The Effectiveness of the Implementation of Blended Learning in Economics

Samudra Wiryantama[1✉], Albrian Fiky Prakoso[2]
Universitas Negeri Surabaya, Indonesia[1,2]
E-mail : samudra.17080554059@mhs.unesa.ac.id[1], albrianprakoso@unesa.ac.id[2]

Abstrak

Penelitian ini dilakukan dengan tujuan untuk melihat perbandingan efektivitas blended learning dan pembelajaran daring dalam mempengaruhi hasil belajar peserta didik, serta efektivitas penerapan blended learning pada pembelajaran berdasarkan hasil belajar, aktivitas belajar, serta respon peserta didik yang dilaksanakan dalam kompetensi dasar bank sentral, sistem pembayaran, dan alat pembayaran. Penelitian ini tergolong dalam penelitian kuasi-eksperimen yang dilaksanakan menggunakan non equivalent control group design dengan subjek penelitian berupa peserta didik kelas x ips 1 dan x ips 3 SMAN 1 Porong Tahun Ajaran 2020-2021 sebesar 68 peserta didik. Data yang terkumpul di dalam penelitian ini diperoleh menggunakan test, angket, dan observasi yang diolah menggunakan analisis statistic non-parametrik dan analisis statistic deskriptif. Hasil analisis data menunjukkan bahwa (1) model pembelajaran mempengaruhi hasil belajar peserta didik; (2) terdapat perbedaan rerata hasil belajar peserta didik antara pembelajaran dengan blended learning dan pembelajaran daring; (3) pembelajaran dengan blended learning lebih efektif dibandingkan pembelajaran daring, dan (4) pembelajaran dengan blended learning efektif untuk dilaksanakan berdasarkan hasil belajar, aktivitas, serta respon peserta didik.
Kata Kunci: blended learning, efektivitas, hasil belajar, aktivitas belajar, respon.

Abstract

This research aims to compare the effectiveness of blended learning and online learning in influencing students' learning outcomes, as well as the effectiveness of blended learning applications based on the students' learning outcomes, learning activities, and student responses in the central bank, payment systems, and payment instruments chapter. This is a quasi-experimental study with a non-equivalent control group design. The sample used in this research consisted of 68 students from class X IPS 1 and X IPS 3 of SMAN 1 Porong 2020-2021. The data used in this study were obtained using tests, questionnaires, and observations which were analyzed using non-parametric statistical analysis, N-gain calculation, and descriptive statistical analysis. The results showed that (1) learning models affect student learning outcomes; (2) there is a significant difference in the average students' learning outcomes between blended learning and online learning, (3) blended learning is more effective to be implemented than online learning, based on the students' learning outcome, and (4) blended learning is effective to be implemented based on learning outcomes, activities, and student responses.
Keywords: blended learning, effectiveness, learning outcomes, learning activity, response.

INTRODUCTION

The Covid-19 pandemic that has been set by the World Health Organization (WHO) on March 9, 2020 (Covid-19 Task Force, 2020) has brought many changes to the lifestyle of the Indonesian people, including in the field of education. The most felt impact in the education sector was the issuance of the Circular Letter of the Minister of Education and Culture Number 4 of 2020 regarding "Implementation of Educational Policies in the Emergency Period of the Spread of Coronavirus Disease", in which it is determined that the learning process at all education levels is carried out online (Ministry of Education and Culture of the Republic of Indonesia, 2020). With the stipulation of the Circular, all learning activities are carried out online to stop the spread of the virus, including at SMAN 1 Porong.

SMAN 1 Porong is a school that implements remote learning using the LMS Google Classroom and the WhatsApp application as the main means of implementing online learning. Based on an interview conducted with one of the economics teachers at the school, regarding economic learning at SMAN 1 Porong during the covid-19 pandemic, the school only relied on these two applications to share the learning materials and to do the assignments, resulting in a learning process that happened without any meaningful activity or interaction, whether it is interactions between students or teacher-class interactions. This situation makes it difficult to observe student learning activities, causing teachers to only observe learning activities from assignments given via Google Classroom. Another impact that arises from this situation is the low learning outcomes that were achieved for students, according to what the economics teacher at SMAN 1 Porong said, making implementation of different learning approaches is needed to overcome these two problems.

