Analysis Of Learning Productivity In Economic Mathematics Course Of Management Study Program S1 University Pamulang Academic Year 2021/2022

Maghfiroh Yanuarti [1*], Endah Asmarawati[2], Hendri Prasetyo[3]

[1,2,3] Universitas Pamulang, Indonesia
[*]Corresponding author:
Email: dosen01089@unpam.ac.id

Abstract.
This study aims to analyze the productivity of blended learning in the economic mathematics course of the Management Study Program at Pamulang University. This study used qualitative descriptive methode. Techniques for collecting data using interview and documentation methods. The data in this study were obtained through interviews with 3 lecturers who are competent in economics mathematics courses and who already have lecturer certificates. The results showed that (1) Planning for blended learning is carried out by lecturers by preparing SAP, learning tools or materials, and learning media. (2) The implementation of blended learning is carried out online and through PTMT. (3) Evaluation of blended learning on the assessment of cognitive aspects is carried out through the LMS of Pamulang University in the Final Task 1 Meeting menu for online learning. (4) The learning process has been carried out in good and structured stages, starting from planning, implementation, and evaluation, so it can be said that learning with the blended learning model is running productively.

Keywords: *Analysis Of Learning, Economic Mathematics and University Pamulang.*

I. INTRODUCTON

Education is the main key to advancing a nation, especially in the current era of globalization, where technology advances very rapidly, causing changes in the structure of life in society. In line with these advances, educators are required to play an active and innovative role in carrying out the mission of education in schools and universities. It is hoped that educators will not only convey knowledge related to cognitive aspects, but more than that, educators can maximally develop the intellectual and emotional attitudes of students so that educational goals can be achieved optimally.Economics Mathematics is one of the courses taught at universities in the management study program. A lecturer who teaches economics mathematics courses must understand the object to be taught, namely mathematics. Economics mathematics lecturers are the determinants of the success or failure of students in studying economics mathematics courses. Therefore, learning economics mathematics should involve students as much as possible, so that they are able to explore and form competence by exploring competence and scientific truth.Within this framework, it is necessary to develop economics mathematics lecturers so that they can become facilitators and learning partners for students. The task of the lecturer is not only to convey information to students, but also to be a facilitator whose job is to facilitate learning for all students, so that they can learn in a fun, happy, full of spirit, non-anxious environment, where they can freely express their opinions. With such conditions, the learning process will be productive, so it is hoped that the learning objectives can be achieved optimally and produce quality education.According to Sondang (2009:2), productivity has two dimensions.
The first dimension is effectiveness that leads to the achievement of maximum performance, namely the achievement of targets related to quality, quantity, and time, and the second is efficiency related to efforts to compare inputs with realization. use or how the work is carried out.

The process of achieving learning success is very complex, beginning with lesson planning, learning implementation, and evaluation to measure the level of absorption of students to the material provided. so that learning productivity can be seen in terms of process and in terms of results.At the beginning of 2020, the world was shocked by the coronavirus (COVID-19), which resulted in a health crisis in Indonesia and around the world. This has an impact in various sectors, one of which is in the education sector. Corona viruses are a large family of viruses that can infect birds and mammals, including humans. According to the World Health Organization (WHO), this virus causes illnesses ranging from mild flu to more severe respiratory infections such as MERS-CoV and SARS-CoV (Alodokter.com, 2020).Responding to the

dangers of the coronavirus and the rapid spread of the virus, the government has issued a policy to limit activities outside the home. Working from home and teaching and learning activities are also at home in accordance with the regulations of the Minister of Education and Culture regarding efforts to prevent and spread the coronavirus. All face-to-face learning activities at schools and universities during this pandemic are temporarily closed and replaced with distance learning or online learning.Following up on the government regulation, the teaching and learning process at Pamulang University is also carried out at home by online learning using the LMS (Learning Management System) on the elearning.unpam.ac.id website, synchronously by Google Meet and asynchronously by WebEx. Based on the researcher's interview with one of the lecturers in the economics mathematics course, it was found that (1) many students were less enthusiastic about paying attention to the lecturer's explanation, and (2) almost all students closed the camera when carrying out synchronous learning using Google meet (3) There were still some students who were not active in discussion forums on LMS eLearning UNPAM during asynchronous learning.

