The Differences in the Effect of Using Video and Modules as Media in Learning Electronic Record Management

Sutirman Sutirman

Yogyakarta State University, #1 Colombo Street, Yogyakarta, Indonesia

Abstract – **Video and modules are learning media which are widely used in Diploma programs. The study concluded that: 1) there was no difference in the effect of using modules and videos as learning media for student skills in the practice of electronic record management; 2) there were differences in the effect of using modules and videos as learning media in mastering the theory of electronic record management; 3) there was a higher increase in the material mastery of the theory regarding electronic record management on students who were treated by using the modules than the students who were treated by using video as a learning media.**

Keywords – **videos, modules, learning media, electronic record management.**

1. Introduction

Today, the demands of the world of work are oriented toward information technology-based jobs or computers, which aim to master the information competencies [27]. One of the work competencies in the field of office administration is managing the archives electronically. Electronic archiving management skills are needed in the era of information technology.

Student of Diploma Secretary should master the skills of managing electronic filing. Mastery of skills in managing electronic archives strongly supports the improvement of information competencies. Information competency is the key to "meta-subject" consisting of cognitive, motivational, and activity-based components [27]. Based on observations regarding student activities during the field work practice, it is found that there are still many unskilled students in conducting the work of managing electronic archives, even though they have obtained the course of archival administration. The unskilled students in managing electronic archives could create an adverse impact for archival administrative learning. It still uses the lecturing method with the help of power point media, as well as direct tutorials orally by lecturers on archival practice material. The use of lecturing method with the help of power point media seems to be less effective. Likewise, direct tutorials orally by lecturers on archiving practice were still not effective.

Therefore, another effort is needed to improve the effectiveness of learning, so that the student's skills become better. The researcher, also work as a lecturer, is required to use the technology and learning media in order to improve the competence of students in vocational education programs [2]. This particular research conducted an experiment on the use of video and module as learning media in the course of Electronic Archive. There have been no studies discussing the research results on the differences in the effect of using videos and modules as learning media in vocational education programs, especially archiving. This article presented information on the findings regarding the differences in the effect of using video and modules as learning media on student learning achievement in electronic archive learning. The aspect of student learning achievement includes cognitive, affective, and psychomotor domains [17]. In this study, the measured learning achievement is only limited to the cognitive and psychomotor domains.

2. Literature Review

2.1. Learning

Learning is the main activity in the education process. Heinich stated that "instruction is the arrangement of information and environment to facilitate learning"[14]. Learning is the arrangement of information, and the environment has to facilitate the students to have a good learning. Learning is not just preparing a place for learning, but it includes the arrangement of methods, media, and various tools. It needed to convey information and guide students to learn. Smaldino explained that "instruction refers to any effort that stimulates learning by the deliberate arrangement of experience to help learners achieve a desirable change in capability" [23]. The statement implies that learning constitutes any efforts which stimulate learning by the deliberate arrangements of experience to help learners achieve a desirable change in capabilities.

Learning as an effort to help students to learn effectively has to be performed and based on the clear principles. Some learning principles according to Smaldino are: 1) Assess students' prior knowledge; 2) Consider individual differences; 3) State objectives; 4) Develop metacognitive skills; 5) Provide social interaction; 6) Incorporate realistic context; 7) Engage students in relevant practice; 8) Provide frequent, timely, and constructive feedback [23].

Learning principles are a reference to achieve success in the learning process. The success of learning is not seen from the point of the educator, but from the side of a student. Reigeluth stated that the effectiveness of learning is measured by the level of success of students [19]. Therefore, learning must be carried out by placing students as active subjects and given the opportunity to build their own knowledge.

The number of learning principles as references showed that designing learning activities is not a simple matter. Learning has to be carefully designed, considering various aspects aiming to obtain a satisfaction results.