Blended learning itself is a concept that combines the characteristics of several media, approaches, and learning technologies (Driscoll, 2002), in this case, a combination between conventional learning and internet-based online learning (Riinawati, 2021). This resulted in blended learning being implemented both synchronously and asynchronously (Putra & Fitrayati, 2021). Blended learning models were developed based on the advantages and disadvantages of the implementation of conventional and online learning (Wardani et al., 2018)**.** By combining the advantages of both learning models, the blended learning model is able to create a positive learning environment that supports interaction in the classroom without any space or time limitation (Abroto et al., 2021).

Research on the implementation of blended learning has been carried out many times and shows mixed results. The application of blended learning has been proven to positively affect student learning outcomes (Fadhilatunisa et al., 2020; Manggabarani et al., 2016). This can be proven by the increase in students' learning outcomes compared to prior using blended learning in class (Fadhilatunisa et al., 2020; Galang et al., 2016; Nande & Irman, 2021; Nopitasari et al., 2021; Rizkiyah, 2013; Wai & Seng, 2015). The blended learning model has also proven to be more effective to improve learning outcome than conventional learning models (Fadhilatunisa et al., 2020; Hariyani, 2021; Riantika & Mukminan, 2019; Sjukur, 2013; Wardani et al., 2018) and online learning (Gambari et al., 2017; Widyasari & Rafsanjani, 2021)**.** In terms of student learning activities, the implementation of blended learning is also proven to be effective in pushing students to actively participate during the learning process (Fadhilatunisa et al., 2020)**.**

The implementation of blended learning in learning is not a foreign concept. However, with the Covid-19 pandemic and government regulations requiring schools to conduct remote learning, it is difficult to implement blended learning that combines online learning with face-to-face learning activities in the classroom. This gap is where this research comes in, by presenting the application of blended learning in an online learning environment that provides face-to-face learning experiences in the classroom, without having any physical contact between students and teachers.

While it is true that many pieces of research have been carried out regarding this implementation, but during the Covid-19 pandemic, the need for an effective remote learning model is felt to be increasingly

important, especially at SMAN 1 Porong. After observing the problems, as well as existing theories and evidence from previous studies, the researchers hereby intend to conduct research on the effectiveness of the implementation of blended learning in economics subjects at SMAN 1 Porong.

RESEARCH METHOD

This research is a quasi-experimental research with a non-equivalent control group design. This research involves two classes which will be categorized as experimental class and control class, each of which will be given specific treatment. The experimental class will carry out learning using a blended learning model, while the control class will carry out learning using online learning.

The population used as the target of this study was students of class X majoring in Social Sciences at SMAN 1 Porong which consisted of 3 classes, namely Social Sciences 1.2, and 3 which were selected by purposive sampling method. The samples used in this study were 36 students from X IPS 1 as the experimental group and 32 students of X IPS 3 as the control group.

The data in this study were collected using observations, questionnaires, and tests with instruments consisting of pretest-posttest sheets, observation sheets, and questionnaires. Each instrument is used to collect data for different variables such as; pretest and posttest sheets for student learning outcomes, observation sheets for learning activities, and questionnaires to see student responses. The test sheets were developed by the researchers based on the basic competencies studied, while the questionnaires and observation sheets were adapted from previous existing studies. The scale used in filling out activity observation sheets and student response questionnaires is the Likert scale with a value ranging between 1-4 with a score of 1 stating "strongly disagree/very inactive", and a score of 4 stating "strongly agree/very active" on a positive statement. The developed pretest and posttest items consist of 15 multiple choice questions which will be tested for validity and reliability before being used in the study.