(4) some students obtained less than optimal learning outcomes such as getting D and even E grades. However, in the even semester of the 2021–2022-year, Pamulang University has implemented blended learning because the number of COVID-19 cases continues to decline. Dwiyogo (2016) describes the meaning of blended learning, which is a learning model that combines face-to-face with technology-based learning that can be accessed online or offline.Dwiyogo (2016) describes the meaning of blended learning, which is a learning model that combines face-to-face with technology-based learning that can be accessed online and offline. Pamulang University is a private university with the highest number of students, especially in the Banten area. Established in 2000 through the Prima Jaya Foundation, which at that time was chaired by Drs. Wayan. Universias Pamulang officially changed management to Yayasa Sasmita Jaya in 2005, which is now chaired by Drs. H. Darsono. He built a private university that is cheap but not too cheap to be reached by the lower economic class. To this day, a Pamulang University (UNPAM) has been established, which is well-known as a private campus with affordable financing and still pays attention to the quality of education itself. Based on these problems, the authors are interested in conducting research with the title "Analysis of Learning Productivity in the Mathematics Economic Course in the Management Study Program of Pamulang University in the 2021/2022 Academic Year". Students must not only convey information to students but also be a facilitator in charge of providing easy learning opportunities for students.

II. METHODS

This research is a type of qualitative descriptive research. According to Sutama (2015: 61), qualitative research puts more stress on understanding and meaning, is closely related to certain values, places more emphasis on process than measurement, describes, interprets, and gives meaning, is not satisfied with mere explanations, and utilizes multiple methods in study. The technique of selecting subjects in this research is to use purposive sampling. The main subjects in this study were management lecturers who taught economic mathematics courses, as many as 3 lecturers.This study uses data collection techniques with systematic methods and in accordance with procedures.

The stages are interviews and documentation. In this study, three certified economic mathematics lecturers were interviewed. This interview was conducted to obtain data that can support the way in which learning is structured, the learning process, and learning assessment. A documentation technique is used to identify the results of interviews with lecturers by using aspects of measuring learning productivity, which includes three stages, namely learning planning, learning processes, and assessment techniques.For the preparation of the instruments in this study based on theory and the opinions of experts in the study of theories that explain research variables so that indicators are obtained for making questions based on aspects of learning productivity, namely aspects: (1) planning; (2) implementation; and (3) evaluation;

III. FINDING AND DISCUSSION

This research was conducted by interviewing 3 lecturers in mathematical economics who are competent and who already have lecturer certification. Before conducting interviews, the researchers

compiled instruments based on theory and the opinions of experts in theoretical studies that explained research variables so that indicators were obtained for making questions based on aspects of learning productivity. These are the following aspects: (1) planning; (2) implementation; and (3) evaluation. The interview script is made in accordance with the indicators of learning productivity. The interview script is tested for validity first. The validity test used in this study is construct validity, which is obtained by means of validity testing by experts (expert judgment). This method is used to systematically analyze and evaluate whether the instrument items have met what is intended to be measured. Based on the validity test conducted by the experts, it was found that 22 questions were considered valid and suitable to be used as interview guide texts for respondents.

1. Planning for blended learning with limited materials in Pamulang University's Management Study Program's Mathematics and Economics courses.

In carrying out the learning process, it must begin with the planning stage. Learning plans are carried out by lecturers, such as preparing SAP, tools or materials used in learning, learning media, and others. Fadillah (2014: 147) states that in compiling learning, one must refer to core competencies and basic competencies so that the material taught does not deviate from the learning objectives. Through interviews conducted by researchers, it was found that the planning carried out by economics and mathematics lecturers on the limit material in online learning is to prepare learning media in the form of laptops, wifi, and teaching materials. Based on the information obtained from the three resource persons, it can be concluded that the economic mathematics lecturers who are carrying out the planning process are preparing teaching materials, SAP, and supporting tools in the online learning process and PTMT so that learning objectives can be achieved properly. Based on interviews from the three sources, there were no obstacles experienced in the planning stage. Learning process planning is an action taken by lecturers to prepare the learning process so that it runs smoothly, effectively, and efficiently. This is in line with Hamzah B. Uno (2012: 3) that the need for learning planning is intended so that learning improvements can be achieved.

2. Implementation of blended learning on limited materials in Pamulang University's Management Study Program's economic mathematics courses.

