Research Article

The effect of web-based blended learning echaced course on cognitive learning outcomes, scientific attitudes and learning interests of class VIII students Junior High Schools of gwamar Dobo and Negeri 1 Dobo

Meike Ocktavia Lawalata[1], Fredy Leiwakabessy[2], Alwi Smith[2*]

[1]*Junior High School Gwamar Dobo, Street. Pemda Siwalima, Pulau-Pulau Aru, 97662, Indonesia*
[2] *Department of Biology Education, Pattimura University, Street. Ir. M. Putuhena, Ambon 97233, Indonesia*
* corresponding author: alwi.smithfkip@unpatti.ac.id

ABSTRACT

One of the learning problems is the integration of computer technology into learning activities that can trigger students to be able to develop learning and innovation skills, skills to use technology and information media, and be able to work and survive using life skills. The appropriate learning model that can be applied is the blended learning model that combines traditional face-to-face learning with computer-based learning with web (web enhanced) utilization. This study aims to see the effect of the web-enhanced blended learning model on cognitive learning outcomes, scientific attitudes and student learning interest in the human digestive system material. on the results of scientific attitudes and student interest in learning. The results showed that there was an effect of the web-enhanced blended learning model on cognitive learning outcomes, scientific attitudes and student interest in learning.

Keywords: blended learning, enhanced WEB, cognitive thinking, scientific attitude, student interest in learning.

INTRODUCTION

The learning paradigm emphasizes the ability of students to think critically, be able to connect knowledge with the real world, master information technology, communicate and collaborate. Learning is becoming increasingly important to ensure that students have the skills to learn and innovate, the skills to use technology and information media, and can work and survive by using life skills. One of the subjects that is an important element in a school or madrasa curriculum is natural science. In science lessons, it is not only looking at the learning outcomes obtained by students but the scientific attitude is something that must be prioritized.

The problem of 21st century learning is the integration of computer technology in learning activities. Blended learning is learning that combines traditional learning with face-to-face and computer-based learning (online). One form of learning Blended learning is the use of the Website (Web). One form of utilization of the use of the Web in learning activities is the Web Enhanced Course (WEC). Web media is very well used as a learning medium for Natural Sciences. This media can attract students' attention to science lessons (Irwandani, 2014).

WEB Echaced Course-based learning that is integrated into the learning process using the Blended Learning model is very helpful for students in finding learning resources by using the internet as a support for students to improve understanding and knowledge of students (Putriana, 2021). The use of WEB Echaced Course media in the implementation of the Blended Learning model aims so that students can understand the material easily in the learning process and can improve learning outcomes. The use of WEB Echaced Course-based media has an effect on learning outcomes in the application of the Blended Learning learning model. According to Susanti (2016), Blended Learning is said to be effective because it has proven to be successful in improving learning outcomes for students, besides that it can also be seen from the interest of students in following learning models that utilize the internet so that greater learning motivation arises which then affects understanding of the material. learning and also learning outcomes.

METHODS

The research was carried out at SMP Negeri Gwamar Dobo and SMP Negeri 1 Dobo on January 14 – March 11, 2022. The population in this study was class VIII students at SMP Negeri Gwamar Dobo and SMP Negeri 1 Dobo. The samples in this study were class VIII SMP Negeri Gwamar Dobo and SMP Negeri 1 Pulau Aru. The instruments used were observation sheets on the implementation of learning, tests, student scientific attitude questionnaires and student learning interest questionnaires.

RESULTS AND DISCUSSION

1. Student Pre-Test

The results of the initial test describe the initial abilities of students before participating in the learning process on the material of the human digestive system by applying the WEB Echaced Course-based Blended Learning learning model. Based on the research data, the students' initial test scores can be seen in Table 1 below.