Table 1
Table of Validity and Reliability Test Result

Item	Validity	Reliability	R-table	Result
1	0,447	0,745	0,361	Valid & Reliable
2	-0,072	0,778	0,361	Invalid & Reliable
3	0,387	0,750	0,361	Valid & Reliable
4	0,617	0,724	0,361	Valid & Reliable
5	0,489	0,740	0,361	Valid & Reliable
6	0,698	0,716	0,361	Valid & Reliable
7	0,194	0,760	0,361	Invalid & Reliable
8.	0,397	0,750	0,361	Valid & Reliable
9.	0,678	0,719	0,361	Valid & Reliable
10.	0,419	0,744	0,361	Valid & Reliable
11.	0,702	0,713	0,361	Valid & Reliable
12.	0,634	0,722	0,361	Valid & Reliable
13.	0,553	0,733	0,361	Valid & Reliable
14.	0,310	0,760	0,361	Invalid & Reliable
15.	0,509	0,738	0,361	Valid & Reliable

According to table 1, all items have validity and reliability values above the R-Table (0.361) except for items 2, 7, and 14 so that the three items will not be used in the study.

The data collection process takes place along with the learning process. Pre-test and post-test were taken, respectively, before and after learning about the central bank, payment systems, and payment instruments. Observational data were collected as learning progressed while questionnaire data were collected after the post-test.

The collected data regarding the learning outcomes will be tested for normality and homogeneity before being analyzed with a paired and independent-sample t-test to see any differences in the average learning outcomes between and inside the experimental and control class. Meanwhile, descriptive statistical analysis will be used to measure the effectiveness of the blended learning implementation based on learning outcomes, learning activities, and student responses. The data processing will be done using IBM SPSS Statistics 21 and Microsoft Excel. The learning process is said to be effective in terms of learning outcomes if the class mastery level is above 50% with a minimum score of 75, while the activities and student responses are said to be effective if the average value of the questionnaire and observation is at least 75%.

RESULTS AND DISCUSSIONS

Before further analysis, the learning outcomes data from the two classes will be tested for normality and homogeneity first.

Table 2
Normality by Shapiro-Wilk Test Results

	Class	Sig.
Test result	Experiment Pre-test	.022
	Experiment Post-test	.025
	Control Pre-test	.073
	Control Post-test	.274

Table 3
Homogeneity by Levene Test Results

	Based on	Sig.
Test result	Mean	.263
	Median	.306
	Median with adjusted df	.306
	Trimmed mean	.259

Based on table 2, it was found that the distribution of data on the test results belonging to the experimental class was not normally distributed with values of 0.022 and 0.025. As a result, further testing will be carried out with non-parametric statistics. While the Levene test results in table 3 show the sig value is above 0.05 so that the research data is homogeneous.

The next tests are the paired sample t-test and the independent sample t-test which is carried out using non-parametric statistics to see the difference in the average scores between tests, and classes. The paired sample t-test was tested using the Wilcoxon test, while the independent sample t-test was tested using the Mann Whitney test.

Table 4
Paired Sample T-test by Using Wilcoxon Test Results

		N	Mean Rank
Experiment Class	Negative Ranks	3[a]	14.00
	Positive Ranks	31[b]	17.84
	Ties	2[c]	
	Total	36	
Control Class	Negative Ranks	9[d]	10.06
	Positive Ranks	19[e]	16.61
	Ties	4[f]	
	Total	32	
Test Statistics			
	pos eksperimen - pre eksperimen	pos kontrol - pre kontrol	

Z	-4.374[b]	-2.565[b]
Asymp. Sig. (2-tailed)	.000	.010

Based on table 4, the value of asymp. Sig. on both classes are worth 0.000 and 0.010, both of which are worth less than 0.05 so it can be ascertained that there are differences in the average learning outcomes inside the two classes. This means that the learning model affects learning outcomes, as evidenced by both learning models used having an influence on students' learning outcomes.

Table 5
Independent Sample T-test by Mann Whitney Test Results

	Class	Mean Rank
Post-test	Experiment	38.99
Results	Control	29.45

Test Statistics

	Post-test Results
Mann-Whitney U	414.500
Wilcoxon W	942.500
Z	-1.994
Asymp. Sig. (2-tailed)	.046

Based on table 5, the results show the asymp. Sig. value of 0.046. Since the value is lower than 0.05, there is a significant difference regarding the average learning outcomes in both classes. The mean rank value of the experimental class is greater than that of the control class with a comparison of 38.99 and 29.45, so it can be concluded that blended learning is more effective than online learning. The advantages of blended learning over online learning are also strengthened by the results of the N-gain calculation as shown below in table 6.

