



## The influence of blended learning model in improving the creativity of Riau University students

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### Abstract

Almost all countries in the world are exposed to the covid-19 virus, one of which includes the country of Indonesia, the state of this pandemic, making lecturers and various other circles involved in the world of education look for a new direction in achieving learning goals. This research method uses experiments with this type of experimental quasi research i.e the entire subject of the study group is given treatment, so that researchers instead choose subjects randomly. data collection techniques in this study, among others: written tests, observation sheets. In this study performs the steps of data analysis techniques, among others: Instrument Validity, Instrument Reliability. Treatment test results 3 In significance value 0.09 there is a change in creativity improvement using blended learning. The projected value (t) of 7.814 is smaller than the value (t) of 4.455 then at the significance level (P) of  $0.017 < (\alpha) 0.28$ . While the average learning motivation score of learners if seen before applying blended learning is 70.87.

**Keywords:** Influence model, blended learning, student creativity

### Introduction

Almost all countries in the world are exposed to the covid-19 virus, one of which includes the country of Indonesia (Agung 2020). The virus that started from the city of Wuhan China is transmitted very quickly almost all over the world (Tuti Fatma 2021, 23) <sup>[10]</sup>. World Health Organization (WHO) urges that activities that have the potential to cause crowds to be temporarily stopped so that the spread of covid-19 can be prevented.

This makes various countries have to implement a lockdown system to suppress the spread of the corona virus more widely (Putro, Widyastuti, and Hastuti 2020) <sup>[29]</sup>. But the Government of Indonesia implemented a large-scale social restriction system (PSBB) in anticipation and suppressed the spread of the virus (Kumala 2020) <sup>[19]</sup>. Since the implementation of PSBB, the education system that was initially implemented face-to-face in college shifted to a distance learning system where students learn and do activities at home (Pradana, 2020) <sup>[25]</sup>.

The state of this pandemic, makes lecturers and various other circles involved in the world of education look for a new direction in achieving learning goals that have been planned before the learning period from home (Green and Johnson 2015) <sup>[16]</sup>. Online media trends are certainly an alternative in the implementation of learning during pandemic times. (Abroto, 2021) <sup>[1]</sup>. In March 2021 through one year of the Covid-19 pandemic year, given the decrease in cases contracting the covid-19 virus, some educational institutions have tried to start doing Face-to-Face Learning (PTM) (Blake *et al.* 2021). Of course, all these institutions apply health protocols that become normal. Some have even started in

January 2021 (Esteban-Sepúlveda *et al.* 2021) <sup>[13]</sup>. This is based on the Statement of the Minister of Education that schools are allowed to do PTM but not yet mandatory. The policy is the result of the Joint Decree (SKB) of 4 Ministers, namely the Minister of Education and Culture, Minister of Religion, Minister of Health, and Minister of Home Affairs, Number 04/KB/2020, Number 737 of 2020.

Although there is online media, especially the use of social media that is familiar with the community, it does not guarantee the implementation of online can run smoothly (Muntinga, Moorman, and Smit 2011) <sup>[22]</sup>. Face-to-face learners occupy such an important position, the best learning is face-to-face, the teacher profession cannot be replaced with technology. (Bell, Sawaya, and Cain 2014) <sup>[7]</sup>. Various obstacles also often appear in the implementation of the learning process. And this again encourages teachers to continue to innovate with various alternative options so that the learning process continues (Glen *et al.* 2015) <sup>[14]</sup>. This online learning does play a big and useful role in the implementation of the learning process and educational services during the pandemic period, which is in accordance with the purpose of the two circulars of the Ministry of Education above (Rulandari 2020) <sup>[32]</sup>. However, it is also undeniable that there are many shortcomings that need to be addressed so that educational ideals are in line with expectations (Kutsiyyah 2021) <sup>[20]</sup>.