2.2. Learning Media

Learning is a process of transferring material such as knowledge, values, and skills from educators to students. Pointing the material transfer process is well-conducted, learning media is needed to facilitate the transfer knowledge l from educator to students. Association of Education and Communication Technology (AECT) defined the media as all forms and channels used to convey messages and information [3]. Another opinion suggested that the media is a tool used to convey messages from a communicator to communicants [24]. Meanwhile, Trini Prastati & Prasetya Irawan defined the meaning of media as anything that can transfer the information from sources to recipients of information [28].

Wang & Cheung stated that in the context of education, media is commonly referred to learning facilities that carry messages to learners [29]. Media can also be defined as forms of communication, both printed and audio visual and its equipment; then, media can be manipulated, seen, read, and heard.

Sutirman described the learning media into: non-projected media, projected media, audio-media, motion media, computer mediated instruction, computer based multimedia and hypermedia, media radio and television [26]. Non-projected media are photographs, diagrams, displays, and models. Projected media are slides, filmstrips, overhead transparencies, and computer projection. Audio media are cassettes and compact discs. Motion media are videos and films.

Arsyad divided media based on technological developments, namely media with traditional technology and media with the latest technology [3]. Media with traditional technologies include: (a) visual silence projected in the form of opaque projections, overhead projections, slides, filmstrips; (b) Non-projected visuals in the form of images, posters, photos, charts, graphs, diagrams, exhibits, and information boards; (c) audio consists of recording discs and cassette tapes; (d) multimedia presentation are slide plus sound and multi-image; (e) dynamic visual projected in the form of film, television, video; (f) printed media such as textbooks, modules, programmed texts, workbooks, scientific magazines, periodicals, and handouts; (g) games are puzzles, simulations, and board games; (h) reality can be a model, specimen (example), manipulative (map, miniature, doll). Media with the latest technology is divided into: (a) telecommunications-based media including teleconference and distance learning; (b) microprocessor-based media consisting of CAI (Computer Assisted Instruction, Games, Hypermedia, CD (Compact Disc), and Web Based Learning).

Sadiman itemized the use of learning media in the following manner: clarifying message presentation; overcome the limitations of space, time, and sense; overcome passivity, aiming the students to become more enthusiastic and more independent in learning; provide stimuli, experience, and the same perception of learning material [21]. In short, videos and modules are types of learning media.

2.3. Learning Modules

Learning with Module is inseparable from Skinner's view of programmed learning. Hergenhahn & Olson explained the programmed learning

concepts from Skinner's view which has the following characteristics: 1) they consist of small steps; 2) a clear response; 3) immediate feedback; and 4) self-pacing [15].

The concept of programmed learning recommends that learning material should be divided into a number of information units, and it goes from one information unit to the next information unit. The instructor or educator has to provide a clear response to students; it aims could strengthen the correct answers, and the incorrect answer can have immediate correction. The response has to be followed up with feedback as soon as possible, so that the students know whether the answer is correct or not. Furthermore, students are provided a chance to learn according to their abilities, and in the way that is based on their learning speed. Grounded on these characteristics, learning with modules is a strategy that is in accordance with the programmed learning concept of Skinner.

The concept of programmed learning was subsequently adopted by several experts as the basis for developing the learning module. Russel stated, "a module is an instructional package dealing with a single conceptual unit of subject matter" [20]. The definition of the module according to Russell implies that the module is an instructional package dealing with a single conceptual unit of subject matter. The module becomes a media that contains one unit of material, so that it might be used by students during independent learning. Wena specified several opinions regarding the concept of learning modules [30].

Heinich explained the module as "any freestanding, self-contained instructional unit designed for use by a single learner or small group of learners without a teacher's presence" [14]. Smaldino defined "an instructional module is a self-contained instructional unit designed for use by a single learner or a small group of learners without a teacher's presence". [23] Definition of the learning module has the same definition by Heinich, which is a unit of independent learning designed for use by single learner or a small group of learners without a teacher's presence. Depdiknas provided a definition of learning modules as tools or means of learning that contain material, methods, scopes, and ways of evaluating learning systematically and interestingly to achieve the determined competencies in accordance with the level of complexity [8]. The definition seems more clearly and detailed because it contains the components of learning modules.