Table 6
N-gain Percentage Analysis Results

	Average N-Gain Percentage
Experiment Class	35.56%
Control Class	15.27%.

Based on descriptive statistical analysis, the data on student learning outcomes in the experimental class showed the following:

Table 7
Descriptive Analysis Results of Student Learning Outcomes

	Minimum Score	Maximum Score	Average Score	Mastery percentage
Pre-Test	8.33	91.67	53.7037	33.3%
Post-Test	16.67	100.00	69.2130	52.7%

The results in table 7 show an improvement in learning outcomes for the experimental class. It can be seen that the range of pretest scores in the experimental class is between 8.3 to 91.67 with a mean value of 53.3. While the posttest scores for the experimental class ranged from 16.67 to 100 with an average value of 69.21. In addition to the average test scores, there was also an increase in the student mastery level from 33.3% to 52.7%. Based on the results of the research, it is known that the blended learning model is effectively used based on the analysis results which show that the blended learning model can improve student learning outcomes.

These results are in line with the results of research conducted by (Fadhilatunisa et al., 2020; Galang et al., 2016; Nopitasari et al., 2021; Rizkiyah, 2013; Sjukur, 2013; Wai & Seng, 2015). This result is also in line with the statement by (Morrison et al., 2012) which states that the value of a test or exam can be a measure of the effectiveness of learning. This finding also strengthens the results of research from (Riantika &

Mukminan, 2019) which state that the blended learning model is effective to be used in improving learning outcomes. In its application, the blended learning model provides opportunities for students to carry out the learning process both simultaneously and independently so that students can adapt the learning activities into their respective learning styles without eliminating any interactions with the teachers or other students. In addition, the accessibility of learning materials is also one of the reasons why this model is an effective alternative in improving learning outcomes. As happened in this study, students can improve their understanding of the learning material by reviewing the material repeatedly and continuing to learn independently or with other students (Riinawati, 2021).

Table 8
Descriptive Analysis Results of Students Activities

Positive Activities		Negative Activities	
Indicator	Mean	Indicator	Mean
Asking and giving opinion	2.8333	Not paying attention to the teacher	3.5000
Active in discussion	3.0278	Talking in private during class	3.4444
Reading and/or Taking Notes	2.8611	Lack of discipline in doing task	3.3889
Responding to questions	2.9722	Making unnecessary noise in class	3.7500
Demonstrating comprehension via IT	2.7500	Falling asleep during lesson	3.5556
Utilizing ICT in learning	3.1389	Using social media in class	3.6111
Mean			3.236111
Mean Percentage			80.9%

The results of the analysis of learning activities in table 8 show an average percentage of 80.9% so it can be said that based on student activities, the application of blended learning is effective. Based on observations during learning activities, students actively participate in the learning process with activities like reading and observing the explanation given by the teacher. During the discussion, students were seen to actively participate in asking, responding, and answering questions. The activity with the highest score lies in the use of ICT in learning. This can happen because ICT is one of the main means of implementing learning that uses technology in the process, such as learning with blended learning and online learning. This is also supported by the increasingly affordable facilities and access to support for carrying out learning using ICT at SMAN 1 Porong. During the implementation of blended learning, students use devices such as laptops and smartphones as the main means to access information and discussion.

Based on the same table, the most avoided negative activity in learning is making noise in the classroom. This happens because face-to-face learning is implemented using an e-conference platform such as Zoom which requires students to activate the microphone when they want to speak so that the teacher can see the students who will speak in learning so that the learning process runs more orderly and efficiently. On the other hand, the most visible negative activity is the lack of student discipline in submitting assignments. This happens because there is no direct supervision and consequences by the teacher as in conventional learning. During the learning process, the work and submission of assignments are carried out using a system that is carried out online so that students are more flexible in choosing the time to do the assigned tasks.

This proves the statement that the observation of learning activities can be an assessment of the effectiveness of learning by (Eggen & Kauchak, 1988). This finding also strengthens the results of research from (Triyanto et al., 2016) which states that learning activities in blended learning activities are positive and effective to use.

