

Media Usee-Learning Scorm Standards In Increasing Teacher's Pedagogic Competence At SDN 008 Rokan IV Koto, Rokan Hulu District

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Abstract, *Teachers have more limited time to improve their abilities than transferring material to students. It is hoped that by using the mediae-learning with SCORM standards, teacher competence can increase, so that the quality of students will indirectly improve. The purpose of this study was to determine differences in the ability of teachers to develop teaching materials on aspects of knowledge between those using the mediae-learning SCORM standard with modules. The method used in this research is a quasi-experimental design control group pre-test post-test. The results of the study show that there is an influence on the use of mediae - learning SCORM standards for improving teacher pedagogic competence at SDN 008 Rokan IV Koto. Specifically, the conclusions are as follows: (1) Media usee-learning having a SCORM standard has a significant effect on the teacher's ability to develop teaching materials for knowledge aspects; (2) Use of mediae-learning having a SCORM standard has a significant effect on the teacher's ability to develop teaching materials for understanding aspects; (3) Use of mediae-learning SCORM standards have no significant effect on the teacher's ability to develop teaching materials for the application aspect*

Keywords : *E-Learning, scorm, competency, teacher*

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I. INTRODUCTION

The use of learning media in learning is important to achieve the instructional objectives that have been prepared (Nopriyanti and Darlius 2019). According to (Hamalik, 2009: 12), learning media are tools, methods and techniques used in order to make communication and interaction more effective between teachers and students in the process of education and teaching in schools. When viewed at this time, technological developments are very rapid and affect all lines of life, including in the world of education. In the world

of education, we are more familiar with the terms offline and online. (Hartanto, 2016). One of the main components of online learning is the teacher. The teacher acts as a facilitator and maker of learning media. Teachers are required to be skilled at using instructional media as part of a teacher's competence (Towip 2020).

Seeing the urgency of evaluating learning outcomes in the world of education certainly triggers teachers and education providers to continue exploring the quality of their knowledge which continues to develop along with the developments and demands of the times. The link between learning evaluation

and the development of the times is narrowed to the use of media. This proves that the media has a role in facilitating or facilitating someone's task, in this case a teacher (Tarmini et al. 2020).

In accordance with Law no. 14 of 2015 concerning Teachers and Lecturers, especially Article 8 Teachers must have academic qualifications, competencies, educator certificates, be physically and mentally healthy, and have the ability to realize national education goals. Teacher competence as referred to in Article 8 includes pedagogical competence, personal competence, social competence, and professional competence obtained through professional education. Pedagogic competence is the ability to manage student learning.

As part of the pedagogical competencies in relation to the use of e-learning, there are at least 3 (three) basic competencies that educators must possess to implement e-learning learning models, namely: 1. Ability to make instructional designs according to the rules pedagogical principles set forth in the lesson plans, 2. Mastery of learning materials in accordance with the areas of expertise and subjects given. 3. Mastery of technology in learning, namely the use of the internet as a learning resource ((Hartanto, 2016).

E-learning is a form of learning model that is facilitated and supported by the use of information and communication technology (Bariah and Sidik 2019). In improving their pedagogical competence, teachers use E-Learning media with the SCORM standard. SCORM (Shareable Content The Object Reference Model) is a standard for distributing e-learning content issued by ADL (Advanced Distributed Learning) (Bariah and Sidik 2019). With SCORM, teachers are expected to be able to create packages in the form of web pages, graphics, Flash presentation slides, videos, sounds and any content that can be opened in a web browser (Rianto, S.2013).

In fact, according to what was found at the HR 008 Rokan IV Koto problem, teachers must improve their pedagogical competence to

be able to use e-learning media in learning. There are also those who interpret e-learning as a form of distance education carried out via internet media (Sudaryanto 2017). In addition, the teacher has knowledge of how to choose the appropriate material and choose the appropriate method, but the teacher does not have knowledge of programming. Programmers have knowledge of how to create interactive content, but do not have knowledge of how to choose material and how to teach it (Dwijoko 2022).

