Is there a Relationship Between Classmarker Application and Social Science Learning Outcomes?

Pranowo Narjosoeripto
Civics Education
Universitas Veteran Bangun Nusantara
Sukoharjo, Indonesia
moetis_meida@yahoo.co.id

T. Harsan
Civics Education
Universitas Veteran Bangun Nusantara
Sukoharjo, Indonesia
toniharsan@gmail.com

P.M. Purbosari
Civics Education
Universitas Veteran Bangun Nusantara
Sukoharjo, Indonesia
paramittapurbosari@gmail.com

Abstract— **This study aimed to determine the effect of the application of the Classmarker on social studies learning outcomes at Public Elementary School Munggung 03, Klaten. The method used in this study was a quantitative study. In the preparation of data collection instruments or tools, the variable as the main reference for the researcher in preparing questionnaires is the questionnaire about the use of the Classmarker application on social science learning outcomes. The method used in the data analysis was correlation analysis. The study location was in Public Elementary School 03 Munggung, Klaten. Then, the population in this study were 20 fourth-grade students of Public Elementary School 03 Munggung, Klaten. From the results of this study, it can be concluded that there is a relationship between the Classmarker application and social science learning outcomes of the fourth-grade students in Public Elementary School 03 Munggung, Klaten. This is evidenced by the existence of a calculation score where r is greater than rtable or $0.656 > 0.423$.**

Keywords: classmarker, learning evaluation, social science

I. INTRODUCTION

Learning pattern based on Information and Communication Technology (ICT) cannot be separated from the use of computers in learning. However, until now the equal distribution of computer utilization in learning at all levels of schools from elementary, junior, to senior high schools has not been achieved[1], [2]. Based on data from the Ministry of Education and Culture, the use of computers in learning is recorded as 24% of the elementary school level, 40% of the junior high school level, and 36.79% of the senior high school level [3]. This includes the use of computers in the process of evaluating student learning outcomes. The process of evaluating learning outcomes is more dominant by giving a series of tests on a piece of paper even though in fact 87.5% of students like creative and dynamic tests. This includes tests of the forms of games or other creative tests [4].

Moreover, the emergence of the industrial revolution 4.0 brought a big influence on changes in all sectors of life. In the world of education, the industrial revolution has an influence on the interaction behaviour between teachers and students experiencing changes [5]. The interaction was originally based on face-to-face in class, which was changed by collaboration utilizing the internet network (Online Learning). This also applies to the activity in learning evaluation. Many facilities have been provided by internet service providers to support learning activities in the classroom connected to the internet network as a means of collaborators to unite face- to-face activities with internet networks (digital literacy) [6], [7]. This is a necessity in response to the challenges of changing the way of learning, thinking and acting for students in the era of industrial revolution 4.0 [7]

The rapid development of technological tools results in the use of evaluation tools based on technology which has a positive impact as the students will be enthusiastic in learning and the learning becomes interesting and fun. One evaluation tool developed in social science learning is a Classmarker application. Classmarker is an application for creating online quizzes that can be used for free. This application can only be accessed online. The Classmarker can be accessed at http://www.classmarker.com/. Some of the advantages of the Classmarker application are as follows: 1) easy to define test settings; 2) no software installation requirement;[8], [9] 3) having a test certificate and able to design a certificate of award for test results; 4) tests can be done for public or private purposes; 5) the test scores are automatically available; 6) accessible through Personal Computer (PC), iPhone, Chromebook, Smart Devices; and 7) the online quiz test results can be downloaded and exported in the excel form [10].

The Web-Based Learning Evaluation Tool developed by Trianggono shows that the quality of web- based physics learning evaluation tools is considered good. The response of

students and teachers to the web- based physics learning evaluation tool is positive [11].

Similarly, the research results of Iqbal, Fadhilah & Hadiarti showed that the evaluation tool based on Wondershare quiz creator in the colloid material of the eleventh grade at Pontianak Cooperative High School is feasible and effective [7]. The validity results from the material and media experts were 83.98% and 90.69%, respectively. The practicality results in the initial and main field trials showed the percentage of each assessment of 79.07% and 86.24%. The effectiveness results in the initial and main field trials showed the percentage of each assessment of 83.3% and 85% [12-14].

These results are similar to the results of the questionnaire trial at SD N Cemara Dua Surakarta. The results showed that the significance value obtained was 0.103 greater than 0.05, which means that there was a significant effect on the use of the Classmarker application in social science learning evaluations in the social science learning outcome [15].

Therefore, as an innovation in the evaluation of social science learning, especially in elementary schools in Surakarta, this study aimed to determine the effect of the application of the Classmarker on the social science learning outcomes at Public Elementary School Munggung 03 Klaten.