Table 1. Qualifications of student achievement scores in the pre-test

Interval	Class	Frequency	Presentation	Qualification
SMP Negeri Gwamar Dobo				
> 70	VIII-1	-	-	Complete
< 70		30	100%	Fail
> 70	VIII-2	-	-	Complete
< 70		30	100%	Fail
SMP Negeri 1 Dobo				
> 70	VIII-1	-	-	Complete
< 70		30	100%	Fail
> 70	VIII-2	-	-	Complete
< 70		30	100%	Fail

Based on the table above, it can be seen that at intervals >70, it shows that there are no students who have grades with complete qualifications, and at intervals <70, it shows that all students in each class VIII-1 and VIII-2 at SMP Negeri Gwamar Dobo and SMP Negeri 1 PP Aru have scores with less qualifications in mastering the learning indicators to be studied.

2. Post-Test

After the learning process is complete, a final test (Post-Test) is carried out to determine the students' ability to understand the concept according to the learning model that has been applied. Based on the research data, the students' final test scores can be seen in Table 2 below.

Table 2. Qualification of Student Achievement Scores in the post test

Interval	Class	Frequency	Presentation	Qualification
SMP Negeri Gwamar Dobo				
> 70	VIII-1	26	87%	Complete
< 70		4	13%	Fail
> 70	VIII-2	29	97%	Complete
< 70		1	3%	Fail
SMP Negeri 1 Dobo				
> 70	VIII-1	14	47%	Complete
< 70		16	53%	Fail
> 70	VIII-2	28	93%	Complete
< 70		2	7%	Fail

Based on the table above, it can be seen that at intervals >70 at SMP Negeri Gwamar Dobo it shows that in class VIII-1 there are 26 students who are in the complete category and there are 4 students who are in the less category. At SMP Negeri 1 Dobo it shows that in class VIII-1 there are 14 students who are in the complete category and there are 16 students who are in the less category and in class VIII-2 there are 28 students who are in the complete category and there are 2 students. students who are in the less category.

3. Cognitive Learning Outcomes

The results of the ancova calculation on students' cognitive learning outcomes are shown in Table 3 below.

Table 3. Ancova Cognitive Learning Outcomes

Dependent Variable: Posttest Class VIII-1 and VIII-2 SMP Negeri Gwammar Dobo

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3438.294a	1	3438.294	56.414	.000	.493
Intercept	424772.376	1	424772.376	6969.529	.000	.992
Kelas	3438.294	1	3438.294	56.414	.000	.493
Error	3534.930	58	60.947			
Total	431745.600	60				
Corrected Total	6973.224	59				

a. R Squared = .493 (Adjusted R Squared = .484)

Dependent Variable: Posttest Class VIII-1 and VIII-2 SMP Negeri 1 Dobo

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3903.968a	2	1951.984	36.251	.000	.543
Intercept	26380.284	1	26380.284	489.916	.000	.896
Pretest	465.674	1	465.674	8.648	.005	.132
Kelas	3644.385	1	3644.385	67.681	.000	.543
Error	3069.256	57	53.847			
Total	431745.600	60				
Corrected Total	6973.224	59				

a. R Squared = .560 (Adjusted R Squared = .544)

The table above shows that the independent variables of the learning model are significantly. Based on these results indicate that there is an influence of the learning model on students' cognitive learning outcomes. The next stage is to carry out further tests to find out the differences in the learning model used, namely the Independent Sample T-Test which is shown in Table 3 below.

Table 4. Sample t-test

Group Statistics SMP Negeri Gwammar Dobo

	Class	N	Mean	Std. Deviation	Std. Error Mean
Posttest Kognitif	Learning Control class	30	76,570	9,3516	1,7074
	Experiment class	30	91,710	5,8686	1,0715

Group Statistics SMP Negeri 1 Dobo

	Class	N	Mean	Std. Deviation	Std. Error Mean
Posttest Kognitif	Learning Control class	30	68,667	8,7053	1,5894
	Experiment class	30	91,143	5,6138	1,0249

The table above shows that there is a difference in notation between the control class and the experimental class. Classes taught using the WEB Echaced Course-based blended learning model have a higher average score than the control class average. This proves that students who are taught using the WEB Echaced Course-based Blandend learning model have better cognitive learning outcomes than students who are taught using the ordinary learning model.