Teachers have more limited time to improve their abilities than transferring material to students. It is hoped that by using the mediae-learning with SCORM standards, teacher competence can increase, so that the quality of students will indirectly improve. Based on the previous description, in this study the researcher raised the focus of the problem: Media Use E-Learning SCORM standard in Teacher Pedagogic Competency Improvement.

II. RESEARCH METHODS

The method used in this research is a quasi-experimental design *control group pre-test post-test*. In this study, the sample consisted of two groups, namely the experimental group and the control group. The experimental group is the group that was given the learning treatment using the mediae-learning SCORM standard. Meanwhile, the control group was treated as a controller for the experimental group, using a module. As for testing and measurement, stated by Syaodih (2007: 5 8), it is carried out using standard or standardized instruments or tests. The population in the study were teachers at SDN 008 Rokan IV Koto based on technique *cluster sampling*.

III. RESEARCH RESULTS AND DISCUSSION

1. Research result

Trials of Research Instruments

The research instrument in this study was an objective test. Trials of research instruments were carried out to measure the feasibility of the instruments to be given to the experimental

group and the control group. Based on the test results, it can be seen the validity, reliability, level of difficulty and differential power of the instrument as follows:

Instrument Validity

Instrumental Validity Objective Test

r count	r table	Interpretation
0,925	0,66 1	Significant

According to Arikunto (2003: 75), the instrument is declared valid when r_{count} greater than r_{table} ($r_{count} > r_{table}$). Based on the calculation results, it is obtained r_{count} of 0.925 and r_{table} of 0.661, with a confidence level of 99%. So it can be concluded that between variable x (odd items) and variable y (even items) has a significant correlation, with a positive correlation direction and a large correlation index

Instrument Reliability

Instrument Reliability Objective Test

r count	r table	Interpretation
0,96 1	0,66 1	Significant

The instrument is declared reliable when r_{count} greater than r_{table} ($r_{count} > r_{table}$). Based on the calculation, it is obtained r_{count} of 0.961 and r_{table} of 0.66 1 with a 99% confidence level. So it can be concluded that this objective test instrument is reliable as a whole.

Question Difficulty Level Analysis

Based on the calculation, the data on the difficulty level of the questions is obtained as follows:

No. Question	B	P value	Interpretation
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1	2	0.06	Difficult
2	6	0.2	Difficult
3	11	0.37	Currently
4	10	0.33	Currently
5	5	0.17	Difficult
6	6	0.2	Difficult
7	21	0.7	Easy
8	21	0.7	Easy
9	2	0.07	Difficult
10	10	0.33	Currently
11	5	0.17	Difficult
12	3	0.1	Difficult
13	15	0.5	Currently
14	9	0.3	Currently
15	10	0.33	Currently
16	14	0.47	Currently
17	16	0.53	Currently
18	25	0.83	Easy
19	10	0.33	Currently
20	11	0.37	Currently
21	9	0.3	Currently
22	15	0.5	Currently
23	17	0.57	Currently
24	19	0.63	Currently

The table above explains that there are 7 difficult item categories, 14 moderate item categories, and 3 easy item categories. Arikunto stated (2003: 210): It should be noted that

questions that are too easy or too difficult do not mean that they should not be used. This depends on its use. In addition, questions that are difficult will increase enthusiasm for learning for students who are smart, while questions that are too easy will arouse enthusiasm for students who are weak. Based on this statement, even though there are 7 difficult questions and 3 easy questions, they are still used/included for the pre-test questions.

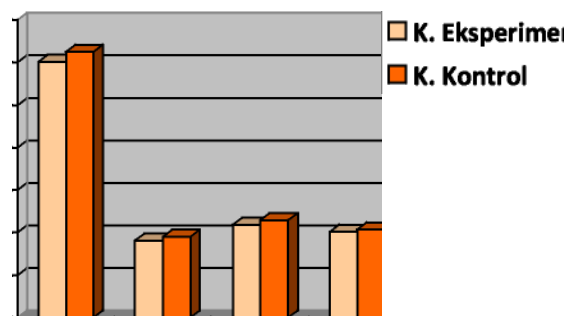
Difference Power

Based on the results of the calculation of discriminatory power (discrimination index), that the questions that had poor discriminating power were 3 questions, those that had poor discriminating power were nine questions, and those with moderate power were 12 questions.

