increasing learning activities from teachers and students. Lucas et al. (2017) found that significant changes in teaching and learning can be enhanced by new ICTs that are constantly emerging, which have changed the general approach to teaching and learning. However, differences found from the research of Ranjbarfard and Zandvakili (2021) using three learning methods in the form of game-based and professional software (ICT), and traditional teaching methods found that the game-based teaching method was significantly higher than the two teaching methods. This means that the use of professional software (ICT)

does not always make an excellent contribution to the learning process but should be adapted to the characteristics of the content and student learning patterns. Considering the positive and negative results of the literature regarding the use of ICT, Falck et al. (2017) argued that some activities might be more appropriate to be carried out conventionally without promoting the use of ICT, while other activities may be the opposite.

Pre-service teachers should at least have ICT skills because it is a challenge and a need for the learning process in the future. Nath (2018) states that because teachers are the ones who will integrate ICT into the curriculum, teacher training institutions also need to provide appropriate and adequate support to teachers at all levels of teacher education. Claro et al. (2012) ICT skills argument is defined as the capacity to solve information, communication, and knowledge issues in digital environments. Nikolić et al. (2019) recommend that teachers should be encouraged to think about how to apply ICT in lectures because it will become a necessity in the future. The application of ICT in the teaching process has enormous possibilities for simulation, presentation, and visualization of learning materials. Findings by Valiente et al. (2019) argue that the implementation of an electronic application should try to match the type of activity designed; not all technology-based resources are equally important for student achievement. Tahir et al. (2022) argued that ICT as a learning digitalization solution should be adapted to the latest methodologies to strengthen students' skills and abilities. Fernández et al. (2020) recommend that the use of ICT in improving educational outcomes is highly dependent on the subject and type of technology used. The orientation of using ICT in education requires careful evaluation to be applied appropriately in context and method of use to contribute to improving educational outcomes.

Mahdum et al. (2019) found that teachers in Indonesia have a good perception and motivation toward integrating ICT into learning activities. However, educators still need help with various problems related to facilities and technical expertise. Champa et al. (2019) found

that the readiness of Indonesian teachers to integrate ICT was found to be relatively low, which means that teachers still need to maximize the integration of ICT in Indonesia. Tokareva et al. (2019), a competency-based approach is also vital for developing one's competence modern teacher. The literature has recommended developing teacher training sessions and professional development so teachers can be oriented toward ICT development (Alemu, 2015).

The Department of Economics Education is part of the Universitas Negeri Semarang, one of the majors whose goal is to graduate pre – service teachers graduate who are competent in the field of business and management for vocational schools in the competency skills of Office Management and Business Services. One of the typical and essential subjects is the archive practice course. This course has the characteristics of being carried out by demonstration or hands-on practice with less theory. Archiving practice has become one of the contents of the curriculum in the field of business management at Vocational schools, so pre-service teachers should study them for business management at Vocational business management schools in the competency skills of Office Management and Business Services. Even in archival vocational schools, it has become part of the competency test requirements to obtain a professional certificate from the National Professional Certification Board as a standard for recognizing work competence.

The urgency of ICT integration in this course because learning is still done manually. Even though technological progress is a big challenge for the 21st century pre-service teacher, especially the ability to play a significant role in integrating ICT for educational purposes, especially for learning activities because of changes that continue to occur dynamically. Habibi et al. (2020) found that lack of training, access, technical support, and lack of suitability as factors hindering ICT integration in learning. Department of Office Administration Education is a service that organizes education for pre-service teachers who are expected to have

vacancies in vocational schools, especially the competency skills of Office Management and Vocational High School Business Services in the business management department.

ICT integration is necessary for optimal learning outcomes in archival practice courses. Even though the use of ICT has become the main driver in transforming current education, which is supported by the integration of ICT can improve the quality of learning and is a fundamental educational goal to be achieved in Educational Institutions for Educators. The role of information communication technology is becoming increasingly important in addressing increasingly complex competency requirements. Zhilan (2021) stated that the obstacles faced by educators in archival courses were limited time to carry out less practice compared to theoretical class time, so the application of participatory teaching modes was almost impossible (none). Yang (2021) states that learning that involves students, such as practice, is a form of conventional archival learning reform. Practical learning that involves students can improve the ability to manage student records from various aspects, such as the ability to think logically, express different ideas or ideas, master theoretical understanding, and perfect student archival knowledge, which was previously only theoretical.

The use of the Electronic Record Application with a specially developed evaluation instrument is proposed to measure students' archiving abilities. Considering from various literature that ICT can contribute to improving student performance (De Witte et al., 2014; Stojanović et al., 2021; Nikolić et al., 2019; Lucas et al., 2017). In particular, we have adapted the Electronic Record Application to the types of learning activities in archives courses. This relates to the types of activities that are designed with simulations or hands-on practice so that they are expected to improve student performance. Therefore, we are trying to do an early investigation before the use of ICT is implemented in the learning process. Our step begins with a study on testing the validity of learning media in the form of an Electronic

Record Application which we complete with an evaluation instrument. We use the evaluation instrument as a measuring tool to use ICT in learning, which is student archiving skills in the context of this research. Archiving skills in the context of this research as the ability or capacity of students to carry out archival activities, including processing, storing, and retrieving technology-based information in the Archives Course.