Kurniasih and Sani (2013: 63) emphasize that learning activities are directed at empowering all potential learners with the expected competencies. The implementation of blended learning that is carried out in the limit material of the economics mathematics course is online learning and PTMT. The following are the results of the researchers' findings from the implementation or learning process of blended learning on the limit material for the economics mathematics course in the management study program, Faculty of Economics and Business, Pamulang University:

a. Online learning

Online learning is one component of blended learning. According to Dimyati (2017), online learning, also known as e-learning, is a form of using technology to support the distance learning process. Each learning method used must have several stages for its implementation. Based on the results of observations and interviews conducted by researchers, online learning carried out by all lecturers for the limit function course for the economic mathematics course is by using the Unpam LMS with the website address www.e-learning.unpam.ac.id. The implementation of learning is carried out according to a predetermined course schedule. When the researcher conducts research on the limit material of an online economics mathematics course, the implementation of learning activities begins with the lecturer uploading problems related to the material being taught.The problems presented are in the form of problems that can maximally explore students' creative thinking skills. Then the lecturer asked students to actively discuss in the discussion forum contained in the Unpam elearning LMS and collect assignments by uploading them to the structured task menu. Lecturers ask students about the definition of limits, understand the rules of limits, and sample questions and their discussions to stimulate students to actively express their opinions in discussion forums. Because in every class, there must be some students who are still passive in understanding the lecture material. After all students are considered to really understand the material, lecturers and students can conclude the learning outcomes, which are then continued by reflecting on the learning that has been done by doing exercises in structured task 1 that has been given by the lecturer.

b. PTMT Learning (Limited Face-to-Face in Person Meeting)

The next component of blended learning is learning PTMT (Limited Face-to-Face Meeting). This learning is carried out as in general teaching and learning activities, namely by face-to-face meetings involving direct interaction between lecturers and students. Since the implementation of face-to-face learning was carried out during the COVID-19 pandemic, its application is very limited in space and time. The implementation of PTMT learning at Pamulang University is 50% of the number of students in each class, and the implementation time is 60 minutes per meeting. A learning process is divided into three stages, namely the introductory stage, the presentation stage, and the closing and follow-up stages. In the preliminary stage, the lecturer always conveys the learning objectives. Submission of learning objectives conveyed by lecturers to students is one of the important phases in every learning activity. Students must know the learning objectives so that they know the direction of learning desired by the lecturer, starting from the knowledge, attitudes, or skills that students must master. In addition to conveying the learning objectives, the researchers also found that the lecturer gave icebreakers to students to build a comfortable learning atmosphere.

In this case, the lecturer serves as a motivator because he can inspire students to be enthusiastic about participating in the learning process from start to finish. Fadillah (2014: 182) said that preemptive activities are flexible, meaning that educators can adapt to the conditions of their respective classes. The implementation of the next stage of the PTMT learning process carried out by the lecturer is the stage of presenting the material. Fadillah (2014: 183) said that core activities are the most important and main activities in the learning process because learning material is a programmatic process of forming the experience and abilities of students that is carried out within a certain time duration. Thus, in teaching and learning activities, the lecturer does not only explain all the teaching materials, but the learning process requires active student involvement. If a lecturer only provides an explanation, it will not produce optimal learning outcomes. According to the research findings, lecturers use various learning methods so that learning becomes effective and efficient. The PTMT learning methods used by lecturers are cooperative learning and brainstorming.The learning method is thought to be effective for economic mathematics learning because it requires student participation during the learning process, with the lecturer only acting as a facilitator. The implementation of PTMT learning at the final stage is the closing stage. What is meant by the closing stage is not saying closing greetings and hamdalah or prayer, but the closing activity of the learning in question is the activity of the lecturer to end the lecture by restating the main points of the material. The findings in this study, the closing stage of learning is carried out by the lecturer by reviewing again and making conclusions on the material that has been studied. This is done by the lecturer with the aim of providing a comprehensive picture of the material that has been studied and determining the starting point for the next lesson. This is in line with Kurniasih and Sani (2014: 57), who say that the closing activity is intended to validate concepts or principles that have been constructed by students. This activity can be used by lecturers to draw conclusions about the material and conduct evaluations.

3. Evaluation of blended learning on the limit material in the Pamulang University Management Study Program's Economics Mathematics ourses.

In the learning process, which begins with the planning stage, then proceeds to the implementation stage, and ends with the evaluation stage. Of course, the evaluation stages of each learning method, both online and PTMT, are different.In online learning, the evaluation stage is to assess the cognitive aspects of students. Carrying out the evaluation stage at LMS Pamulang University on the www.elearningunpam.ac.id page on the final test menu for meeting 1, while for PTMT, in carrying out the evaluation stage, the lecturers provide practice questions and they are immediately collected. While the attitude or affective assessment is carried out by looking at the activity of students in responding to the problems that have been provided on the discussion forum menu meeting 1. What the lecturer does after giving affective assessments to students who are active, honest, and disciplined is to give awards through adding points to the test results. cognitive assessment, and vice versa If the student has a bad affective assessment, the lecturer reduces the student's cognitive assessment test results. Of course, there are students who get scores that are less or below the KKM (Minimum Completeness Criteria).