The role of educators in choosing an online learning model is very important in achieving learning goals (Putra and Fitriyati 2021) <sup>[28]</sup>. Blended Learning model is considered suitable to be applied in online learning in these conditions. (Nugraha 2020) <sup>[24]</sup>. Because in the blended learning model is able to combine

synchronous and asynchronous processes so that it is easier to achieve learning goals (Prasetya *et al.* 2020)<sup>[26]</sup>. To maximize the learning process in a given context, the Blended Learning learning model mixes theory, methods and technology. According to Idris, inside (Aritonang 2021)<sup>[6]</sup>. Through the method of combining face-to-face learning, technology support in the form of print materials, audio technology support, audio visual, computers, and the existence of m-learning technology (mobile learning) are characteristics of Blended Learning-based learning (Erwinsyah 2017)<sup>[12]</sup>.

In the implementation of the learning process with blended learning needs a mature design to create a meaningful learning process and skills in learners (Sandi 2012)<sup>[33]</sup>. According to Ananda (Ramadani, Sulthoni, 2019)<sup>[31]</sup> There are several factors that affect the successful application of Blended Learning, including human resources, learning environment, and facilities and infrastructure.

Human resources here include teachers as experts to guide and guide learners able to run the learning process effectively (Erwinsyah 2017)<sup>[12]</sup>. In addition, learners also have a role in the implementation of the learning process, because they are required to be able to learn independently with the guidance of teachers online (Zainuddin *et al.* 2019)<sup>[36]</sup>. The application of blended learning models has a high degree of flexibility, such as being able to easily adjust the time that educators and learners have and the learning process will remain effective even though learners in large numbers (Graham, Woodfield, and Harrison 2013, 4)<sup>[15]</sup>.

According to Kusairi (Hikmah 2020)<sup>[17]</sup> said that the advantages of blended learning models from other models are: a. Materials that are already available online can make it easier for students to learn them independently (Jeffery and Bauer 2020)<sup>[18]</sup>. Ease in discussing with educators or other students because it is not limited in space and time (Santoso *et al.* 2016)<sup>[34]</sup>. Educators are easier to organize and manage classes outside of face-to-face hours. Educators are easier to add or revise material online (Mishra, Gupta, and Shree 2020)<sup>[21]</sup>. e. The learning process can be done more effectively (Qiu *et al.* 2019)<sup>[30]</sup>. Learners will be easier to share files with educators and other learners. In addition, there are rare-steps or learning syntakes in blended learning as a reference for educators in carrying out learning activities applying the Blended Learning model. Learning models like this also have a significant effect on learners' critical thinking skills. (Amijaya, Ramdani, 2018)<sup>[5]</sup>.

From the problem that ad that then the creativity of students becomes limited so that a new idea is needed to overcome the retreat of student creativity earlier (Newton 2013)<sup>[23]</sup>. One of them is taitu to train students' writing skills using ways and strategies that are understood by educators (Efriani, Putri, and Hapizah 2019)<sup>[11]</sup>. In connection with that, then this activity is very important a creativity that is done will cause a different attraction for students one of which is through painting, writing, drawing, and other activities (Adler and Chen 2011)<sup>[2]</sup>.

The goal of this study is to see the effectiveness of blended learning models in improving students' critical thinking skills

based on students' critical answers when working on problems according to existing indicators on critical thinking skills (Prihadi, Murtono, and Setiadi 2021)<sup>[27]</sup>. This research is expected to encourage students to follow the learning with blended learning model in order to increase critical thinking skills (Cheng, Hwang, and Lai 2020)<sup>[9]</sup>. In addition, this research can be a reference for educators and various parties in increasing the quality of teaching by applying the Blended Learning model (Syarah, Mayuni, and Dhieni 2020, 205)<sup>[35]</sup>.

Based on the background that has been stated above, the research problem that will be studied is how effective the Blended Learning learning model is in improving students' critical thinking skills and creativity. In order for the problems in research to be more targeted, then the problem is limited as follows: How is the implementation of the Blended Learning model in improving students' thinking skills? Can Blended Learning improve the critical thinking of students at Riau University?

