STUDENT SATISFACTION ANALYSIS OF AUTOMOTIVE ENGINEERING DEPARTMENT ON THE IMPLEMENTATION OF BLENDED LEARNING IN PRODUCTIVE COURSE

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Abstract. *This research is a descriptive study aimed to describe the satisfaction of students in the Department of Automotive Engineering, Faculty of Engineering, Universitas Negeri Makassar towards the application of blended learning in productive subjects and to find out the inhibiting and supporting factors for the application of blended learning in productive subjects at Automotive Engineering Department. The subjects of this study were lecturers and 62 students majoring in automotive engineering education. Research data were obtained through questionnaires and interviews. The data analysis technique used is descriptive statistics. Based on data analysis results, the percentage of student satisfaction with the application of blended learning in productive subjects is in the very satisfactory category. The inhibiting factors for student internet network access are slow, the devices used by students do not support the presentation of the material, and the lack of absorption of the material delivered in online learning. Supporting factors for proficient lecturers in using IT, flexible designed learning and e-learning or blended learning. It can be concluded that students are very satisfied with the application of blended learning.*
Keywords— Satisfaction, Blended Learning, Productive Courses.

I. INTRODUCTION

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 skills needed by the people of the nation and state (Sutrisno, 2016).

Student satisfaction with service and quality of learning is an individual's perception of what their expectations have been met. A student's satisfaction with learning can be measured using her five dimensions of satisfaction, that are tangible, reliability, responsiveness, assurance, and empathy (Margono, 2005).

Productive courses are subjects that train students' abilities in understand concepts and practical skills to improve hard skills and soft skills, therefore the learning process is not effective if it is carried out fully online, therefore direct or offline learning is needed so that learning models need to be applied. blended learning.

Based on the results of observations made by researchers, the delivery of material in these productive courses online and for the implementation of practice is carried out directly or face to face so it can be concluded that the Automotive Engineering department has implemented a blended learning model as an alternative effort in carrying out learning. Blended learning has been carried out in the Automotive Engineering department in line with the outbreak of the Covid-19 virus.

Researchers chose an automotive engineering course as the subject of their study to examine how satisfied students were with applying mixed-learning models in their productive subjects, even though UNM has provided a feature based on lecturer performance evaluation, the feature is Lecturer Evaluation by Students (*EDOM*). EDOM is a series of evaluation processes to obtain information from students regarding the performance of lecturers in the learning process objectively regarding lecturers' performance in the learning process.

However, the feature is still not strong. Based on the results of interviews conducted

by researchers with the head of the Quality Assurance Department of the Faculty of Engineering, the EDOM feature is not yet strong because no regulation regulates that students are required to fill in the EDOM so not all students fill out the EDOM feature. For this reason, researchers need to conduct research under the title "Student Satisfaction Analysis of Automotive Engineering Department on the Implementation of Blended Learning in Productive Course".

II. LITERATURE REVIEW

Learning activities are also interpreted as individual interactions with their environment. The environment in this case is other objects that allow individuals to gain experiences or knowledge, both new experience or knowledge or something that has been obtained or discovered before but raises attention back to the individual so that interaction is possible (Ainurrahman, 2013).

The Automotive Engineering department has several productive courses that must be taken by all students, both S1, D4 and D3. This productive course has different credit weights consisting of theory and practice. In this course, students are provided with knowledge on how to do the right practice with various technologies available in the laboratory as well as technology that is currently developing. Therefore, to know this, new knowledge is needed. The following courses apply blended learning, namely diesel motor technology, painting technology, motorcycle technology, automotive electricity and electronics, measurement and testing techniques, and basic shaping technology.

Blended learning is a combination of the advantages of learning that is carried out face-to-face (face-to-face learning) and virtually (e-learning). Online learning or e-learning in blended learning is a natural extension of traditional classroom learning that uses a face-to-face model (Syarif, 2012).

Student satisfaction with the quality of service or learning is a person's perception of something that has met his expectations. describes student satisfaction with learning which can be seen from 5 dimensions of satisfaction, namely: tangible, reliable, responsiveness, assurance, and empathy (Margono, 2005).

A. *Tangible,* is a physical dimension. A service cannot be smelled, and cannot be touched, so physical evidence becomes important as a measure of service. Tangible is the ability to provide campus physical facilities and adequate lecture equipment regarding the appearance of lecturers and public facilities, for example, the availability of infrastructure. Students will assess the quality of learning from all existing facilities and facilities.

B. *Reliability,* is a dimension that measures the reliability of higher education in providing services to its students. There are two aspects of this dimension, namely [1] the ability of lecturers to provide learning methods as promised and, [2] how far the lecturers provide accurate learning. Reliability is the ability of lecturers to provide learning as promised (on time), immediately, relevant and accurately to satisfy students.

C. *Responsiveness* is a Dynamic dimension of service quality. Responsiveness is the willingness and responsiveness of faculty to support and deliver learning according to student needs. This dimension appears in situations where lecturers are easily found for consultation purposes. Students' expectations of service accuracy will always change from time to time.