The learning module may be defined as a learning package that contains a set of learning experiences into one unit of learning material to help students in reaching the learning goals independently. Through independent learning, students will find the concepts and understanding the material without much difficulty [4]. The learning module becomes a learning media that can be used individually to reach the learning goals according to the learning speed of each individual. The role of educators in this module-based learning only plays as a facilitator, and provide assistance to students when they experience difficulties.

2.4. Learning Video

A learning media which delivers material in learning is video. A video is an important and useful media in learning in higher education [5]. A video can facilitate the student in understanding the material, encourage active participation, and provide value strengthening to students [5]. Learning videos are also used as elements in online learning [22], thus encouraging students to learn independently [4]. Learning using video media can strengthen the storage and transfer of information [12]. The video becomes the best alternative in learning; its objectives are the participants who can easily understand the material delivered by educators.

3. Method

3.1. Research Design

The particular study used a quasi-experimental research design. The quasi-experimental design was the pretest-posttest nonequivalent comparison-group design [16]. The quasi experiment design of the pretest-posttest nonequivalent comparison-group is presented in Figure 1.

	Pretest	Treatment	Posttest
Ekperimental Group	O_1	X_1	O_2
Control Group	O_1	X_2	O_2
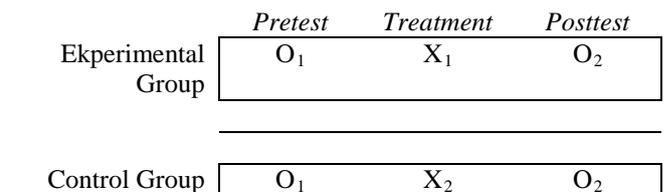
Where:
X1: Using video
X2: Using module
O1: Pretest
O2: Posttest

Figure 1. Pretest-posttest nonequivalent comparison-group design [16]

3.2. Research Subject

The subjects of the study consisted of students from the Secretary Study Program in Class A, and Class B who took Archival Administration courses. 29 students of Class A acted as the experimental group of video, and 31 students of class B presented the experimental group of modules. The experiment was carried out by giving treatment to class A with

electronic archiving learning using video. Videos are presented online, which is accessed on YouTube site. Class B as a control group was also given treatment, but it was different from class A. Class B was treated by electronic archiving learning using modules. Modules are provided in electronic form which accessed through e-learning besmart.uny.ac.id.

3.3. Data Collection Techniques

Data collection techniques used observation, pre-test and post-test. Data Collection Instruments were a list of observations and test questions. Test questions consisted of two types: theory and practice. The theory test consisted of 25 multiple choice questions, while the practice test questions consisted of a package of work instructions with indicators of accuracy, skill, and independence. Test questions have been tested in the form of content validity tests by evaluation experts and it was valid.

Besides the expert validation, reliability test was performed on instruments for multiple choice tests. The reliability test of the multiple choice test instruments was carried out by conducting a trial of multiple choice test questions to 32 students of Office Administration Education at the Faculty of Economics, Yogyakarta State University. The results of multiple-choice test on reliability test showed the Cronbach's Alpha number of 0.572 with the 25 items. The alpha value is compared with r table at a significance level of 0.05 to find out the reliability of the test questions. The r table value at the significance level of 0.05 and n = 32 is 0.349. Thus, the value of alpha (0.572) is higher than r table (0.349). In sum, the multiple choice test questions were reliable.

3.4. Data Analysis Techniques

Before conducting hypotheses test based on the experimental data, firstly, it conducted the normality test of the data to determine the appropriate test type. The data normality test used the Normality Tests of Kolmogorov-Smirnov. Furthermore, data analysis was performed using quantitative analysis techniques with non-parametric statistical tests. Independent sample t-test was used in the statistical test. An independent sample t test was used to compare the mean of two groups that did not related to each other. The steps in data analyzing started from the data input to SPSS application. Then, the analysis process is performed using the SPSS application. Finally, it continued to the interpretation of the results of the independent sample t test analysis.

