

THE EFFECT OF BLENDED LEARNING QUALITY AND SELF-DIRECTED LEARNING ON ECONOMIC STUDY'S LEARNING OUTCOMES OF SENIOR HIGH SCHOOL IN BOGOR CITY

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ABSTRACT

The purpose of this study was to determine the direct and indirect effects of blended learning quality and self-directed learning on economic study's learning outcomes of senior high school in the city of Bogor. This research is quantitative research using explanatory survey and analyzed using path analysis. The sample in this study were 282 students using multistage random sampling. The results of this study indicate: (1) There is a positive and significant effect of blended learning quality on economics study's learning outcomes of senior high school in the city of Bogor. (2) There is a positive and significant effect of self-directed learning on economics study's learning outcomes of senior high school in the city of Bogor. (3) There is a positive and significant effect of blended learning quality on self-directed learning of senior high school in the city of Bogor. (4) There is a positive and significant effect of blended learning quality on economics study's learning outcomes through the self-directed learning of senior high school in the city of Bogor.

Keywords: *Blended Learning Quality, Self-Directed Learning, Learning Outcomes*

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh langsung dan pengaruh tidak langsung kualitas *blended learning* dan kemandirian belajar terhadap hasil belajar pada mata pelajaran ekonomi siswa SMA Negeri di Kota Bogor. Penelitian ini merupakan penelitian kuantitatif dengan menggunakan survey eksplanasi dan dianalisis dengan menggunakan analisis jalur. Sampel dalam penelitian ini sebanyak 282 siswa dengan menggunakan teknik pengambilan sampel berupa *multistage random sampling*. Hasil penelitian ini menunjukkan bahwa: (1) Terdapat pengaruh positif dan signifikan kualitas *blended learning* terhadap hasil belajar ekonomi siswa SMA Negeri di Kota Bogor. (2) Terdapat pengaruh positif dan signifikan kemandirian belajar terhadap hasil belajar ekonomi siswa SMA Negeri di Kota Bogor. (3) Terdapat pengaruh positif dan signifikan kualitas *blended learning* terhadap kemandirian belajar ekonomi siswa SMA Negeri di Kota Bogor. (4) Terdapat pengaruh positif dan signifikan kualitas *blended learning* terhadap hasil belajar ekonomi siswa SMA Negeri di Kota Bogor melalui kemandirian belajar.

Kata kunci: *Kualitas Blended learning, Kemandirian Belajar, Hasil Belajar*

INTRODUCTION

Human resources are an economic asset that determines the progress of a nation and it needs to be managed properly. One benchmark that can be used to determine the quality of human resources is education. In this case, education has a very important role for individual development, especially for the development of the nation. Therefore, education is universal, which means that every layer of society has the right to receive education and it is a basic need that must be met for every individual without exception in order to develop their potential.

In order to fulfill the right to education for all levels of society in Indonesia, it is regulated directly in the article 31 paragraph 1 of Indonesia's Constitution in 1945 which states that every citizen has the right to education. This implies that education is an absolute right for every citizen without any age limit, both from early age, school age, youth, and old age, even though they have the same right to get proper education from elementary to high level. This is consistent with the goals of the Republic of Indonesia as stated in the fourth paragraph of the Preamble to the Indonesia's Constitution in 1945 to advancing public welfare and educating the life of the nation.

Education in the article 1 paragraph 1 of Indonesia's law number 20 in 2003 states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and the skills needed himself, society, nation and state. The main objective of education is contained in Indonesia's law number 20 in 2003 concerning the national education system chapter 2 article 3 to develop human potential and educate people to be better. But in the process learning outcomes have an important role. This is because learning outcomes are used to determine the level of success of students after receiving learning experiences and can be measured in the form of knowledge, attitudes, and skills (Sudjana, 2006). So that learning outcomes become one of the important aspects and are also considered in learning activities.

The importance of learning outcomes cannot be separated from the effect of other factors that also determine learning outcomes. One of them is the application of learning model. This is because a learning model functions to deliver students to achieve learning targets realized from maximum learning outcomes. According to Banu and Lilik (2018) the low learning outcomes of students are caused by the use of conventional learning models. Related to this, based on research conducted by Hamad, M. M (2015) and Zurita, et al (2015) shows that the use of blended learning models is effective for improving better learning outcomes compared to students who use conventional learning models.