What do lecturers do when they find students who get scores below the KKM? The lecturer directs students to take remedial courses to improve grades.From this evaluation stage, it can be seen the effectiveness of blended learning in economics and mathematics courses on limited material. Although it is said from several sources that bladed learning was effectively used during the COVID-19 pandemic, there are weaknesses in the blended learning method, including the low absorption of students in understanding the material, namely the function-limit material in online learning. Meanwhile, the advantage of blended learning is that the time used in the learning process is more flexible. While the shortcomings in PTMT learning are that often the time allocated is not in accordance with the SAP that has been made previously, this is due to the slow absorption of students in understanding the material presented at PTMT. While the advantages of PTMT learning are maximum student absorption. Based on the weaknesses obtained from each learning model, both online and PTMT, the solution offered is to choose the right online learning model/strategy or PTMT to overcome these problems.Based on the results of the explanation above, it can be concluded that the evaluation of learning carried out by lecturers has been effective with several different evaluation methods for each lecturer. The purpose of the lecturer conducting an evaluation of learning is to determine the effectiveness of learning and also the absorption of students into the material that has been taught. This is in line with Tyler in Arikunto (2016: 3), that learning evaluation is a process of collecting data to find out to what extent, in what ways, and in what part the educational goals have been achieved.

IV. CONCLUSION

1. The planning of blended learning learning on the limit materials of the economics mathematics course is carried out by the lecturer by preparing SAP, tools or materials used in learning and learning media that aim to achieve learning objectives. This is in accordance with the good planning of the learning process.
2. The implementation of blended learning on the limit material of the economics mathematics course is carried out online and via PTMT. Online learning uses the LMS of Pamulang University with the website address www.e-learning.unpam.ac.id, while for PTMT lecturers, they use cooperative learning and brain storming learning models. Online learning and PTMT run well and smoothly so that learning objectives can be achieved. This is in accordance with the stages of implementing good learning.
3. Evaluation of blended learning learning material on the limit of economic mathematics courses to assess the cognitive aspects of students is carried out through the LMS of Pamulang University in the Final Task 1 Meeting menu in online learning. Meanwhile, to assess the cognitive aspects of PTMT learning, a direct assessment is carried out so that it can be seen that the learning objectives have been achieved. In addition to assessing the cognitive aspect, the lecturer also conducts an assessment on the affective aspect using an attitude assessment rubric with indicators of discipline, activeness, and honesty in doing practice questions. The assessment applies to both online learning and PTMT. This is in accordance with the stages of a good learning evaluation.
4. The learning process on the limit material for the economics mathematics course at the Management Study Program at the University of Pamulang has carried out good and structured learning stages starting from the planning, implementation, and evaluation stages, so it can be said that learning with the blended learning model is said to be productive.

V. ACKNOWLEDGMENS

Praise and gratitude to God Almighty for the abundance of His grace and gifts, allowing the author to finish this research with the title: an analysis of learning productivity in the economic mathematics course of the management study program at the University of Pamulang in academic year 2021/2022. Sincere gratitude and thanks to everyone who assisted and participated in the implementation of this research. And thank you for all of your contributions, which will greatly help the research run smoothly. May Allah SWT always bestow grace, health, bounty, but instead blessings in this world and the hereafter for the author's kindness.

REFERENCES

[1] A.A Anwar Prabu Mangkunegara. 2005. *Manajemen Sumber daya Manusia Perusahaan*. Bandung : PT Remaja Rosdakarya

[2] Agus Suprijono. 2011. *Model-Model Pembelajaran*. Jakarta: Gramedia Pustaka Jaya.

[3] Agusmanto H & Ropinus S. 2020. Kendala Pembelajaran Daring Selama Masa Pandemi di Kalangan Mahasiswa Pendidikan Matematika: Kajian Kualiatatif Deskriptif. ***Journal of Mathematics Education and Applied***. 02(01). 45-51

[4] Ahmad, Susanto. 2013. *Teori Belajar dan Pembelajaran di Sekolah Dasar*. Jakarta: Kencana Prenada Media Group.

[5] Albert Efendi Pohan. 2020. *Konsep Pembelajaran Daring Berbasis Pendekatan Ilmiah*. Grobogan: CV Sarnu Untung.

[6] Arifin, Zainal. 2009. *Evaluasi Pembelajaran*. PT. Remaja Rosdakarya: Bandung.

[7] Arikunto, Suharsimi. 2006. Prosedur Penelitian Suatu Pendekatan Praktik. Jakarta: Rineka Cipta.

[8] Dimyati dan Mudjiono. 2002. *Belajar dan Pembelajaran*. Jakarta: Rineka Cipta dan Depdikbud.