Experiment Implementation

The sample in this study were teachers at SDN 008 Rokan IV Koto. Specifically, the sample was divided into 2 groups, namely the group of teachers at the Cihanjuang Campus (MTs and MA teachers) as the experimental group and teachers at the Cibabat Campus (MI teachers) as the control group.

In the experimental group, learning lasted for one week using *e-learning* SCORM standard. While in the control group using the module. Before being given treatment, each group was given *pre test* with the aim of seeing the initial abilities of teachers regarding mastery of teaching material development materials. The questions were divided into three categories, namely the knowledge aspect (C1) with 9 questions, the understanding aspect (C2) with 8 questions, and the application aspect (C3) with 7 questions. Based on the results *pre test* the experimental group and the control group, it can be seen that the average score comparison is as follows:



Results *pre test* as a whole was tested for significance using an independent t test. The following results were obtained:

. Group	Total	Knowledge (C1)	Understanding (C2)	Deployment (C3)
Experiment	16,1	6,3	6,63	4,23
Control	12,8	5,57	3,73	3,5

Group	Knowledge (C1)	Understanding (C2)	Deployment (C3)
Experiment	3	0,87	0,2
Control	1,77	-0,83	-0,63

Once done *pre test* and *post test* in the experimental group and the control group, it is seen *gain* in each group as follows: NB The table above shows that the experimental group used *e-learning* their abilities increased more rapidly than the control group that used the module. This is based on the score of the *post test* results of the experimental group using *e-learning* much greater than the *pre-test* score.

Hypothesis testing

Normality test

In the use of parametric statistics, prior to testing the hypothesis it is required that the

data for each variable must be normally distributed. In the experimental group and the control group as a whole it was 0.198. The value of 0.198 is certainly greater than 0.05. So it can be concluded that overall, the two groups have the same or homogeneous variance.

If homogeneity is measured in the aspect of knowledge, then a significance value of 0.961 is obtained. 0.961 is greater than 0.005. It can be concluded that the experimental group and the control group on the knowledge aspect have the same variance, in the sense of homogeneity.

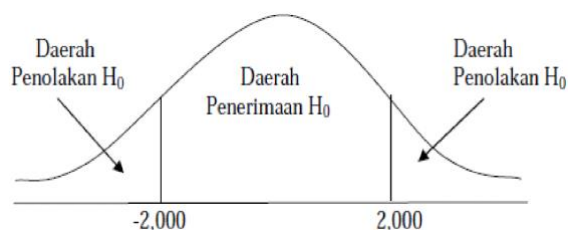
Similar to the conclusions on the knowledge aspect, the experimental group and the control group on the knowledge aspect also have the same variant. This is based on the calculation results shown in the table above, that the significance (Sig.) is 0.888, and 0.888 is certainly greater than the alpha value (0.05).

Not different from the results of the previous homogeneity test, even in the aspect of the application of the experimental group and the control group the results showed that the significance was 0.769. If alpha is 0.05, then the significance value is greater than alpha. It can be concluded that the variances of the two groups in the application aspect are the same, or homogeneous.

Independent t test

Based on previous data, the data has been shown to be normal and the sample has been shown to be homogeneous. Therefore, the hypothesis test can be followed by a parametric test, namely the independent t test. The t test is carried out based on the hypothesis that has been set in chapter one. The general working hypothesis is that there is a significant effect of media use - learning SCORM standards on improving teacher abilities in developing teaching materials. The results of testing the hypothesis are as follows:

The results of the t test can be seen in the table above, column t, showing 4.686. As for value_{ttable}for dk 58 (n-2) with a 95% confidence level, it is 2,000. Based on what has been formulated in chapter I, the working hypothesis does not have a tendency towards one group, so the hypothesis testing uses a two-tailed test (2 tails). Because it uses a two-sided test, the H1 acceptance area is in the positive and negative areas with the limit of t table. The test criteria can be described as follows:

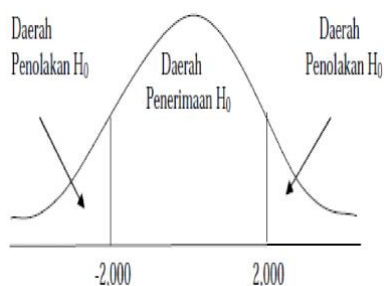


Based on the calculation results, it is obtained t_{count} of 4.686. A value of 4.686 greater than 2.000 means that H_0 is rejected. This means that there is a significant influence on the use of mediae-learning SCORM standards on improving teacher abilities in developing teaching materials.