In addition, the Covid-19 pandemic has succeeded in changing the lives the majority of the world's population in various fields, including in the field of education. According to Fauci, et al (2020) this condition resulted in education during a pandemic which had a great opportunity to threaten the quality of education throughout the world. So that this will have an impact on reducing the knowledge and skills of students academically (learning loss). With the situation and conditions of the Covid-19 pandemic, according to Siripongdee, Pimdee, and Tuntiwongwanich (2020) blended learning can be the best solution and can be used as an alternative learning model for all educator stakeholders. However, its application is still rarely used, especially at the high school in Indonesia. So that the quality of blended learning is the most important factor for measuring the good or bad application of blended learning models in achieving learning goals.

On the other hand, Damayanty and Sumadi, (2016) state that there are other factors that also effect learning outcomes is self-direct learning and it must be owned by every student. Furthermore, Merriam and Bierema (2014) said the purpose of self-direct learning is to direct students to positive behavior that can support success in the learning process. Thus, the existence of self-direct learning does not only function as a factor causing learning activities to take place, but also a factor that can facilitate learning activities and learning outcomes. Therefore, self-direct learning must be instilled in every student so that it directs students to be able to be responsible independently as a student in their learning activities.

As previously mentioned, there are various factors that affect learning outcomes. But in this study will be focused on the direct and indirect effects of blended learning quality and self-directed learning on learning outcomes. Because even though there are several studies that discuss similar issues, the fact is that learning outcomes in Indonesia are still a crucial problem and cannot be resolved. Besides that, there is still no previous research that has conducted research by looking at the effects of the quality of blended learning and self-directed learning directly and indirectly on learning outcomes in Indonesia. If this continues to develop in the sense that learning outcomes in Indonesia are still low, it will have a negative impact on the quality of human resources in Indonesia especially to maintain the nation's competitiveness at the global level in free trade. Therefore, it is important to re-examine this research because this issue is still relevant.

LITERATURE REVIEW

Learning Outcomes

Learning outcomes are one of the most important aspects in the learning process which is used as a measure in determining the achievement of learning objectives. Etymologically according to Sudjana (2006) and Purwanto (2011) learning outcomes are abilities possessed by students after receiving their learning experiences so that they are better than before. Furthermore, according to Sinar (2018) and stated that learning outcomes can also be interpreted as the level of success of students in learning the subject matter which is stated in the score obtained from the test results regarding a certain amount of subject study.

Hamalik (2014) in his view also explains that learning outcomes are evidence that a person has learned, which can be seen from changes in behavior in the individual from not knowing to knowing, from not understanding to understanding what has been learned. In this case learning outcomes can be interpreted as changes in behavior that occur in individuals who receive learning, from conditions that do not know and do not understand something to become more understanding or gain knowledge as a result of their learning experience. Meanwhile, Thobroni (2015) revealed that aspects of knowledge or intellectual abilities are included in the cognitive domain as contained in Bloom's taxonomy.

From the several opinions above regarding the definition of learning outcomes, the researcher concludes that learning outcomes are a level of success of students after receiving learning experiences to produce new or better knowledge than before and can be expressed in scores obtained from test results regarding a number of certain subject matter as evidence that shows the level of achievement of students during their learning activities. This ability includes the cognitive domain.

Blended Learning Quality

The quality of blended learning etymologically consists of two concepts, they are quality and blended learning. According to Saifuddin (2018) quality can be interpreted as an increase in level towards an improvement or stability because quality implies the weight or level of something. Meanwhile, according to Arbangi (2016) quality is a dynamic condition related to products, services, people, processes, and the environment that meets or exceeds expectations so that it can be perceived differently by service users and product users.

Edward Sallis (2002) quality or quality can be viewed as a concept that is both absolute and relative. In absolute definition, something of quality is part of a very high standard and cannot be surpassed. Meanwhile, in a relative definition, it is seen as something that is attached to a product that meets the needs of its users. It can be concluded that quality is an assessment of the good or bad of a product or service that can be adjusted to the needs of each user so that they can be perceived differently.

Meanwhile, blended learning is a variation of the learning model and is one of the teaching tools owned by educators. According to Husamah (2014) the term blended learning refers to two concepts, namely learning has the meaning of learning and blended which means a combination of learning models. Ghahari (2013), Welker and Berardino (2006) state that blended learning consists of combining two advantages, namely face-to-face and e-learning without losing the characteristics of each learning model with electronic media as a means of delivering learning material. It can be concluded that blended learning is one of a variety of learning models that combines two learning models, namely face-to-face and e-learning which is mediated by the use of electronic media as a means of delivering learning material without eliminating the characteristics of each of these learning models. Based on this, the quality of blended learning is a measurement or assessment of whether the blended learning model is good or bad in achieving learning goals.