### Previous Risert Study

To strengthen the results of this study, 'several similar studies have been conducted using different models, subjects, and research methodologies. Similar research that is closely related to the Blended Learning model is:

Research on character education has been conducted by several researchers at home and abroad in the form of theoretical studies, surveys, and experiments Ibrahim Yasar Kazu (2014), this study analyzes students' academic performance by comparing blended learning environments and traditional learning environments. It has been observed whether there is a significant difference between the dispersion of academic achievement scores and the value of male-female students. Studies have been conducted at Anatolian High School Diyarbakir school year 2010-2011 first semester biology courses. For study, two quantitative course sections have been selected among the classes formed by the student's high school. Cluster analysis has been done to provide objectivity when forming experiments and control groups. The study was conducted with 54 participants, 19 men and 8 women for the group experiment and 18 men and 9 women for the control group. The experimental group continued its education in a mixed learning environment and the control group continued its education in a traditional learning environment. The learning environment created has focused the topic of genetics on biology courses and lasts for 6 weeks. During research, pre-tests and final-tests have been used for the analysis of academic achievement. According to results obtained at the end of the study, no significant differences have been found between the two groups at the end of the pre-test applied to the experimental and control groups. In addition, according to the average final test scores, the experimental group was found to be more successful than the control group. In both learning environments, female students are more successful than male students. Keywords: Blended learning, Online learning, face-to-face learning, Academic achievement.

**Methods**

**Type of research**

This research method uses experiments with this type of experimental quasi research i.e. the entire subject of the study group is given treatment, so that researchers instead choose subjects randomly (Ali Sodik 2015,:107). As well as using nonequivalent control group design which in its implementation has a class of control classes and experiments that are what they are. An overview of research design can be seen in the following table:

**Table 1:** Research design

Group	Early Tests	Treatment	Final Test
control	O1	X	O2
Experiment	O1	X	O2

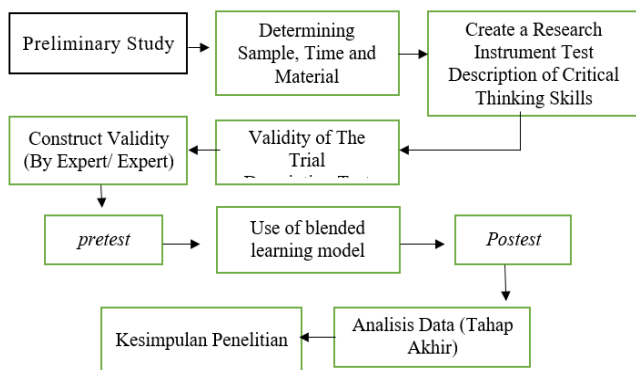
Information:

O1 = *Pretest*

X = Use of Blended Learning

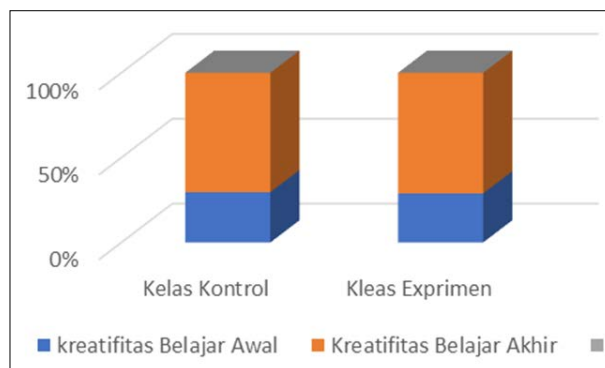
O2 = *Posttest*

The design of this study aims to find out the influence of the use of blended learning in experimental classes. In the preliminary stages at the beginning of the initial test (pretest) the next core stage is the researcher uses Blended Learning in the experimental class used in the learning process, while the closing stage of the researcher provides a final test (posttest) that aims to see the effect of treatment (treatment) on the critical thinking skills of PGSD students of Riau University. An overview of the research flow can be seen, as follows:



**Results and Discussion**

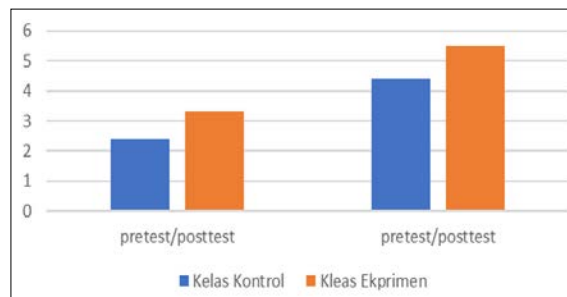
The results of the treatment test 1 in the difference between the creativity of students in the process of blended learning while learners in conventional learning experienced differences. The projected value F calculates 6,550 and greater than the value of F table 4.112 then at the significance level that is (P) 0.010 is smaller than (α) 0.10. The average motivation score of the experimental class was 13.78. The average motivation score of the control class was 8.51. The average amount of mahasiswa creativity after learning takes place is much greater when compared to the average value of the creativity value of students before learning. It can then be concluded that the average difference in the increase in creative scores between the experimental class and the control class is 2.60.



**Fig 1:** Difference in Average Creativity of Early and Late Learning in Both Classes

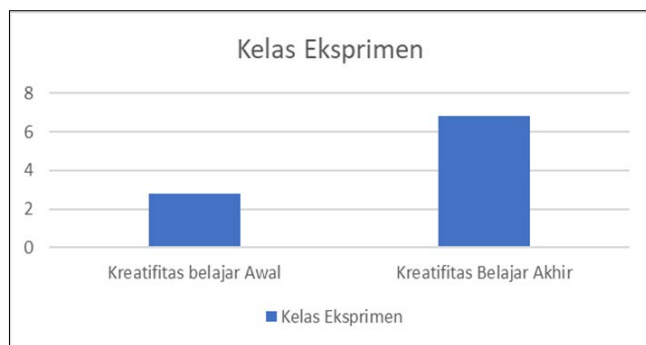
Through this hypothesis can be taken on average the difference far from learning outcomes between students who learn using blended learning models compared to students who learn using conventional learning models. In proleh the value of F calculates that 39,570 is greater than the value of F table which is 6.112 while in the level of signification (P) is in the proleh of  $0.030 < (\alpha) 0.20$ .

While the average score of experimental classroom learning results after using the blended learning model in learning is higher than the average learning outcome score before using conventional learning models. The difference in the average score of experimental class learning results was 54.23, then the average score from the results of the control class learning was 17.75. The average difference in study outcome scores between the experimental and control classes was 23.24. To be more clear then the average increase in the scores of experimental classroom learning outcomes and control classes is presented in the following Figure:



**Fig 2:** Difference in Average Creative Outcomes Before and After Learning in both Classes

Treatment test results 3 In significance value 0.09 there is a change in creativity improvement using blended learning. The projected value (t) of 7.814 is smaller than the value (t) of 4.455 then at the significance level (P) of  $0.017 < (\alpha) 0.28$ . While the average learning motivation score of learners if seen before applying blended learning is 70.87. Then after students conducted learning using blended learning, then student creativity is measured again and can be taken the average value of student creativity as much as 95.50 from the data can be drawn to the conclusion of an average increase of 30.70. The average increase in participants' learning motivation is presented in the following figure:



**Fig 3:** Average Motivation To Learn Before and After Using Blended Learning

### Conclusion

From the above exposure can be drawn conclusions from the testing of the creativity measurement of students of research results, namely; (1) there are differences in student creativity through blended learning models (2) there is a change in the increase in student creativity in the use of blended learning models.

From the conclusion above, researchers want to provide input and advice to parties related to this research, especially for teachers or lecturers in any institution or institution is recommended to apply the blended learning model when carrying out the learning process of the subjects in the field, because it has been proven that there are differences in learning creativity that performs blended learning models with learners who are taught learning. Conventional.

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