4. Student Interest and Learning

The results of Anova calculations on student interest and learning outcomes are shown in Table 4 below.

Table 4. Anova Results of Student Interest in Learning

Interest to learn	SMP Negeri Gwammar Dobo				
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.001	1	.001	.000	.985
Within Groups	231.584	58	3.993		
Total	231.586	59			
Interest to learn	SMP Negeri 1 Dobo				
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.037	1	.037	.009	.925
Within Groups	243.168	58	4.193		
Total	243.206	59			

The table above shows that there is an influence of the learning model on the students' interest and learning outcomes.

5. Student Scientific Attitude

The results of the ANOVA calculation on the results of students' scientific attitudes are shown in Table 5 below

Table 5. Scientific Attitude Anova test

Scientific Attitude	SMP Negeri Gwamar Dobo				
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4437.600	1	4437.600	60.274	.000
Within Groups	4270.179	58	73.624		
Total	8707.779	59			
Scientific Attitude	SMP Negeri 1 Dobo				
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4253.784	1	4253.784	59.665	.000
Within Groups	4135.092	58	71.295		
Total	8388.876	59			

The table above shows that there is an influence of the learning model on students' scientific attitudes.

DISCUSSION

WEB Echaced Course-based Blended Learning that is applied affects students' cognitive learning outcomes on the material of the human digestive system, this is in accordance with Puspitasari's (2022) research on the effectiveness of using the Blended Learning model on learning motivation and student learning outcomes where this learning model is effective for increasing student learning outcomes on the material provided. This blended learning model provides opportunities for students to be able to integrate technological advances, namely online learning with face-to-face learning directly in WEB Echaced Course-based classes so that the learning process that takes place is optimal (Thorne, 2003).

The blended learning model applied in the classroom is combined with WEB Echaced Course-based learning where during the learning process students can use their digital technology to access the internet as a learning resource. Daheri, Juliana, Deriwanto, & Amda (2020) further explained that this learning model can provide high flexibility for students to learn anytime and anywhere without space and time limitations or what can be called Learning beyond Classroom Walls (Amin, 2017). The increase in scientific attitude in students occurs because the learning process based on WEB Echaced Courses based learning on the human digestive system material is carried out through student worksheets activities and discussion on presentations of work in class. Through work activities and presentation of results, students can improve their ability to organize, communicate and interpret student work. Work can train scientific thinking skills and can find or solve new problems through the scientific method. According to Karhami (2000) states that scientific attitudes can be developed by making

students as young scientists. Research by Hermidayani and Khoirun (2018) which explains that the average learning outcomes of economics who receive the blended learning model treatment are higher than those who learn by direct or face-to-face learning. This is because the use of blended learning combines conventional learning (face to face) with e-learning. In this learning, it does not replace face-to-face learning in class, but e-learning can strengthen the provision of learning materials so that students can exchange opinions and learn online. In addition, blended learning can make students position themselves as active learners in understanding their needs and trying to achieve understanding independently.

CONCLUSION

1. There is an effect of the application of the WEB Echaced Course-based Blended Learning learning model on the cognitive learning outcomes of students in each class VIII-1 and VIII-2 SMP Negeri Gwamar Dobo and SMP Negeri 1 Dobo with a significance of 0.493 and 0.543 <α = 0.05. The Independent Sample T-Test test showed that the class taught using the WEB Echaced Course-based Blended Learning learning model had a higher average score than the control class average.
2. There is an effect of the application of the WEB Echaced Course-based Blended Learning learning model on the interest and learning of students in each class VIII-1 and VIII-2 SMP Negeri Gwamar Dobo and SMP Negeri 1 Dobo.
3. There is an effect of the application of the WEB Echaced Course-based Blended Learning learning model on the scientific attitude of students in each class VIII-1 and VIII-2 SMP Negeri Gwamar Dobo and SMP Negeri 1 Dobo.

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