

## THE EFFECTIVENESS OF LEARNING WITH BLENDED LEARNING MODEL IN THE SPECIFICATION BUILDING DRAWING COURSE

Diviana Aguva<sup>1</sup>, Revian Body<sup>2</sup>

<sup>1,2</sup>Fakultas Teknik, Universitas Negeri Padang

Email: divianaaguva6@gmail.com

**Abstrak:** Penelitian ini berawal dari penyebaran virus Covid-19 yang menyebabkan sistem pendidikan yang awalnya segala proses pembelajaran dilakukan secara tatap muka berubah menjadi model pembelajaran *blended learning*. Penelitian ini bertujuan untuk mengetahui efektivitas model *blended learning* pada mata kuliah gambar bestek bangunan mahasiswa Program Studi Pendidikan Teknik Bangunan Universitas Negeri Padang. Jenis penelitian ini adalah penelitian deskriptif dengan pendekatan kuantitatif. Penelitian ini dilaksanakan di Jurusan Teknik Sipil Fakultas Teknik Universitas Negeri Padang. Sampel yang digunakan pada penelitian ini adalah mahasiswa Program Studi Pendidikan Teknik Bangunan angkatan 2020 yang telah melaksanakan mata kuliah gambar bestek bangunan dengan model *blended learning* sebanyak 32 mahasiswa. Teknik pengumpulan data yang digunakan yaitu dengan menyebar angket penelitian berupa *link* yang dibuat pada Google Form yang selanjutnya dibagikan melalui Whatsapp. Teknik analisis data pada penelitian ini adalah verifikasi data dan analisis deskriptif dengan menggunakan Microsoft Office Excel dan SPSS versi 17.0. Berdasarkan hasil penelitian Efektivitas Model *Blended Learning* pada Mata Kuliah Gambar Bestek Bangunan termasuk cukup efektif dengan Derajat Pencapaian (DP) dari dua indikator sebesar 71,35%. Hal ini berarti tingkat efektivitas pada proses pembelajaran pada mata kuliah gambar bestek bangunan dinilai cukup efektif dengan menggunakan model *blended learning*.

**Kata Kunci:** Efektivitas, Model Blended Learning, Gambar Bestek Bangunan

**Abstract:** This research began with the spread of the Covid-19 virus, which caused the education system that started all face-to-face learning processes to turn into a blended learning model. This study aims to determine the effectiveness of the blended learning model in the building engineering drawing course for students of the Universitas Negeri Padang Building Engineering Education study program. This type of research is descriptive research with a quantitative approach. This research was conducted in the Department of Civil Engineering, Faculty of Engineering, Universitas Negeri Padang. The sample used in this study were students of the building engineering education study program class of 2020 who had carried out a building engineering drawing course with a blended learning model as many as 32 students. The data collection technique used is by distributing research questionnaires in the form of links made on Google Forms which are then shared via Whatsapp. The data analysis technique in this research is data verification and descriptive analysis using Microsoft Office Excel and SPSS version 17.0. Based on the results of the study, the Effectiveness of the Blended Learning Model in the Building specification Drawing Course is quite effective with the Degree of Achievement (DP) of the two indicators of 71.35%. This means that the level of effectiveness in the learning process in the building construction drawing course is considered quite effective by using the blended learning model.

**Keywords:** Effectiveness, Blended Learning Model, Specification Building Drawing

## INTRODUCTION

At the end of 2019, the world's attention was focused on a city called Wuhan (Capital of Hubei Province, China) with the emergence of a virus called Corona Virus Disease or often referred to as Covid-19. In a matter of days this virus very quickly spread exponentially to Europe, Japan, South Korea until this virus reached Indonesia. The Covid-19 pandemic, which is increasingly spreading in Indonesia, has forced the Indonesian Government to offer an invitation to the public to stay at home, wear masks, and practice social distancing.

The social distancing regulations have had an impact on the economic, social, political, religious fields and also have an impact on the education sector starting from the elementary level to tertiary institutions. The education system, where initially all learning processes were carried out face-to-face or off-network learning processes, are currently being replaced by online or online learning processes. With this change in the education system, educators are required to be able to develop online learning by utilizing existing technology.

The online learning system is a learning system without face-to-face contact between educators and students but is carried out online via the internet network [1].

States that in the educational process, especially the teaching and learning process, educators will consider using a learning model that fits the characteristics of the course. The selection of the learning model used will affect the results and quality of learning. A good learning system requires development, improvement and change over time [2]. In line with that, the the planning of the learning process in the Covid-19 era certainly must have preparation that is right on target so that it can be used to assist students in learning. One way to meet students' learning needs in the current pandemic is to design a learning

model and develop it in such a way as to properly support the teaching and learning process. The alternative is to design a lesson plan that combines online and face-to-face learning [3].