D. *Assurance,* this is an aspect of quality assurance related to teacher or lecturer behavior in instilling trust and confidence in students. Warranties include competence, knowledge, competence and courtesy. There are four aspects of assurance, that are, friendliness, competence, credibility, and security.

In providing services, a lecturer must have a sense of understanding and concern and realize that every character possessed by students is different.

Students are students who are registered and studying at certain universities. In the corporate world, students are the same as consumers who buy products from universities. In general, an educational institution has diverse consumers, such as industry/corporations, parents, government and society as a whole, which are commonly known as stakeholders (Nasukah, 2014).

Sallis (2012) mentions in more detail who are the consumers or customers of an educational institution, that the main stakeholders of universities are students. Students are direct recipients of services provided by universities. As the main

customers who experience all universities' services directly, students have rights and obligations. Students have the right to get the best services from universities and have the right to take advantage of existing resources at universities, to meet learning goals.

III. RESEARCH METHODS

A. Research Design

This research is descriptive. This study is intended to explore facts about student satisfaction responses to blended learning in productive subjects in the Automotive Engineering department.

B. Participant

This research was conducted for three months in the Automotive Engineering Department, having the address at Parang Tambung, Tamalate District, Makassar City.

1) Population

According to Sugiyono (2015), the population is a generalization area consisting of objects/subjects that have quality. Empathy and specific traits determined by researchers are inferred after being studied, the authors say the population for this study is active students in the 2019-2021 class. The total population is 244 people.

Table 1
Research Population

Force	Number of Students
2019	75
2020	46
2021	123
Amount	244

2) Sample

The sample was proportionally drawn by random sampling and 25% per class, so the sample for this study consisted of 62 students and 4 teachers who applied a blended learning implementation. This is based on the opinion of Arikunto (2006) that if the subject is less than 100, it is better to take all, so the study is a population study. Furthermore, if the subject is large it can be taken between 10-15% or 20-25% or more.

Table 2

Research Sample

Force	Number of Students	Sample Presentation	Sample
2019	75	25%	19
2020	46	25%	12
2021	123	25%	31
Amount	244	25%	62

Source: Automotive Engineering Department major

C. Survey Instrumentals and Data Collection

Data collection techniques in this study were collected using questionnaires and interviews.

IV. RESULTS AND DISCUSSIONS

A. Result

1) Student satisfaction with the implementation of blended learning

Research on student satisfaction analysis on the implementation of blended learning was carried out at the Automotive Engineering Education Department. The survey was administered to 62 students by providing a questionnaire-style tool with 25 questions to measure student satisfaction with implementing blended learning.

This data was obtained through a questionnaire consisting of 25 question items and measured using a Likert scale and then analyzed using SPSS (Statistical Product Service Solution) software for Windows. After processing the data using SPSS, statistical data on student satisfaction was obtained with a mean value of 83.95; a median value of 82.50; a mode value of 75; a standard deviation value is 11.15; a minimum score of 54; and a maximum value of 100, statistical data processing using SPSS can be seen in appendix 21 statistical data and frequency.

From the frequency integration table of student satisfaction above, it can be seen that there are 23 categories of scores with scores ranging from 54 to 100 with different frequencies and percentages. Then the results of the analysis are categorized according to the category of student satisfaction tendencies.

Table 3
Satisfaction Tendency Category

Trend Category	Score Range	Score	Percentage
Very satisfy	> 81,25	31	49, 6%
Satisfying	62,5 s.d 81,25	29	46, 4%
Less satisfactory	43,75 s.d < 62,5	2	3,2 %
Not satisfactory	< 43,75	0	0%

Source: Researcher processed data (2022)

Based on the results of the categorization analysis, the data as a whole show that 31 respondents are in the very satisfactory category in the score range >81.25 with a percentage of 49.6%; 29 respondents in the satisfactory category in the range of scores from 62.5 to 81.25 with a percentage of 46.4%; 2 respondents in the unsatisfactory category in the range of scores from 43.75 to <62.5 with a percentage of 3.2%; and 0 in the very low category <43.75 with a percentage of 0%.

2) Factors inhibiting the implementation of blended learning

Researchers interviewed multiple instructors regarding the implementation of blended learning and found that there are still some obstacles such as online learning, slow Internet access for students, and the delivery of materials delivered by instructors is optimally received. not. It should be re-explained by the instructor at face-to-face events and exercises. Instructors and student institutions associated with equipment used by students may not support materials presented by instructors, configuration aspects are not met, the Internet is not stable, delivery of materials is not optimal, and always face-to-face meetings No students fail to attend because they are restricted or have not been vaccinated.

3) Factors supporting the implementation of blended learning

On the other hand, although there are still hurdles, there are factors that support blended learning implementations that are very useful in times of pandemics. Learning is designed to be flexible, so there is no reason for students not to participate in blended learning implementations. Instructors are proficient in using standard IT and e-learning applications that are very helpful when learning blended learning. SYAM-OK, WhatsApp and Youtube are used to support blended learning implementations.