Archives are content on essential subjects with high relevance. Just imagine that there are so many archival problems in various sectors. Research by Zikkri et al. (2022) found that archival management in educational institutions needs to be optimally implemented because they need to understand digital archiving. Archive management is still manually using book guidelines even though various digital document storage systems have been developed, which have a good effect on the performance of archive managers and archive processors on stored documents. Then the research of Fadlilatunisa et al. (2022) found that various written evidence is always needed in managing education funding, which is included in administrative matters. To achieve transparent and accountable education funding, it must be supported by various documents that are stored neatly using specific methods to find them quickly and accurately. This is a reason the important to understand the management of archival.

The Electronic Record Application is a database-like application compiled using Microsoft Access-based, which can store various information and attach various files. This application has been designed with a needs analysis in the form of three main activities in archiving practices: recording, storage, and retrieval. The Microsoft Access-based Electronic Record Application is relatively easy to respond to the various deficiencies of conventional archive management where errors often occur and lead to the loss of archives. This application is relevant for use along with the digitization of archives/archive transition from conventional to electronic. As Saeroji (2014) states, the preparation of Microsoft Access-based electronic

archival media is to facilitate the delivery of electronic archiving practices. The advantages of using the E-Archive Application in archiving activities compared to conventional archival storage can be seen from various aspects such as speed and accuracy in retrieval, as a data backup effort so that if a loss occurs, there is still a copy of the archive, saving more space and easier to retrieve. This application is also equipped with an access security system so only certain people can open it.

Through this research, the tes of validity on the Electronic Record Application and the evaluation instrument. An investigation was carried out to see the feasibility value of both as learning tools for archiving practice learning. This research is expected to fill the gaps in the various existing literature related to the application of ICT in the learning process.

METHOD

This research was conducted as part of research and developing (RnD) focus on Electronic Record Application learning media and evaluation instruments. Following our objectives to investigate the validity of this learning tool. The primary data analysis technique that we use is content validity. This research uses two methods in content validity, namely the Lawshe method to determine the validity of the Electronic Record Application learning media and the Aiken method to determine the assessment instrument's validity level. This research involves at least five expert judgments from academics (lecturers) and practitioners in learning and office administration. As Almanasreh et al. (2019), the argument for assessing content validity relies on using a panel of experts to evaluate the elements of the instrument and judge them based on their relevance and representativeness to the content domain. Questionnaires was use to collect data. The instrument was adopted by Ummah (2019) using two main aspects: content validity and construct validity.

RESULTS AND DISCUSSIONS

This research focuses on the development of Electronic Record Management applications and assessment instruments that are used as benchmarks for success in learning archiving practices. In the era of learning technology in office administration, especially in the economic education department, office administration should ideally be integrated with technology. Integrating technology into learning requires various considerations, such as suitability with learning content and learning objectives. Therefore, developing this learning media is an alternative that can be used for archiving practice learning in tertiary institutions, especially in the department of office administration economics education.

The display of the Electronic Record Management application is shown in Figure 1.



Figure 1. Electronic Record Management Application



Figure 2. Main Menu of Electronic Record Management Application

Furthermore, in this research also developed an assessment instrument to use the application and conduct tests. The instrument of this was developed these instruments regarding performance-based assessments. The assessment implementation focuses on three main archival

practice activities: recording, storage, and retrieval. To describe of three activities as follows.

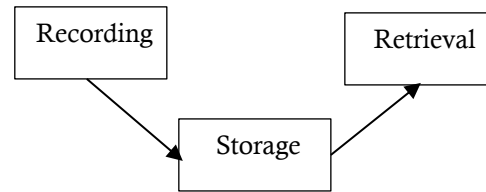


Figure 3. three main archival practice activities

Validity of Electronic Record Application as a learning media based on the Lawshe Method

The validity calculation using Lawshe's (1973) method is carried out using two formulas CVR (Content Validity Ratio) and CVI (Content Validity Index). To determine the CVR value, the calculation should refer to the Minimum Value of CVR, One-Tailed Test, $p = 0.05$ based on the number of SME (subject matter experts), which in this case consists of experts and practitioners. In this study, there were five SME (subject matter experts) consisting of experts and practitioners, and the minimum value of CVR was 0.99. If the CVR value exceeds > 0.99 , then all items are declared valid and suitable for further research. The results of the CVR calculation are presented in the following table 4.1.

Calculating the CVR value through the media expert validity sheet, the CVR value for each instrument item is 1 (one). As Lawshe's (1973) content validity stipulation, with a total of 5 SME experts, the Minimum Value of CVR, One-Tailed Test, $p = 0.05$ is 0.99, which is less than 1. Thus, each item of the instrument used to measure the validity or feasibility of learning media in the form of Electronic Record Application can be declared valid and meet the aspects of construct validity and content validity following the assessment of media experts.