Self-Directed Learning

Self-directed learning is one of the factors that also determines the effectiveness of the learning process. So that self-directed learning is needed in every student. According to Afi Parnawi (2021) the word independence comes from the basic word self which gets a prefix and a suffix which forms a state word or a noun. In the other hand, according to Desmita (2011) it is an attempt to escape from other people with the intention of finding himself through the process of searching for ego identity, which is a development towards individuality that is able to stand alone. Meanwhile, according to Asrori (2020) independence is a behavior possessed by someone who is able to take the initiative to do all kinds of work to meet their needs without having to depend on other people.

In relation to learning activities, according to Amir and Risnawati (2015) self-directed learning depresses students to be responsible for their own learning activities. It is shown by being able to solve tasks and problems independently without depending on others. In addition, according to Umar Tirtarahardja (2005) self-directed learning is a learning activity that is driven by one's own abilities, own choices, and own responsibility in learning. So it can be concluded that self-directed learning is the ability possessed by students to manage their own learning activities without depending on other parties and accompanied by an attitude of responsibility.

METHOD

This study used explanatory survey and analyzed using path analysis. The population in this study were all public high schools in the Bogor city which consisted of 10 schools. The samples used were 282 students of class XI at SMA Negeri 4 Bogor, SMA Negeri 5 Bogor, and SMA Negeri 10 Bogor. In this study, learning outcomes used an instrument test in the form of a year-end assessment of economics subject in even semesters which included cognitive aspects. The quality of blended learning and self-directed learning use non-test instruments in the form of questionnaires using a likert scale. In this section, the quality of blended learning consists seven indicators such as affective, dialogue, focus, reflective and flexible, timely and relevant, changeable, and accessible. The indicators for self-directed learning consists of six indicators such as independence from others, having self-confidence, behaving in discipline, having a sense of responsibility, behaving on one's own initiative, and self-control.

RESULTS AND DISCUSSION

Results

Path Analysis

Based on the results obtained from path analysis calculations, the path coefficient values indicate a causal relationship in the structural model between the independent variables and the dependent variables. In this study, the causal relationship between variables is described as the Figure 1:

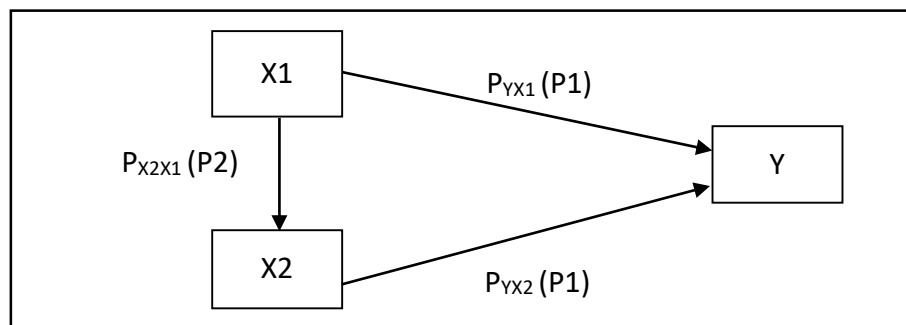


Figure 1. Relationship Between Variables

Source : Data processed by researcher

Description:

X1 = Blended Learning Quality (Independent Variable)

X2 = Self-directed Learning (Independent Variable)

Y = Learning Outcomes (Dependent Variable)

→ = Relationship Direction

Based on the figure, it shows the relationship between the direct effect of variables X1 and X2 on Y or it is called the direct effect and shows the form of mediation of the indirect effect of X2 on Y through X2 or it is called the indirect effect. direct and indirect effects can be known by determining the value of the coefficient based on the correlation value of the similarities of the two structures. It can be described in detail as the data follows:

Structural 1:

In this section consists of blended learning quality (X1) and self-directed learning (X2) on learning outcomes (Y). The results of this substructure calculated using SPSS with the following results:

Table 1. Regression of Structural 1 Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20,690	3,088		6,701	,000
	Blended Learning Quality	,227	,038	,266	6,049	,000
	Self-directed Learning	,493	,036	,595	13,546	,000

a. Dependent Variable: Learning Outcomes

Source : Data processed by researchers

In the table above it can be obtained the value of standardized coefficients so that the equation $Y = 0.266 (X1) + 0.595 (X2) + pyx2$ can be obtained. The effect of this equation is the coefficient value for the blended learning quality (X1) of 0.266. This shows that for every one unit increase in blended learning quality, the blended learning quality variable will increase by 0.266 assuming that the other independent variables from the above model are constant. The coefficient value of the self-directed learning (X2) is 0.595. This means that for every one unit increase in self-directed learning, it will increase by 0.595 assuming that the other independent variables from the above model are constant.