4. Result

4.1. Data of Experiment's Result

The study was conducted through experiments in order to determine the differences in the effect of using videos and modules in electronic archives learning toward the student learning achievement. The measure regarding student learning achievement consisted of electronic archiving practice skills and mastery the theory of electronic archiving. Experiments were carried out on two groups of the classes; class A and class B. In class A, the experiment was conducted by using videos to deliver material of electronic archiving learning material. In class B, the experiment was conducted by using modules to deliver material of electronic archiving learning.

Experiments using videos in Electronic Archive learning conducted in class A comprised 29 students. Learning began with pre-test. Furthermore, Electronic Archive learning was conducted by using video media on material of electronic archiving practice. Videos in learning electronic archives consisted of videos that discuss the file management, transfer of archive media, and electronic archiving software. After the students learned all the material through video, then they continued to post-test. Post-test were multiple choice and practice tests.

Experiments using modules in Electronic Archive learning conducted in class B comprised 31 students. Learning began with pre-test. Furthermore, Electronic Archive learning was conducted by using an electronic archiving module. The modules in learning electronic archives consisted of modules that discuss the file management, transfer of archive media, and electronic archiving software. After the students learned all the material through video, then they continued to post-test. Post-test were multiple choice and practice tests. Based on the experiments conducted both in class A and class B, it obtained data, which are presented in table 1.

Table 1. The Result of Practical Score

Media	Mean of Pretest score	Mean of Posttest score	Increasing
Video	64	83	19
Module	64	84	20

Table 1 showed that the use of videos and modules in learning electronic archives can increase the practical score of students. The changing of practical score changes before and after learning using video media, and modules were not much different. The use of video is able to increase the score of student practice by 19 points, while the use

of video is able to increase the practical score of students by 20 points. The difference in the practical score of the students between experiments using video and modules was not significant, which was only 1 point.

Table 2. The Result of Theoretical Score

Media	Mean of Pretest score	Mean of Posttest score	Increasing
Video	64	78	14
Module	64	86	22

Table 2 showed that the use of videos and modules in learning electronic archives can increase theoretical score of a student. The change of the theoretical score of students before and after learning using video and module media is high. The use of video is able to increase the theoretical score of student by 14 points, while the use of video can increase the theoretical score of student by 20 points. The difference in the theoretical score of the students between experiments using video and modules was significant, which was 8 points.

4.2. Data Normality Test

Before hypotheses test based on the experimental data, firstly, it conducted test of normality of the data aiming to determine the appropriate test type. Test of normality of the data used the Tests of Normality Kolmogorov-Smirnov, and results are presented in table 3.

Table 3. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Experiment	.348	60	.000	.636	60	.000
Score	.159	60	.001	.946	60	.010

a. Lilliefors Significance Correction

Based on the results of normality test, it obtained a significant number of 0.01. This number is smaller than 0.05, so the data is not normally distributed. Since the data is not normally distributed, and the population is small, at that time the hypothesis test was conducted using nonparametric statistics. The two-sample of independent Mann-Whitney test was used to test the differences between two different experimental groups.

4.3. Hypothesis Test

4.3.1. Hypothesis 1

Hypothesis 1 formulated:

Ho: There are no differences in the effect of using modules and videos as learning media for electronic archiving abilities among students in Secretary Study program of UNY.

Ha: There are differences in the effect of using modules and videos as learning media for electronic archiving abilities among students in Secretary Study program of UNY.

Based on data processing by nonparametric statistical test using the two independent Mann-Whitney samples obtained results and they are presented in table 4.

