

**ANALYSIS OF STUDENT NEEDS AT SMK NEGERI 5 SURAKARTA AGAINST
BLENDED LEARNING MODELS THROUGH EDPUZZLE E- LEARNING**

Rahmat Fajar Asrofin, Agus Efendi and Deny Tri Ardianto
Postgraduate Educational Technology Sebelas Maret University
Jl. Ir Sutami No. 36A, Surakarta, Central Java, Indonesia

ABSTRACT

The purpose of this study was to analyze the needs of students of SMK Negeri 5 Surakarta on Blended Learning models. The research method used is descriptive analysis by analyzing the needs of students using a questionnaire to the Blended Learning model. The results of the study based on the analysis of student need analysis was 92% of the students' answers requiring Blended Learning models in learning Mechanics of materials, especially on the material to arrange parallel styles so that learning became more active, effective and enjoyable. Edpuzzle's E-Learning based Blended Learning requires learning not only to focus on class hours, but learning will continue to run outside the classroom with website-based online media. The presence of e-learning in schools does not necessarily leave the face-to-face approach that is already running, but e-learning is more calculated as a complement to existing approaches so that a blended learning strategy is formed. The combination of these two methods among educators has been able to accelerate the increase in progress in applying the theory of learning, especially for students, where educators only require a short time to teach, even more, functions as a facilitator in the learning process. Thus the Blended Learning model based on E-Learning Edpuzzle can be one of the solutions in learning Mechanical mechanics.

KEYWORDS: Blended Learning Model, Edpuzzle E-Learning.

A. INTRODUCTION

Vocational High School (SMK) is one of the educational institutions that are responsible for producing human resources who have the competence, skills, and expertise so that graduates can develop performance when engaged in the world of work. Explanation of the National Education System Law No. 20 about the National Education System (2003) stated that Vocational Education is secondary education that prepares students to work in certain fields.

The aim of the SMK curriculum is to produce capable students or graduates; (1) entering employment and developing professional attitudes, (2) choosing a career, being able to be competent and developing themselves, (3) becoming a middle-level workforce to fill the needs of the business world/industry today and in the future, (4) become productive, adaptive and creative workforce (Dikmenjur, 2008).

The above SMK objectives can be obtained by improving the quality or quality of the learning process. Efforts to improve the quality of education can be done through three dimensions, namely educational input or input, the educational process, and output or output (Suryabrata, 1982). Input is related to students doing learning, the educational process includes learning facilities and infrastructure, and the outputs are the results obtained in the learning process. Thus, the three domains can work together in achieving quality education.

But even so, SMK is also not free from various challenges. The toughest challenge for Vocational Schools in the era of globalization as contained in Presidential Instruction Number 9 of 2016 on Vocational Revitalization is to prepare Indonesian people who are intelligent, honest, superior, characterized, competitive and have a national spirit. This is by the demands of competence in 21st-century learning in the era of the industrial revolution 4.0. For students to have competitiveness, 21st-century life skills must be trained in schools, including by making comparisons, making data analyzes, making conclusions, solving problems, and applying their knowledge to real/contextual life contexts (BSNP, 2018). If the 21st-century life skills are not provided in schools then they will not have enough competitiveness in facing the digitalization era as it is today.

Therefore, vocational schools as formal educational institutions that are vocational are expected so that graduates can work more independently than graduates from high school. But there are still many educators who have not demonstrated competence in the teaching and learning process so that many students do not get an increase in the competencies they should have. The same problem occurs at SMK Negeri 5 Surakarta, namely the lack of enthusiasm for students' learning and ability to solve problems is still very low. This is indicated by the lack of students' interest in learning, many students feel bored and are not eager to follow the learning process. Therefore, if the enthusiasm of student learning decreases it will result in decreased learning achievement

On the other hand, some students have not yet learned to the level of understanding needed at every level of education. Students have not been able to learn facts, concepts, principles, laws, theories, and other innovative ideas at the level of memory, they have not been able to apply them effectively in solving problems encountered in the learning process. This condition certainly impacts also on student learning outcomes. According to Nur Aeni (2017) Many factors are suspected to be the background of how students' cognitive abilities are still low such as the number of class students who are not ideal (too fat), the methods and teaching methods used so far may not be able to facilitate students' cognitive abilities and other factors that influence students like the learning experience of students at previous levels of education.

Improving the quality of education certainly cannot be separated from the learning process. The learning process is an essential activity in education. Renewal needs to be done to improve the quality of education that is initiated by the learning process. The learning process is essentially a

communication process in which there are various activities, one of which is the delivery of subject matter.

Conventional methods whose main source of knowledge is only from educators are still considered to be less effective if used as the only source in transferring knowledge to students. This old model approach causes more harm than good and makes the learning process difficult for us. The school system has always taught children to memorize without thinking.