First Hypothesis

The first hypothesis (null hypothesis) in this study is that there is no significant difference between media usee-learning SCORM standard with the use of modules to increase the ability of teachers in the aspect of knowledge in developing teaching materials.

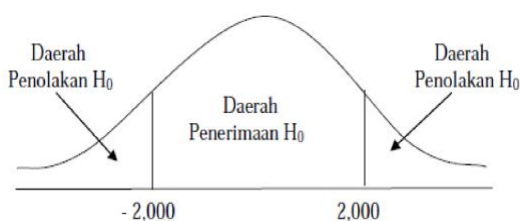
Based on the results of the two-party independent t test on the knowledge aspect shown in the table above, column t, the value is obtained_{tcount} of 2.456. As previously explained, when the t test uses a two-tailed test, the criteria for testing the hypothesis are described as follows:



The picture above shows that if $t_{count} > 2,000$ or $t_{count} < -2,000$ then H_0 is rejected and H_1 is automatically accepted. It can be concluded that the value of t_{count} is in the area of H_0 rejection, in other words the working hypothesis is accepted. This means that there is a significant difference in influence between the use of mediae - learning SCORM standard with the use of modules to increase the ability of teachers in the aspect of knowledge in developing teaching materials.

Second Hypothesis

The second hypothesis (H_0) in this study is that there is no significant difference between media use - learning SCORM standard with the use of modules to increase the ability of teachers in understanding aspects in developing teaching materials. After calculating/testing independent t. The result of the calculation is the value of t_{count} of 3,920. It can be ascertained, that the value of t_{table} t_{count} with an error rate of 5%. The following is an illustration of the area of rejection and acceptance of H_0 .

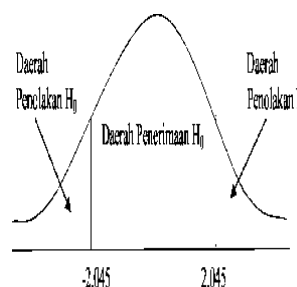


It can be concluded that the null hypothesis is rejected or the working hypothesis is accepted. This means that there is a significant difference in influence between the use of mediae-learning SCORM standard with the use of modules to

increase the ability of teachers in understanding aspects in developing teaching materials.

Third Hypothesis

The third hypothesis (H_0) in this study is that there is no significant difference between media use - learning SCORM standard with the use of modules to increase the ability of teachers in the aspect of application in developing teaching materials. After being tested with the independent t hypothesis test, the results of the hypothesis test showed that the value of t_{count} of 1.945 while the value of t_{table} of 2,000. The value of 1.945 is in the interval -2.000 to 2.000. If seen from the following figure, the calculated t value is in the acceptance area of H_0 .



Based on the hypothesis test, it can be concluded that the null hypothesis is accepted or in other words the working hypothesis is rejected.

That is, there is no significant difference in effect between the use of mediae-learning SCORM standard with the use of modules to increase the ability of teachers in the aspect of application in developing teaching materials.

IV. CONCLUSION

Based on the results of the research and data analysis, it can be concluded in general that there is an effect of media use - learning SCORM standards for improving teacher pedagogic competence at SDN 008 Rokan IV Koto.

Specifically, the conclusions are as follows:

1. Use of mediae-learning SCORM

standards have a significant effect on the teacher's ability to develop teaching materials for knowledge aspects.

2. Use of mediae-learning SCORM standards have a significant effect on the teacher's ability to develop teaching materials for understanding aspects.

Use of mediae-learning SCORM standards have no significant effect on the teacher's ability to develop teaching materials for the application aspect.

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