Table 4. Test of Significance of Experimental Result on Practice Score Statistic Test[a]

	Achievement _practice
Mann-Whitney U	422.500
Wilcoxon W	857.500
Z	-.402
Asymp. Sig. (2-tailed)	.688

a. Grouping Variable: Media

Based on the result of Mann-Whitney test obtained a significance score of 0.688. The number of significance is higher than 0.05, so Ho is accepted. It means that there are no differences in the effect by using modules and videos as learning media for electronic archiving abilities among students. Students who used videos have increasing score of 19; meanwhile students who used modules have increasing score of 20. The changes in student skills are not significant.

4.3.2. Hypothesis 2

Hypothesis 2 formulated:

Ho: There are no differences in the effect of using modules and videos as learning media for material mastery on electronic archiving theory among students in Secretary Study program of UNY.

Ha: There are differences in the effect of using modules and videos as learning media for material mastery on electronic archiving theory among students in Secretary Study program of UNY.

Based on data processing by nonparametric statistical test using the two independent Mann-Whitney samples obtained results and they are presented in table 5.

Table 5. Test of Significance of Experimental Results on Theoretical Value

Statistic Test[a]

	Achievement _Theory
Mann-Whitney U	256.500
Wilcoxon W	691.500
Z	-2.861
Asymp. Sig. (2-tailed)	.004

a. Grouping Variable: Media

Based on the two independent samples of Mann-Whitney test obtained the significance score of the theoretical score of 0.004. The significance number is smaller than 0.05, so Ho is rejected. It means, there are differences in the effect of using modules and videos as learning media for material mastery on electronic archiving theory among students. Students who used videos have increasing in theoretical score of 14 points, while students who used modules have increasing in theoretical score of 22 points.

5. Discussion

A benefit of learning media is to facilitate the delivery of learning material from educators to students. Electronic archive learning contains learning material both theoretical and practical. The delivery of electronic archive learning material has been carried out with direct instruction strategies by lecturers using lecturing, demonstration, and practice methods. The learning media are power point presentations through LCD projectors. The use of direct learning strategies with power point media has not encouraged the activeness and independence of student learning. Therefore, this research, tried to make experiments using videos and learning modules. This experiment aimed to determine the differences in the effect of using videos and modules in electronic archive learning on student learning achievement. Learning achievements are student skills from the score regarding practical and mastery of theoretical knowledge from the theoretical score.

5.1. Differences in the Effects of Using Videos and Modules on Student Skills.

The findings indicated that the use of video as a learning media on electronic archive has a positive impact on learning achievement. Students who took the learning using video media have an increase in their understanding [6]. The findings of this study are also in accordance with the research by Hansch [13] and Busyaeri, Udin, & Zaenuddin [7], and it is concluded that the use of video in learning can improve learning achievement. This finding also showed that videos are useful in learning in universities [5]. By using video learning media, students tend to have independent learning [23].

Likewise, with the use of learning modules, it also has a positive impact on student learning achievement. The learning module proved a good impact on improving learning achievement. The research results of Sutirman showed that the use of modules can improve learning achievement respecting the cognitive, affective, and skill aspects [27]. Research on Getuno [10] and Bjork, Dunlosky, & Kornell [4] also found that the use of modules has a good impact on learning achievement.

There is a certain increase regarding the skills of students who learned using video and modules. Students who used learning videos accomplish an increasing in practical score by 19 points, while students who used the learning module achieve an increase in the practical score of 20 points.

The similarity in the effect of using videos and modules might also be caused by the structure of presentation regarding the material in videos and modules, which is almost the same. Modules present material in small units, as well as videos that also present material based on separated material units [9]. However, based on score changing in the score of the pretest and posttest, the use of videos and modules can improve the student skills.