Table 2. F Test of Structural 1 Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13615,143	2	6807,572	176,756	,000 ^b
	Residual	10745,383	279	38,514		
	Total	24360,526	281			

a. Dependent Variable: Learning Outcomes
b. Predictors: (Constant), Self-directed Learning, Blended learning Quality

Source : Data processed by researchers

The table above is used to see the overall test results regarding whether there is a linear relationship from the endogenous variables. From the table it is obtained $F0 = 176.756$; $df1 = 2$; $df2 = 279$, $p\text{-value} = 0.000$ where $0.000 < 0.05$ then H_0 is rejected. It can be concluded that the quality of blended learning (X1) and self-directed learning (X2) have an effect on learning outcomes (Y). The value of the coefficient of determination can be describe as the data follows:

Table 3. Coefficient of Determination of Structural 1 Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,748 ^a	,559	,556	6,206

a. Predictors: (Constant), Self-directed Learning, Blended learning Quality

Source : Data processed by researchers

Based on the table above, it can be concluded that there is a coefficient value of R square (R²) of 0.559 or 55.9%. This figure means that the quality of blended learning and self-directed learning has an effect on learning outcomes of 55.9%

Structural 2:

In this section describes the effect of the quality of blended learning (X1) on self-directed learning (X2). The results of this substructure calculated by using SPSS in detail with the following data:

Table 4. Regression of Structural 2 Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36,239	4,588		7,898	,000
	Blended learning Quality	,438	,056	,425	7,852	,000

a. Dependent Variable: Self-directed Learning

Source : Data processed by researchers

In the above table we can obtain standardized coefficient values so that the equation $X_2 = 0,425 + \rho x_2 \epsilon_1$ is obtained. The effect of this equation is the coefficient value for the blended learning quality variable (X1) of 0.425. These results show that for every one unit increase in the quality of blended learning, the self-directed learning will increase by 0.425 assuming that the other independent variables from the model above remain.

Table 5. F Test of Structural 2 Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6412,274	1	6412,274	61,659	,000 ^b
	Residual	29119,031	280	103,997		
	Total	35531,305	281			

a. Dependent Variable: Self-directed Learning
b. Predictors: (Constant), Blended learning Quality

Source : Data processed by researchers

The purpose of the table above to show the overall test results regarding whether there is a linear relationship from the endogenous variables. From the table it is obtained $F_0 = 61.659$; $df_1 = 1$; $df_2 = 280$, $p\text{-value} = 0.000$ where $0.000 < 0.05$ then H_0 is rejected. Thus, it can be concluded that the quality of blended learning (X1) effect self-directed learning (X2). Meanwhile to measure the coefficient of determination as follows:

Table 6. Coefficient of Determination of Structural 2 Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,425 ^a	,180	,178	10,198

a. Predictors: (Constant), Blended Learning Quality

Source : Data processed by researchers

Based on the table above, the value of R square is 0.180, which is equal to 18% and it can be concluded that the quality of blended learning effect self-directed learning 18%.

Discussion

The effect of blended learning quality on economics studys's learning outcomes of senior high school

Based on the results of the path analysis, it shows that there is an effect of the quality of blended learning on learning outcomes. This conclusion is obtained from the β coefficient of 0.518 with a significance level of $0.000 < 0.05$, then H_0 is rejected, which means that there is a positive and significant effect between the quality of blended learning on learning outcomes. From the results of this analysis, it shows that the higher of blended learning quality will increase the value of learning outcomes. It is also applies to the low blended learning quality will decrease learning outcomes. So that the good or bad quality of blended learning will also effect student learning outcomes. Related to this, there are also several studies that have similar research results such as I Wayan Redhana (2021), and Puspitasari (2022) which state that the application of quality blended learning have an impact on increasing learning outcomes.

