

Aan Nurfahrudianto, INTERNET RECIPROCAL TEACHING APPLICATION TO IMPROVE LEARNING OUTCOME IN COMPUTER APPLICATION COURSE

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INTERNET RECIPROCAL TEACHING APPLICATION TO IMPROVE LEARNING OUTCOME IN COMPUTER APPLICATION COURSE

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Abstract

Internet cannot be separated from modern human life. Almost all people in the world use it. The use of internet simplifies the teaching and learning process at school. Many learning strategies utilize internet, among others, Internet Reciprocal Teaching (IRT). A research conducted in 47 college students succeeded in improving learning outcome. It was evidenced by the influence of Internet Reciprocal Teaching (IRT) on college students learning outcome in computer application course.

Keywords: Internet Reciprocal Teaching, Learning Outcome

Introduction

The development in information and communication technology (ICT), especially in the use of internet in learning increases interaction variation in learning process. ICT has brought changes in level of education and learning leading to quality improvement (Thorwat, 2018). Generally, students could use it as educational tool; however, some of them unable to use it (Dogruer, Eyyam, & Menevis, 2011).

Interaction between learners (teacher) and students should occur in a learning process. Interaction in formal education is designed to encourage learning appropriate to the determined learning goals and outcomes (Anderson, 2003). The learning interaction is not only face to face but also in a distance education.

There are three types of distance learning interaction involving the students (students-students; students-teachers; students-content), and it expands into three other interaction types (teachers-teachers; teachers-content; content-content) (Anderson, T., and Garrison, 1998) as displayed in the following figure.

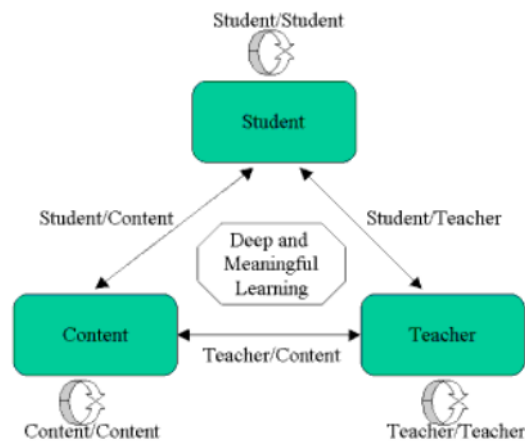


Figure 1. Distance Education Interaction Model

The internet users in Indonesia have reached 143 million people. Of the numbers 49.52% are 19-34 years old, 29.5% are 35-54 years old, 16.68% are 13-18 years old and the remaining 4.24% are above 54 years old (Bohang, 2018). Of the data 66.2% are within the active age in learning process. Therefore, the use of internet in learning process is likely to be optimized more.

Learning process also requires learning strategies. One of the learning strategies that uses internet is Internet Reciprocal Teaching (IRT). IRT uses a new literacy skill to teach reading comprehension on the internet since the online internet utilization requires additional skill to effectively read, write and, learn (Leu & Timbrell, 2014).

IRT is rooted in reciprocal teaching (RT). In RT, students alternately facilitate the group members in the process of predicting, clarifying, questioning, and summarizing text or information. These processes also occur in IRT, according to (Head et al., n.d.), there is an important difference in IRT, which is every students are likely to gain different source.

Computer application course covers internet material. However, not all materials in the course use internet. Refers to the average of learning outcome in computer course for the last 3 years that need to be improved, IRT application is expected to optimize the use of internet and increase student's literacy skill. The learning outcome in computer application course for the last 3 years can be seen in Table 1.

Table 1
The Average of Learning Outcome in Computer Application Course

Academic Year	Average Grade
2014/2015	60,6
2015/2016	60
2016//2017	60,2

Source: BAA of Health and Physical Education Course

Problems Formulation

There were two problems formulation in the research: 1) is the students' learning outcome with the application of internet reciprocal teaching (IRT) > 61? 2) Is there an influence in the application of internet reciprocal teaching on student learning outcome in computer application course?

Hypothesis

The research hypotheses were:

1. Students' learning outcome with the application of Internet Reciprocal Teaching (IRT) in computer application course is > 61.
2. There is an influence of internet reciprocal teaching on students' learning outcome in computer application course.

Research Method

The research used quantitative research technique with pre-experiment method. The research population was all second year (junior) college students in Physical Education and Health Study Program at the University of Nusantara PGRI Kediri of 147 students consisted of 5 classes. Samples were taken from 2 classes, which were 47 students. All data analyzed using SPSS 20 for Windows software with significance level of 5% ($\alpha = 0.05$).

Research Result
Hypothesis 1:

Table 2
Statistical Test Result
One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
NA_Post	47	67,060	10,3512	1,5099

The above table is obtained from the final learning outcome after the application of Internet Reciprocal Teaching learning strategy. Based on Table 2, the number of data or N = 47, mean of 67.060, standard deviation of 10.3512, and standard error mean of 1.5099.

Table 3
One-sample Test Result
One-Sample Test

	Test Value = 61					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
NA_Post	4,013	46	,000	6,0596	3,020	9,099

The above table is obtained from the final learning outcome after the application of Internet Reciprocal Teaching learning strategy. Based on the table, the sig. value (2-tailed) was 0.000 < 0.05 thus H₀ is rejected. It can be concluded that students' learning outcome with the application of Internet Reciprocal Teaching (IRT) in computer application course was > 61.

Hypothesis 2:

Table 4
Statistic Test Result
Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 NA_Pre	57,626	47	7,9846	1,1647
NA_Post	67,060	47	10,3512	1,5099

The above table is obtained from the final learning result before and after the application of Internet Reciprocal Teaching learning strategy. Based on Table 4, the number of data was N= 47, Mean value before the treatment was 57.626, standard deviation of 7.9846 and standard error mean = 1.1647. Mean after the treatment was 67.060, standard deviation of 10.3512, and standard error mean = 1.5099.

Table 4
Paired Sample Test Result

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	NA_Pre - NA_Post	-9.4340	8.9467	1.3053	-12.0615	-6.8066	-7.227	46	.000

The above table is obtained from the final learning outcome before and after the application of Internet Reciprocal Teaching. The 2nd hypothesis of the paired sample test table indicates a significance value of $0.000 < 0.05$ thus H_0 is rejected. It can be concluded that there was an influence of internet reciprocal teaching on students' learning outcome in computer application course.

Result Discussion

Based on the research result of the application of Internet Reciprocal Teaching the learning outcome improved compared to those before the application of the strategy. It was in line with the use of internet in the Internet Reciprocal Teaching learning strategy in the search for different learning sources that could improve students' understanding (Leu & Timbrell, 2014). Internet Reciprocal Teaching could also improve creative thinking in group activities during learning activities and it has impact on the improvement in learning outcome (Chen & Kong, 2017).

Research Limitations

The research had limitations, namely: it was conducted in Ms. Word material and only focused on the improvement of learning outcomes. It is expected that future study could expand to other materials and to the improvement of both learning activities and motivation.

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