Table 9
Descriptive Analysis Results of Students Response

Indicator	Mean
Student interest in the subjects	3.2778
Knowing the benefits of studying economics	3.5278

Student interest in learning	2.9444
The usefulness of the learning method	3.2778
The learning syntax helps students prepare for learning	3.4444
The developed worksheet helps the learning implementation	3.5556
The presented problems are interesting to solve	3.2500
Teacher guidance encourages student participation	3.3889
The teacher's question helps to construct students' understanding	3.5000
Learning via Zoom and WhatsApp is interesting to do	2.9722
Online information gathering is interesting to do	3.4167
Mean	3.323232
Mean percentage	83.08%

Positive results are also shown by the responses of students. Based on table 9 which contains the results of students' response data analysis, it is known that the application of learning using blended learning is received positively. The highest score was obtained by the indicator "the worksheet provided helps the implementation of the learning process". This shows that the worksheets developed and used in the learning process are considered very helpful by the students. In this research, the development of the worksheet is intended to be carried out by considering the concept of blended learning itself, which is carried out remotely to create a worksheet that can be used flexibly by students in class, or even at home. This result matches with the findings of (Triyanto et al., 2016) which shows that students tend to have a positive response to learning using blended learning, and the implementation is met with positive feedback by the students (Sofiana, 2015). The learning process using the blended learning model has an appeal on learning efficiency, as well as teacher and student interaction (Abroto et al., 2021). The students' interest in participating in learning will affect the activities and outcomes of the learning process. Students feel more interested in active and interactive learning models. On the other hand, students feel no interest in participating in monotonous learning that only focuses on doing assignments without any interaction in its implementation, such as online learning which has been used in the classroom until now.

CONCLUSION

Based on the results of the research above, it is concluded that the results of this study are as follows; (1) learning models affect student learning outcomes, (2) blended learning models are more effective than online learning, (3) based on student learning outcomes, activities, and responses, blended learning models are effectively used in learning.

Based on the conclusions above, the researchers would like to provide some suggestions for further research to; (1) find out the effectiveness of the application of blended learning on other materials and subjects, (2) compare the performance of blended learning with other learning models, (3) make blended learning as an alternative in the implementation of economic learning, especially regarding central banks, systems, and means of payment.

REFERENCES

Abroto, A., Maemonah, M., & Ayu, N. P. (2021). Pengaruh Metode Blended Learning Dalam Meningkatkan Motivasi dan Hasil Belajar Siswa Sekolah Dasar. *Edukatif: Jurnal Ilmu …*, *3*(5), 1993–2000. https://www.edukatif.org/index.php/edukatif/article/view/703

Covid-19 Task Force. (2020). *Apa yang dimaksud dengan pandemi*.

Driscoll, M. (2002). Blended learning: Let's get beyond the hype. *E-Learning*, 54. http://www-07.ibm.com/services/pdf/blended_learning.pdf

Fadhilatunisa, D., Fakhri, M. M., & Rosidah. (2020). Pengaruh Blended Learning terhadap Aktivitas Belajar dan Hasil Belajar Mahasiswa Akuntansi. *Jurnal Pendidikan Akuntansi Indonesia*, *18*(2), 93–106.

Galang, M. A., Suryaningtyas, W., & Kristanti, F. (2016). Penggunaan Model Pembelejaran Blended Learning Terhadap Hasil Belajar Matematika Kelas VIII di SMPN 38 Surabaya. *Journal of Mathematics Education, Science and Technology*, *1*(1), 10–20.

Gambari, A. I., Shittu, A. T., Ogunlade, O. O., & Osunlade, O. R. (2017). Effectiveness of blended learning and eLearning modes of instruction on the performance of undergraduates in Kwara State, Nigeria. *Malaysian Online Journal of Education Science*, *5*(1), 25–36. https://mojes.um.edu.my/

Hariyani, L. (2021). Blended Learning dan Implikasinya terhadap Hasil Belajar Geografi Siswa SMA di Era Pandemi Covid-19. *Edukatif: Jurnal Ilmu Pendidikan*, *3*(6), 5093–5098.

Manggabarani, A. F., Sugiarti, & Masri, M. (2016). Pengaruh Model Pembelajaran Blended Learning Terhadap Motivasi dan Hasil Belajar Siswa Kelas X SMA Negeri 1 Pitumpanua Kab.Wajo (Studi Pada Materi Pokok Sistem Periodik Unsur). *Jurnal Chemica*, *17*(2), 83–93.