II. METHOD

The method used in this study was a quantitative study. The study sample were 20 students at Public Elementary School 03 Munggung, Klaten. In the preparation of data collection instruments or tools, the variable as the main reference for the researcher in preparing questionnaires is the questionnaire about the use of the Classmarker application on social science learning outcomes [5], [7], [16], [17]. The method used in the data analysis was correlation analysis. The study location was in Public Elementary School 03 Munggung, Klaten. Then, the population in this study were 20 fourth-grade students of Public Elementary School 03 Munggung, Klaten. Sample is part of the number and characteristics of the population. Regarding the sampling technique, it must be understood that the quality of the study is not always determined by the sample size, but by the solid foundations of the theory, by the study design (statistical assumptions), and by the quality of its implementation and processing [18]. Based on this, the researcher made the entire population as Tehnik purpossive sampling. Thus, the researcher believes that the questionnaire given to the respondents can be filled out in accordance with the reality in their respective schools and that the study carried out can be truly representative.

III. RESULTS AND DISCUSSION

A. Instrument Trial

The instrument trial in the study was conducted to determine the validity and reliability of the instrument to be used. The trial was conducted on the Classmarker application questionnaire items and social science learning outcomes.

1) Questionnaire Validity Test

a) Validity test on the Classmarker application questionnaire items.

The questionnaires consisting 40 question items were tested on 20 students. The collected data was analized using the Product Moment correlation formula. It started with testing the validity. The Classmarker correlation coefficient obtained from calculation results is 0.3302. rtable with N = 20 and significance 5% is 0.444 because r< rtable i.e. 0.3302 < 0.444. The correlation coefficient shows that item number 1 is invalid. The calculation of the next items was carried out with the same steps. The results can be seen in the appendices.

After looking at the table of validity calculations in the appendices, from the 40 question items of the Classmarker questionnaire tested on 20 respondents, consulted with rtable = 0.444, 30 items were valid and 10 invalid. Thus, 30 items can be used to collect data in this study.

b) Item validity test on the social science learning outcomes.

From the validation of the learning outcome items, it was found that the correlation coefficient item of social science learning outcomes was 0.689. Meanwhile, rtable with N = 20 and significance 5% is 0.444 because r > rtable i.e. 0.689> 0.444. Thus, the correlation coefficient shows that item number 2 is valid. The calculation of the next each item was done with the same steps.

2) Questionnaire Reliability

a) Reliability test on the Classmarker application

To find the questionnaire reliability in this study, Brown Spearmen's split-half technique was used by splitting odd items (X) and even items (Y). From the reliability test of the Classmarker application questionnaire, the data of rtable 0.444 with N = 20 and a significance level of 5% was obtained. From the data above, it can be found that r is greater than rtable (0.8485 > 0.444), which means that there is a significant correlation and the instrument is reliable.

b) Reliability test on social science learning outcomes

To find the questionnaire reliability in this study, Brown Spearmen's split-half technique was used by splitting odd items (X) and even items (Y). From the reliability test of social science learning outcomes, the data of rtable 0.444 with N = 20 and a significance level of 5% was obtained. From the data above, it can be found that r is greater than rtable (0.8668 > 0.444), which means that there is a significant correlation and the instrument is reliable.

B. Data analysis

After all the data had been collected, the next step was to analyse the data to prove the hypothesis stated while to analyze the correlation data between the application of the Classmarker and social science learning outcomes, the Product Moment formula was used. The average Social Studies learning outcomes of students 79% above the Minimum completeness Criteria. Based on the learning outcomes obtained from all the students, the results were quite good. However, many of them had not reached the target threshold applied at school, which is lower than 75.

The calculation Product Moment result turns out that r is 0.656 and rtable for N = 22 with a significant level of 5% is 0.423 and with significant level of 1% is 0.537. Thus, the result is good for between the significant levels of 5% and 1% of r > rtable.

Thus, the value hypothesis which reads: "There is no relationship between the Classmarker application and social science learning outcomes of the fourth-grade students of Public Elementary School Munggung 03 Klaten" is rejected.

For the alternative hypothesis which reads "There is a relationship between the Classmarker application and social science learning outcomes of the fourth-grade students of Public Elementary School Munggung 03 Klaten" is accepted. [8], [9], [19]

Based on the calculation results, it was found that the value of r was 0.656. This was then consulted with rtable at a significant level of 5% with N = 22, which was 0.423. Thus, r is greater than rtable or 0.656 > 0.423. Then the alternative hypothesis is accepted, which means that: "There is a relationship between the Classmarker application and social science learning outcomes of the fourth-grade students of Public Elementary School Munggung 03 Klaten".

IV. CONCLUSION

The industrial revolution 4.0 brings a big influence on changes in all sectors of life. One of them influences the interaction behaviour between teachers and students in the learning process, which was originally based on face-to-face in class, which was changed by collaboration utilizing the internet network (Online Learning). The online learning is also to change the teacher's evaluation from the conventional method, using paper test. From the results of this study, it can be concluded that there is a relationship between the Classmarker application and social science learning outcomes of the fourth-grade students in Public Elementary School 03 Munggung Klaten. This is evidenced by the existence of a calculation score where r is greater than rtable or 0.656 > 0.423.

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