Specification Building Drawings is one of the compulsory subjects in the Civil Engineering Department, FT UNP. Specification Building Drawings is a basic subject of drawing a building where the ability to draw is one of the learning objectives. Learning in Building Bestek Drawings requires students to learn drawing techniques through understanding and knowledge of the structure of a building. This course is considered to be quite difficult for students to understand because the Specification Building Drawing course requires calculation processes and drawing practice.

From the results of interviews on January 19, 2022 with Building Engineering Education Students who have carried out the Specification Building Drawing lecture. Many answers said that students had difficulty understanding the material presented through the online learning process, as a result, students had difficulty doing drawing assignments given by the lecturer. Based on the description above, there are many obstacles in the blended learning process during this pandemic. So that the blended learning learning model can be an alternative learning to reduce barriers in online learning.

Blended learning is an alternative learning that combines various methods of delivery, teaching models, and learning styles, introducing various choices of learning media between educators and students. Blended learning is learning that is supported by an effective combination of different modes of delivery, teaching and learning styles and is found in open communication between all parties involved with training. As for the

advantages of using blended learning as a combination of direct learning (face to face) and online learning and as part of social interaction between educators and students. Along with that, there has been no research on the effectiveness of the blended learning model in the Specification Building Drawingcourse.

Learning effectiveness will be fulfilled if using learning media that are appropriate to the circumstances and environmental conditions of students. Submission of material to students will be conveyed well if the material involves students who are directly involved in it compared to students who only observe.

Based on the description above, the researchers are interested in conducting research on "Learning Effectiveness with the Blended Learning Model in the Building Engineering Drawing Course, Education Study Program, Universitas Negeri Padang " [4].

### METHOD

This research uses a type of research that uses quantitative research methods. This research method is a scientific/scientific method because it fulfills scientific principles, namely concrete/empirical, objective, measurable, rational, and systematic [5]. This method is also known as the discovery method. This method is called a quantitative method because the research data is in the form of numbers and the analysis uses statistics. Descriptive research is research that explains the characteristics of a population regarding the observed phenomenon. Descriptive research is research that intends to present a complete picture of social settings. This type of descriptive research can be carried out using survey methods, continuous descriptive methods, case studies, job analysis, classroom action research, and library research [6].

The types and sources of data used in this study consisted of primary data and

secondary data, namely: Primary data in this study was data obtained directly from the distribution of questionnaires to the research sample. Secondary data in this study is data obtained from the Administration of the Civil Engineering Department in the form of the names of students from the Civil Engineering Department of UNP.

In this study, an important factor that needs to be considered is the research sample. The research sample reflects and determines how far the sample is useful in containing research conclusions. Sampling in this study used a total sampling technique based on 2 sessions of the Building Specification Building Drawingcourse, totaling 32 students of the Building Engineering Education Study Program, Universitas Negeri Padang class of 2020.

Based on the problem formulation and research objectives, the instrument used in this study was a questionnaire. The preparation of indicators from research instruments on the Effectiveness of the Application of the Blended Learning Model in the Building Engineering Study Program, Universitas Negeri Padang, is arranged as it is in the theoretical study. From the theory, the form of the instrument grid and the questionnaire is formulated as shown in the table 1 below:

Table 1. Research Instrumen Grid

Variable	Indicator	Sub Indicator
Learning effective with blended leading models	Measuring effective of blended learning model	Kevel of learning quality
		Suitabilit learning level
		Incentive
		Time
		Learning styles and preferences
		Independent and useful

		Flexibility
		Variations of learning model
		Delivery methods and combination of learning model
		Way of teaching
		Learning environment

The research instruments used to obtain data in this study are:

### Validity test

In this study the validity test was carried out with the help of Microsoft Office Excel 2010 and SPSS version 17.0. The requirement to determine whether the instrument is valid or not is determined based on the r table with a significance level of 5%. To determine the failure or failure of an item in the instrument is determined by the calculated value of r. If (r count < r table), then the item being tested is declared valid, otherwise if (r count > r table), then the item is declared valid.

### Reliability test

The reliability test can be seen if the r value has a reliability/reliability coefficient of 0.6 or more, then the instrument is said to be reliable. Conversely, if the value of r has a small reliability coefficient of 0.6, then the instrument is declared reliable.