Ministry of Education and Culture of the Republic of Indonesia. (2020). *Surat Edaran Nomor 4 Tahun 2020 Tentang Pelaksanaan Kebijakan Pendidikan dalam Masa Darurat Penyebaran Coronavirus Disease(Covid-19)* (p. 300).

Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2012). *Designing Effective Instruction* (7th Editio). John Wiley & Sons.

Nande, M., & Irman, W. A. (2021). Penerapan Model Pembelajaran Blended Learning dalam Meningkatkan Hasil Belajar Siswa Sekolah Menengah Kejuruan. *Edukatif : Jurnal Ilmu Pendidikan*, *3*(1), 180–187. https://doi.org/10.31004/edukatif.v3i1.240

Nopitasari, E., Rahmawati, F. P., & Ratnawati, W. (2021). Peningkatan Hasil Belajar Matematika Melalui Model Pembelajaran Blended Learning Berbasis Blog pada Peserta Didik di Sekolah Dasar. *EDUKATIF: Jurnal Ilmu Pendidikan*, *3*(5), 1935–1941. https://edukatif.org/index.php/edukatif/article/view/699

Putra, H. A. D., & Fitrayati, D. (2021). Efektivitas Model Pembelajaran Blended Learning Untuk Meningkatkan Keterampilan Berpikir Kritis Peserta Didik Pada Pelajaran Ekonomi. *Jurnal Ilmu Pendidikan*, *3*(4), 1765–1774. https://edukatif.org/index.php/edukatif/article/view/676/pdf

Riantika, R. F. P., & Mukminan. (2019). Efektivitas Model Pembelajaran Blended Learning untuk Meningkatkan Hasil Belajar Geografi pada Materi Litosfer Kelas X SMA. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *4*(12), 1723–1729. https://doi.org/10.17977/jptpp.v4i12.13105

Riinawati. (2021). Hubungan Penggunaan Model Pembelajaran Blended Learning terhadap Hasil Belajar Matematika Siswa Sekolah Dasar. *Edukatif : Jurnal Ilmu Pendidikan*, *3*(6), 3794–3801.

Rizkiyah, A. (2013). Penerapan Blended Learning untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran Ilmu Bangunan di Kelas X TGB SMK Negeri 7 Surabaya. *Jurnal Kajian Pendidikan Teknik Bangunan*, *1*(1), 40–49.

Sjukur, S. B. (2013). Pengaruh blended learning terhadap motivasi belajar dan hasil belajar siswa di tingkat SMK. *Jurnal Pendidikan Vokasi*, *2*(3), 368–378. https://doi.org/10.21831/jpv.v2i3.1043

Sofiana, N. (2015). Implementasi blended learning pada mata kuliah Extensive listening. *Jurnal Tarbawi*, *12*(1), 59–69. https://ejournal.unisnu.ac.id/JPIT/article/view/303

Triyanto, S. A., Susilo, H., & Rohman, F. (2016). Penerapan Blended-Problem Based Learning dalam Pembelajaran Biologi. *Jurnal Pendidikan*, *1*(1), 1252–1260.

Wai, C. C., & Seng, E. L. K. (2015). Measuring the effectiveness of blended learning environment: A case study in Malaysia. *Education and Information Technologies*, *20*(3), 429–443. https://doi.org/10.1007/s10639-013-9293-5

Wardani, D. N., Toenlioe, A. J. E., & Wedi, A. (2018). Daya Tarik Pembelajaran Di Era 21 Dengan Blended Learning. *Jurnal Kajian Teknologi Pendidikan (JKTP)*, *1*(1), 13–18.

https://core.ac.uk/download/pdf/287323676.pdf

Widyasari, L. A., & Rafsanjani, M. A. (2021). Apakah Penerapan Blended Learning Dapat Meningkatkan Motivasi dan Hasil Belajar Siswa dalam Pembelajaran Jarak Jauh? *Edukatif: Jurnal Ilmu ...*, *3*(3), 854–864. https://edukatif.org/index.php/edukatif/article/view/453