[9] Fadillah, M. 2014. *Implementasi Kurikulum 2013*. Yogyakarta: Ar-Ruzz Media.

[10] Hamzah, Ali dan Muhlisrarini. 2014. *Perencanaan dan Strategi Pembelajaran Matematika*. Jakarta:Raja Grafindo Persada.

[11] Handayani, D., Hadi, D. R., Isbaniah, F., Burhan, E., & Agustin, H. 2020. Penyakit Virus Corona 2019. ***Jurnal Respirologi Indonesia*.** 40(2), 119–129.

[12] Heruman. 2007. *Model Pembelajaran Matematika di SD*. Bandung: Remaja Rosdakarya.

[13] Jihad, Asep., & Abdul, Haris. 2013. *Evaluasi Pembelajaran*. Yogyakarta: Multi Pressindo.

[14] Kurniasih I & Sani, B. 2013. *Implementasi Kurikulum 2013 Konsep dan Penerapannya*. Surabaya: Kata Pena

[15] Kusmianto. 1997. *Panduan Penilaian Kinerja Guru Oleh Pengawas*. Jakarta : Erlangga.

[16] Liang Gie, The, dkk.1981. *Ensiklopedi Administrasi*. Jakarta: Gunung Agung.

[17] Lina Handayani. 2020. Keuntungan, Kendala dan Solusi Pembelajaran Online Selama Pandemi Covid-19 : Studi Ekploratif di SMPN 3 Bae Kudus. ***Journal Industrial Engineering & Management Research (Jiemar).*** 1(2). 15-23.

[18] Matondang, Zulkifli. 2009. Validitas dan Reliabilitas Suatu Instrumen Penelitian. ***Jurnal Tabularsa PPS UNIMED*:** Vol 6, (1). 87-97.

[19] Mulyasa. E .2004. *Kurikulum Berbasis Kompetensi: Konsep, Karateristik dan Implementasi*. Bandung: PT. Rinaja Rosdakarya.

[20] Mustaqim. 2008. *Psikologi Pendidikan*. Semarang: Pustaka Pelajar

[21] Nasution, S. 1995. *Berbagai Pendekatan Dalam Proses Belajar Mengajar*. Jakarta : Bumi Aksara.

[22] Nawawi, Hadari. 1986. *Administrasi dan Organisasi Bimbingan dan Penyuluhan*. Jakarta Timur : Ghalia Indonesia.

[23] Nawawi, Hadari. 2006. *Evaluasi dan manajemen kinerja di lingkungan perusahaan dan industri*. Yogyakarta: Gadjah Mada Univercity Press.

[24] Prastowo, Andi. 2012. *Metode Penelitian Kualitatif dalam perspektif rencangan penelitian*. Jogjakarta: AR-Ruzz Media

[25] Purwanto, A., Pramono, R., Asbari, M., Santoso, P. B., Wijayanti, L. M., Hyun, C. C., & Putri, R. S. (2020). Studi Eksploratif Dampak Pandemi COVID-19 Terhadap Proses Pembelajaran Online di Sekolah Dasar. ***Journal of Education, Psychology and Counseling***, 2(1), 1–12.

[26] Rigianti, H. A. 2020. Kendala Pembelajaran Daring Guru Sekolah Dasar di Kabupaten Banjarnegara. 7, 297–302.

[27] Satori, Djam'an dan Komariah, Aan. 2013. *Metodologi Penelitian Kualitatif*. Bandung: Alfabeta.

[28] Sedarmayanti. 2001. *Sumber Daya Manusia dan Produktivitas Kerja*. Bandung:CV. Mandar Maju.

[29] Slameto. 2010. *Belajar dan faktor-faktor yang Mempengaruhinya*. Jakarta: PT. Rineka Cipta

[30] Sondang P. Siagian. 2009. *Kiat Meningkatkan Produktivitas Kerja*. Jakarta. PT Rineka Cipta

[31] Suherman, Erman, dkk.(2001). *Strategi Pembelajaran Matematika Kontemporer*. Bandung: JICA-UPI

[32] Sutama. 2015. *Metode Penelitian Pendidikan*. Kartasura: Fairuz Media

[33] Tri Atmadji, S. 2009. indikator produktivitas kerja guru sekolah menengah kejuruan. ***Jurnal teknoligi, kejuruan, dan pengajarannya*.** 32(1). 107-118.

[34] W.S. Winkel. 1996. *Psikologi Pengajaran*. Jakarta: Gramedia

[35] Yamin dan Maisah. 2010. *Standarisasi Kinerja Guru*. Jakarta: GP Press.