5.2. Differences in the Effect of Using Videos and Modules on Mastery of Student Theoretical Knowledge

Based on the differences in the score pretest and posttest, an increase of the theoretical score using module was higher than that of the theoretical score using video. The increase of the theoretical score in which students using videos is 14 points and modules are 22 points. This finding is in accordance with research by Giannakos [11] and Busyaeri, Udin, Zaenuddin [7], and it is concluded that the use of video in learning can improve student learning achievement. Hansch stated that videos are very suitable to be used as learning media [13]. Likewise, the use of modules can improve the independent learning of a student, so that the material mastery becomes more complete [23]. Researchby Getuno in Kenya also found that the use of modules had a good impact on learning achievement [10]. The use of modules as learning media is more flexible than video, so the impact of using the module is higher on cognitive achievement than using a video. This is in accordance with the findings of Bjork, Dunlosky, & Kornell, who state that independent learning encourages students to find the concepts and understand the material [4].

Modules as learning media have advantages in improving cognitive achievement, while in building the cognitive activity it is needed to combine various

elements in learning [18]. Modules as learning media contain elements of text, images, case studies, and exercises. In addition, the use of modules tends to be more flexible, because they can be used repeatedly without requiring other technologies [1].

Based on the results of the previous research, the video is more appropriate to deliver practical learning material. Video can display work methods more convincingly than using modules. Modules are more appropriate to be used in order to deliver theoretical learning material. Modules can present cognitive information in more detail and they are more flexible, since they can be read repeatedly [25].

The author realizes that there are still weaknesses in the particular research. The weakness of this study is due to the small number of research subjects. This study does not reveal the affective aspects, and the control of the research subjects is not firm. The current study only reveals the effect of using videos and modules on cognitive and psychomotor aspects. Therefore, there is still a need for more extensive research, which includes more comprehensive aspects of learning.

6. Conclusion

The use of video and modules as learning media can improve the student learning achievement on the aspects of knowledge and skills. The use of video and modules as learning media has the same effect on students' skills in practicing the electronic archiving. However, there are differences in the effect of using video and modules as learning media on mastering the knowledge aspects of electronic archive theory. A rise of learning achievement in knowledge aspects for students who use modules is higher than the cognitive aspects for students who acquire learning achievement by using the video. The findings provide recommendations in which learning modules are more suitable to convey the cognitive material. Meanwhile, learning videos are more suitable to deliver material of practical skills. To make learning videos effectively affect the material delivery of practical skills, the video presentation must be divided into more specific learning units.

Acknowledgements

References

[1]. Alshorooqi, F., & Moh'd Rawadieh, S. (2017). Media Implications in Bahrain's textbooks in light of UNESCO's media literacy principles. *Journal of Social Studies Education Research*, *8*(3), 259-281.

[2]. Andersson, P., & Köpsén, S. (2018). Maintaining competence in the initial occupation: Activities among vocational teachers. *Vocations and Learning*, *11*(2), 317-344.

[3]. Arsyad, A. (2007). Media Pembelajaran (cetakan kesembilan). *Jakarta: PT Raja Grafindo Persada*.

[4]. Bjork, R. A., Dunlosky, J., & Kornell, N. (2013). Self-regulated learning: Beliefs, techniques, and illusions. *Annual review of psychology*, *64*, 417-444.

[5]. Brame, C. J. (2016). Effective educational videos: Principles and guidelines for maximizing student learning from video content. *CBE—Life Sciences Education*, *15*(4), 1-6.

[6]. Brunken, R., Plass, J. L., & Leutner, D. (2003). Direct measurement of cognitive load in multimedia learning. *Educational psychologist*, *38*(1), 53-61.

[7]. Busyaeri, A., Udin, T., & Zaenudin, A. (2016). Pengaruh penggunaan video pembelajaran terhadap peningkatan hasil belajar mapel IPA di MIN Kroya Cirebon. *Al Ibtida: Jurnal Pendidikan Guru MI*, *3*(1).

[8]. Depdiknas. (2003). *Pedoman penulisan modul.* Jakarta: Depdiknas

[9]. Dick, W., Carey, L., & Carey, J. O. (2005). *The systematic design of instruction(6th ed.).* Boston: Pearson.

[10]. Getuno, D. M., Kiboss, J. K., Changeiywo, J. M., & Ogola, L. B. (2015). Effects of an E-Learning Module on Students' Attitudes in an Electronics Class. *Journal of Education and Practice*, *6*(36), 80-86.