Data analysis used Microsoft Office Excel 2010 software. The software was only used to help enter respondent data before being analyzed using SPSS version 17.0. The data analysis technique in this study is data verification and descriptive analysis.

Descriptive analysis is data analysis whose results indicate the existence of the variables studied. For this reason, descriptive statistical formulas are used. determine the condition variable using the degree of achievement (DP). DP can be calculated by the following formula:

$$DP = \frac{\sum X}{n \times \sum items \times high\ score} \times 100\%$$

Where:

DP : Degree of achievement

$\sum X$  : Total value

n : Total sample

$\sum items$  : Number of question item

The highest scale is the highest scale of the instrument being tested. For example, using a modified Likert scale of 1 2 3 4, the highest scale is 4. After calculating the formula above, we obtain the level of desire.

The effectiveness of learning with the Blended Learning Model in the Bestek Drawing Course for Building Engineering Education Students at Universitas Negeri Padang is measured using the effectiveness category according to Purwanto which can be seen in Table 10.

Table 2. Effectiveness Category

Effectiveness Ratio	Achievement Level
86% -100%	Very Effective
76% - 85%	Effective
60% - 75%	Effective Enough
55% - 59%	Less Effective
≤ 54%	Not Effective

## RESULT AND DISCUSSION

The results of the analysis research using the help of Microsoft Office Excel 2010 and SPSS version 17.0 to find the average value (mean), median value (median), frequently occurring value (mode), total score/value (sum), minimum value (minimum) , maximum value (maximum), and standard deviation (standard deviation). Results Based on the research, the percentage of the degree of achievement (DP) of the two indicators is 71.35% quite effective. Because it focuses on the effectiveness of the blended learning model in the building

drawing course with the best technology, the measurement indicator is 71.13% effective.

The results of the research by distributing questionnaires to 32 students of the Building Engineering Education study program class of 2020 as a research sample for the variable Effectiveness of Learning with Blended Learning in the Specification Building Drawing Course with 1 indicator that has been tested using the Degree of Achievement formula (percentage) and the indicators are divided into 11 sub indicators with the following results:

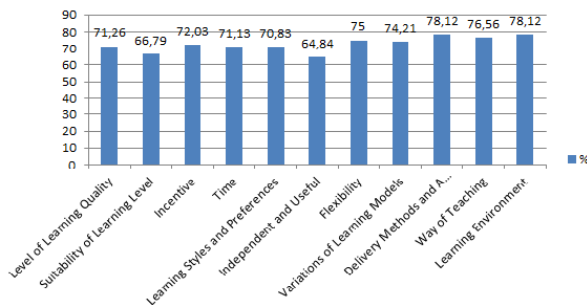


Figure 1. Graphic Interpretation Level Score of Each Indikator

## CONCLUSION

The results of the study on the Effectiveness of Learning with the Blended Learning Model in the Building Bestek Drawing Course for students of the UNP Building Engineering Education study program with the Degree of Achievement (DP) of two indicators are 71.35%. This means that the level of effectiveness in the learning process in the best-tech building pictures course is considered quite effective by using the blended learning model. Because this research focuses on the effectiveness of learning with the blended learning model in the best-tech building image course, for the effectiveness measurement indicator, the DP results are 71.13% which is included in the quite effective category.

## REFERENCE

[1] Bayu Fitra Prisuna. 2021. "Efektivitas Media Pembelajaran Daring Melalui Google Meet Pada Mata Kuliah

Metodologi Penelitian Kualitatif". *Jurnal Pena Edukasi* (Nomor 1 Tahun 21). Hlm. 15--24.

- [2] Sara Bibi dan Handaru Jati. 2015. "Efektivitas Model *Blended Learning* Terhadap Motivasi dan Tingkat Pemahaman Mahasiswa Mata Kuliah Algoritma dan Pemrograman". *Jurnal Pendidikan Vokasi* (Vol. 5 No. 2.). Hlm. 74--87.
- [3] Deni Darmawan dan Dinn Wahyudin. 2018. *Model Pembelajaran di Sekolah*. Bandung: PT. Remaja Rosdakarya.
- [4] Fazar Nuriansyah. "Efektivitas Penggunaan Media Online dalam Meningkatkan Hasil Belajar pada Mahasiswa Pendidikan Ekonomi Saat Awal Pandemi Covid-19". *Jurnal Pendidikan Ekonomi Indonesia* (Nomor 2 Tahun 2020). Hlm. 61—65
- [5] Sugiyono. 2012. *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- [6] Lijan Poltak Sinambela. 2014. *Metodologi Penelitian Kuantitatif*. Yogyakarta: Graha Ilmu.