The effect of self-directed learning on economics studys's learning outcomes of senior high school

Based on the results, it show that self-directed learning affects the level of student learning outcomes. This conclusion is obtained from the β coefficient of 0.708 with a significance level of $0.000 < 0.05$, then H_0 is rejected. This means that there is a positive and significant effect between self-directed learning and learning outcomes. From these results it shows that the higher of self-directed learning will increase learning outcomes obtained by these students. It also implies if there is low self-directed learning in the process of learning activities, it will makes decreasing of learning outcomes. In research conducted by Aliyyah (2017), Ananda Rusdi (2019), Riyanti (2021), Adha (2022), and Mislianti (2022) shows that there is a positive and significant effect of self-directed learning on learning outcomes. Based on this, it can be concluded the self-directed learning becomes one of the determining factors in achrieving learning outcomes.

The effect of blended learning quality on self-directed learning on economics studys's of senior high school

Based on the results, it shows that the quality of blended learning has an effect on self-directed learning. This conclusion is obtained from the β coefficient of 0.425 with a significance level of $0.000 < 0.05$, this means that there is a positive and significant effect between the quality of blended learning on self-directed learning. From the results of this analysis, it can be interpreted that the higher the quality of blended learning, the more independent learning will increase. Likewise, when the quality of blended learning is low, it will result in a decrease in learning independence. Similar results were also found in research conducted by Kassab (2015), Mayasari (2019) and Mufidah & Surjanti (2021) which stated that the application of quality blended learning can increase self-directed learning.

The effect of blended learning quality on learning outcomes through self-directed learning on economics studys's of senior high school

Based on the results of testing using SPSS, it was found that the regression coefficient value for the quality of blended learning on self-directed learning was 0.438 with a standard error of 0.056 and a significance value of 0.000. Furthermore, for self-directed learning to get a coefficient value of 0.493 with a standard error of 0.036 and a significance value of 0.000. So that the quality of blended learning has a significant direct effect on self-directed learning,

as well as self-directed learning has a direct effect on learning outcomes which are described as the data follows:

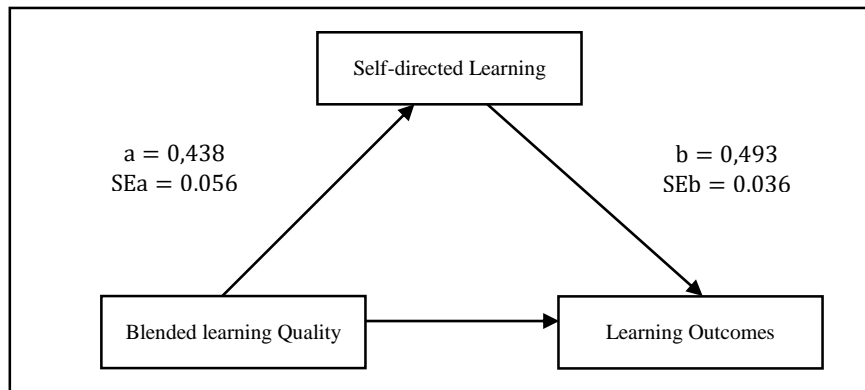


Figure 2. Path Analysis Results

Source : Data processed by researcher

The model above was formed from the results of the first and second regressions so as to form a path analysis model with self-directed learning as a mediator variable. The indirect effect of the quality of blended learning (X1) on learning outcomes (Y) through self-directed learning (X2) can be calculated by multiplying the effect of the quality of blended learning (X1) on self-directed learning (X2) = 0.438 with the effect of self-directed learning (X2) on learning outcomes (Y) = 0.493 So that the indirect effect of the quality of blended learning on learning outcomes through independent learning is $(0.438) \times (0.493) = 0.216$. Meanwhile, for the significance value with the Sobel test, the value of 6.792 is greater than the calculated t-value. The results of the Sobel test calculations above prove that self-directed learning is able to mediate the relationship between the quality of blended learning and learning outcomes. Related to this, there is similar results were also found in research conducted from Sandi (2012) that there was a significant interaction of blended learning on learning outcomes in terms of self-directed learning.

CONCLUSION AND RECOMMENDATION

The results of this study can be concluded: (1) There is a positive and significant effect of blended learning quality on economics study's learning outcomes of senior high school in the city of Bogor. (2) There is a positive and significant effect of self-directed learning on economics study's learning outcomes of senior high school in the city of Bogor. (3) There is a positive and significant effect of blended learning quality on self-directed learning of senior high school in the city of Bogor. (4) There is a positive and significant effect of blended learning quality on economics study's learning outcomes through the self-directed learning of senior high school in the city of Bogor.

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