Furthermore, the calculation of the CVR score is based on a review of the material expert's validity sheet. The calculation of the CVR value shows that each instrument item gets a value of 1. This means that the value is more than 0.99 with five SME provisions. Thus each instrument item that represents the feasibility or validity of the

learning media based on the validity of the material expert is declared valid.

After obtaining the CVR value by reviewing the validity sheets of media and material experts, the CVI (Content Validity Index) is calculated. This calculation is done by dividing the average value of the CVR of all items in the instrument. The results of CVI (Content Validity Index) calculations:

Table 1. CVI Formula and Value

Administration	Formula	CVI Value
Media Expert Validity Sheet	$CVI = \left(\frac{26}{26}\right)$	$1 > 0.99$
Material Expert Validation Sheet	$CVI = \left(\frac{16}{16}\right)$	$1 > 0.99$

Table 1. shows that the CVI value based on the validity of media and material experts is 1. As the requirements of the CVI (Content Validity Index), when the CVI (Content Validity Index) calculation value gets closer to 1, the results are more valid. Thus, based on the two instrument reviews, both the validity of media experts and material experts, it can be said that the Electronic Records Application is declared valid.

So, it can be concluded that learning media in Electronic Records has high validity and meets the aspects of construct validity and content validity following the assessment of media experts so that it is feasible to use. The existence of the Electronic Record Application for archival practice learning is a form of technological integration in the learning process, especially in archiving activities.

Validity of the evaluation instrument based on the Aiken Method

The evaluation instruments appropriate to the context of archival practice courses in tertiary institutions. The instruments have compiled contain work instructions for carrying out three main activities in archiving: document

processing, document storage, and document retrieval. Here also prepared a scoring rubric sheet as an assessment guide. The results of content validation were analyzed using the Aiken method. We collected assessments from five expert judgments through a questionnaire that we adopted from educational assessment standards covering the Substance Domain, the Construction Domain, and the Language or Culture Domain. We packaged it in a questionnaire consisting of 11 statements filled out by expert judgment.

Calculation of the Aiken's V index from 11 statements, all validators gave a score of 1, and final result showed that the score obtained was 1 or > 0.8 so; that it can be said that the evaluation instrument in the form of test questions has high validity (Retnawati, 2016: 17). Therefore, the test item instrument can be stated as a valid instrument and is suitable for use based on the five expert judgments and without any improvement. After testing the content validity with the results declared valid and feasible, the instrument will be used as a data collection tool in this study.

The instrument developed refers to the National Professional Certification Board (NPCB), especially in the assessment and archiving skills test. The test instrument consists of three main activities: recording, storage, and retrieval. Adjustments to the assessment using Electronic Record Management were also carried out to ensure that the assessment could be carried out empirically. Recording activities are completing letters and recording letters in an agenda book (electronic). Storage activity is storing letters in the Electronic Record Management Application. Retrieval is an activity carried out to retrieve letters according to the instructions in the instrument. Of the three activities, an evaluation or assessment is carried out according to the results of student work.

Finally, Electronic Record Applications and evaluation instruments should be collaborated with specific approaches and methods to see empirical performance improvements. The existence of Electronic Record Applications and instruments for learning

archiving practices is a form of innovation in learning. However, the development of the Electronic Record Application has several limitations, including applications that are still localhost or still need to have an online impact on the evaluation system, where educators should collect applications again collectively after students have finished practicing to provide an assessment. Learning media is vital in getting students cognitively and emotionally involved. Logan et al. (2021) state that learning media will enable students to be more actively involved with learning materials and learning patterns independently. In addition, the use of learning media will provide opportunities for students to directly practice a learning material which will make students more interested and motivated during the learning process and can even achieve a sense of satisfaction with the learning (Syawaluddin et al., 2020). In this case, the existence of the Electronic Record Application as a learning medium will provide opportunities for students to practice electronic archiving procedures. Even the Electronic Record Application opportunities to support the application of paperless Paperless is an effort made to minimize or reduce the use of paper by storing documents and data digitally and stored in digital storage (Kurniawan, 2019).

CONCLUSION

This research aims to investigate the level of validity of the Electronic Record Application and evaluation instruments. Electronic Record Applications and evaluation instruments as learning tools should be tested for validity. This study found that the Electronic Record Application was declared valid based on the lawshe method with a CVR and CVI value of 1, which means that the measurement of the validity of the Electronic Record Application through instruments developed from the aspect of content validity and construct validity was declared Valid. Furthermore, based on the calculation of the Aiken method (1985), Aiken's V Index value is 1 or > 0.8, so the evaluation instrument in the form of test questions has high validity. It is

possible for the Electronic Record Application and evaluation instruments to be applied in the context of archival practice learning to integrate ICT into learning. However, this research is still limited to validity testing, not the implementation of the learning process, so it is a suggestion for future research.

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