[11]. Giannakos, M. N., Chorianopoulos, K., Ronchetti, M., Szegedi, P., & Teasley, S. D. (2014). Video-Based Learning and Open Online Courses. *International Journal of Emerging Technologies in Learning*, *9*(1), 4-7.

[12]. Guo, P. J., Kim, J., & Rubin, R. (2014, March). How video production affects student engagement: An empirical study of MOOC videos. In *Proceedings of the first ACM conference on Learning@ scale conference* (pp. 41-50). ACM.

[13]. Hansch, A., McConachie, K., Schmidt, P., Hillers, L., Newman, C., & Schildhauer, T. (2015). The role of video in online learning: Findings from the field and critical reflections. *Alexander von Humboldt Institut Fur Internet und Gesellschaft*.

[14]. Heinich, R., at.al. (1996). *Instructional media and technologies for learning (4th ed.).* New Jersey: Prentice-Hall.

[15]. Hergenhahn, B. R. & Olson, M. H. (2008). *Theories of learning (Teori Belajar) (Edisi Ketujuh).* Diterjemahkan oleh Triwibowo. Jakarta: Kencana Prenada Media Group.

[16]. Johnson, B. & Christensen, L. (2008). *Educational research: quantitative, qualitative, and mixed approaches (3th ed.)*. California: Sage Publication, Inc.

[17]. Ramalingam, M., Kasilingam, G., & Chinnavan, E. (2014). Assessment of Learning Domains to Improve Student's Learning in Higher Education. *Journal of Young Pharmacists*, *6*(1), 27.

[18]. Matanluk, O., Mohammad, B., Kiflee, D. N. A., & Imbug, M. (2013). The effectiveness of using teaching module based on radical constructivism toward students learning process. *Procedia-Social and Behavioral Sciences*, *90*, 607-615.

[19]. Reigeluth, C.M. (1983*). Instructional design theories and models: an overview of the current status*. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers.

[20]. Russel, J. D. (1974). *Modular instruction*. Minneapolis: Burgess Publishing Company.

[21]. Sadiman, A. S. (2006). *Media pendidikan: pengertian, pengembanga, dan pemanfaatannya*. Jakarta: PT Raja Grafindo Persada.

[22]. Schacter, D. L., & Szpunar, K. K. (2015). Enhancing attention and memory during video-recorded lectures. *Scholarship of Teaching and Learning in Psychology*, *1*(1), 60-71.

[23]. Smaldino, S. E, Lowther, D.L., & Russel, J.D. (2008). *Instructional technology and media for learning (9th ed.)*. Upper Saddle River, New Jersey: Pearson Education, Inc.

[24]. Suranto (2005). *Komunikasi perkantoran*. Yogjakarta: Wahana Grafika.

[25]. Sutirman, S., Muhyadi, M., & Surjono, H. D. (2017). Integration of strategy experiential learning in e-module of electronic records management. *Jurnal Pendidikan Vokasi*, *7*(3), 288-303.

[26]. Sutirman. (2013). *Media dan model-model pembelajaran inovatif*. Yogyakarta: Graha Ilmu.

[27]. Tabachuk, N. P., Ledovskikh, I. A., Shulika, N. A., Karpova, I. V., Kazinets, V. A., & Polichka, A. E. (2018). Information competency and creative initiative of personality and their manifestation in activity. *Journal of Social Studies Education Research*, *9*(1), 168-186.

[28]. Trini Prastati & Prasetya Irawan (2005). *Media sederhana*. Jakarta: PAU Dirjen Dikti Depdiknas.

[29]. Chee, T. S., & Wong, A. F. (2003). Teaching and learning with technology: An asia-pacific perspective. *Lok Yang: Prentice Hall*.

[30]. Wena, M. (2011). *Strategi pembelajaran inovatif kontemporer: suatu tinjauan konseptual operasional*. Jakarta: Bumi Aksara.