B. Discussion

Research analysis of student satisfaction majoring in automotive engineering education on the implementation of blended learning in productive subjects. This research is aimed at lecturers who teach productive subjects and apply blended learning methods in the automotive engineering education department. The sample of this research is as many as 62 Automotive Engineering Department students and some Automotive Engineering Department lecturers as supporting main data and interviews are conducted to support research data.

Researchers used two different data sources to maximize the accuracy of the data obtained. The data sources in question are, first, the student's perspective of blended-learning learning through the completion of a questionnaire containing 25 question items on five dimensions of student satisfaction, and second, the supporting data. This is an interview to do. Data from the lecturer's point of view as the main subject of this study applies blended learning implementation methods on enablers and inhibitors of blended learning.

Based on descriptive analysis of the data sources that have been obtained and have been categorized according to the trend table, the results obtained are from the questionnaire analysis of student satisfaction with the implementation of blended learning of 49.6% in the very satisfactory category, 46.4% in the satisfactory category, 3.2% in the less satisfactory category and 0% in the unsatisfactory category.

Blended learning practices are maximized when students' network access and the devices they use are highly supportive of online learning. This ensures that the distribution or sharing of the material provided by the instructor is absorbed by the student and supports the implementation of the material received or the implementation of practice in private meetings.

By looking at student satisfaction from the data obtained from questionnaires distributed to 62 respondents consisting of five

dimensions of satisfaction: [1] tangible (direct evidence) related to student assessment of facilities and infrastructure in supporting the learning process, [2] reliability (reliability).) related to the ability of lecturers to provide learning as promised, timely, relevant and accurate to satisfy students, [3] responsiveness (responsiveness) related to the willingness and responsiveness of lecturers to help provide learning and easy to find for consultation, [4] assurance (guarantee) Aspects of quality assurance that refer to the actions of a teacher or lecturer to instil confidence in students and [5] empathy related to the attitude of lecturers in providing wholehearted services, such as personal attention and understanding that Every student has different abilities and needs.

Blended learning is a system of combining various modes of delivery, teaching models, and learning styles, to facilitate the learning process between the facilitator and the person receiving instruction. Indris et al (2020). Until now, students still do not understand the application of blended learning, it will have an impact on student learning and teaching activities in the blended learning system itself. So, the purpose of implementing this blended learning system will not achieve the target as desired by the facilitator in the learning and teaching process.

Blended learning can make learning flexible in choosing the time and place to access learning. The implementation of blended learning at the Automotive Engineering Department can be said to be very satisfying based on research data sources and able to contribute to answering the challenges of education during the Covid-19 pandemic. Indonesian education in the future, especially in Automotive Engineering Department is one of the cornerstones to creating human resources that can adapt to the times that continue to change dynamically.

V. CONCLUSION

Based on the results of the descriptive analysis regarding the analysis of student satisfaction majoring in automotive engineering education towards blended learning in productive subjects, the conclusions of this study are as follows:

- very satisfactory category by 49.6%; satisfactory 46.4%; unsatisfactory the application of blended learning in the Department of Automotive Engineering, is at 3.2%; and unsatisfactory 0%. Referring to the percentage value, it can be concluded that Automotive Engineering Department students are very satisfied with the implementation of blended learning and it has been maximal and effective to be applied.

- Implementation of blended learning based on the results of interviews, lecturers argue that there are still several obstacles including slow student internet network access, devices used by students that do not support the presentation of material, and lack of absorption of material delivered in online learning, unstable internet network so that delivery of material is not optimal, face-to-face meetings there are still students who do not have time to attend because they are constrained or because they have not been vaccinated.

- Based on the results of interviews with lecturers related to the application of blended learning, there are several supporting factors including lecturers who are proficient in using IT, learning is designed to be flexible so that there is no reason to attend online learning and e-learning is the *SYAM-OK*, WhatsApp and Youtube applications that are used to support blended learning.

REFERENCES

[1] Ainurrahman. (2013). Belajar dan Pembelajaran. Bandung: Alfabeta
[2] https://journal.uny.ac.id/index.php/jpv/article/view/1034/835
[3] Margono, G. (2005). Validitas Konstruk Instrumen Pengukur Tingkat Kepuasan Mahasiswa Sebagai Pelanggan Internal. Jurnal PTM, 5, 9-18.
[4] Nasukah, B. (2014). Analisis Kepuasan Mahasiswa Atas Kualitas Pelayanan Perguruan Tinggi Agama Islam Negeri. Tesis. Program Magister Manajemen Pendidikan Islam. Universitas Islam Negeri Maulana Malik Ibrahim: Malang.
[5] Sugiyono. (2017). Metode Penelitian Pendidikan. Bandung: CV Alfabeta
[6] Sutrisno. (2106). Berbagai Pendekatan Dalam Pendidikan Nilai dan Pendidikan Kewarganegaraan. Jurnal Dimensi Pendidikan dan Pembelajaran, 5, 30.
[7] Syarif, I. (2012). Pengaruh Model Blended Learning Terhadap Motivasi dan Prestasi Belajar Siswa SMK. Jurnal Pendidikan Vokasi, 2, 238.