Efforts must be made so that a learning process can attract students' interest in learning, namely by implementing Blended Learning models that are supported by the concept of e-learning puzzle edpuzzle based learning and problem-solving to train students' critical thinking skills. So in line with this, one of the efforts of information technology offers a new educational method called the Blended Learning model, which covers everything related to learning that uses electronic media both online and offline. Blended Learning is learning that is flexible in addition to the use of e-learning or online learning is one example of flexible learning in the Blended Learning method. This is supported by Syarif (2012) which states that the application of the Blended Learning model can improve mutuality and quality of learning. This learning can show a better difference in terms of motivation, interest, and student learning outcomes compared to other methods, especially methods indirect learning (Sharif, 2012; Sjukur, 2012; Hermawanto, Kusairi, & Wartono, 2013). Because according to Usman (2018) Blended Learning provides an opportunity for students to become active learners who understand their needs and strive for the achievement of an understanding of knowledge independently. So that with this system students are more active in learning.

The difference between conventional or traditional learning with Blended Learning is that in traditional classrooms, the position of the teacher as the main focus so that the teacher is considered as an all-round person and assigned to channel knowledge to their students. Whereas in Blended Learning the main focus is on students. Students must be independent at certain times and be responsible for their learning. The Blended Learning atmosphere will require students to play a more active role in learning. Students make the design and search for material with effort and initiative.

This Blended learning aims to facilitate the teaching and learning process with adequate learning media and can be easily accessed by both teachers and learners. The application of the Blended Learning model can provide its benefits for students because in addition to learning innovation a lot of the latest information obtained through the internet. Because the application of e-learning learning is one of learning technology innovations that integrates information and communication technology with lesson content (Naidu, 2006: 1). E-learning is used and can be accessed by students and teachers, namely Edpuzzle in the form of web-based learning.

Based on the description above, we need a model that can facilitate the learning process to make it more interesting. Thus this study aims to analyze the needs of teachers and students for Blended Learning models based on Edpuzzle E-Learning in Mechanics of materials in SMK Negeri 5

Surakarta. This is done to obtain concrete data to develop learning models that are appropriate to the characteristics and needs of students so that the learning objectives of Mechanical Mechanics can be achieved.

B. METHOD

This type of research uses descriptive analysis which focuses on analyzing the needs of students towards Blended Learning through Edpuzzle E-Learning on Mechanics of materials. When the study was conducted in May - June 2019 the subjects in this study were teachers and class X students. The location of the study was conducted at SMK Negeri 5 Surakarta. The sample in this study was obtained by purposive sampling technique. Purposive Sampling, which is a sampling technique by determining certain criteria (Sugiyono, 2008). The research methodology book by Kothari CR (2004) explains that in the Purposive Sampling technique, the sample is chosen deliberately which is considered capable of representing the whole to achieve the research objectives. In this case, the researchers took a sample based on field observations of class X students who were considered to be quite good in mechanics of materials. The data in this study were collected through observation, interview, and questionnaire distribution techniques. The interview instrument of the teacher was used to obtain information on the results of the Daily Repetition of class X students and the learning model used in learning mechanics of materials. While the questionnaire instrument to students is used to find out the views of the needs of the learning model of the material to compile parallel styles.

C. RESULTS AND DISCUSSION

The results of the data collection from the initial observation that the cognitive value of mechanics of materials lessons in class X semester I students of SMK Negeri 5 Surakarta in 2018/2019 for material to arrange parallel forces is shown in table 1:

Table 1. Obtaining Value of Students Repetition Subjects Mechanics of Materials Material Arrange Parallel Styles

Class	Semester	Average Mechanics of materials Daily Test scores	KKM	percentage of students > KKM	percentage of students < KKM
X DPIB A	I	64,35	75	18,5%	81,5%
X DPIB B	I	59,5	75	13,6%	86,4%
X DPIB	I	67,8	75	21,3%	78,7%

Source: Students Daily Test Results

The table above shows the average daily test scores of grade X students in learning Mechanics of materials for materials Arranging parallel forces is still below the minimum completeness criteria.

The table above shows that the percentage of students who have reached KKM 21.3% of 70 students while students who have not reached KKM amounted to 78.7%. So the percentage of students who achieve KKM is greater than students who have met the KKM means that students' learning completeness is not following what is expected. The low student learning outcomes are a big responsibility of educators. The above problems require the development of innovative models that can facilitate the learning process of students both in the classroom and outside the classroom.

Based on preliminary observations on 4 to 6 September 2018 at SMK Negeri 5 Surakarta in class X Building Design and Information Design (DPIB), it is known that learning outcomes have not been maximized. This can be seen from several factors including passive students in learning and the low ability of students to think critically in solving a problem. Indicators of student passivity can be seen in the learning process in class, there are still many students who do not pay attention to the teacher's explanation, some students are less enthusiastic to ask questions, answer questions spontaneously from the teacher, or provide responses to teacher questions.

Also supported by observations obtained data that is Class X Design Modeling and Building Information totaling 34 students at the beginning of learning seen only 5 students who interacted with the teacher, or about 14.71%. From 34 students in one class, only 6 students dared to ask, or about 17.64%. Then out of the 34 students in the class only 6 dared to give questions from the teacher, or about 17.64% and only 8 students from each group were seen in the group discussion. This means that only about 47.05% of active students out of 75% have become the standard of student learning activities in class. Some students just listen and listen to the teacher's description when explaining in front of the class, and then take notes, then work on the problems as group work. The lack of active students during the learning process shows that the lack of student activity in thinking.

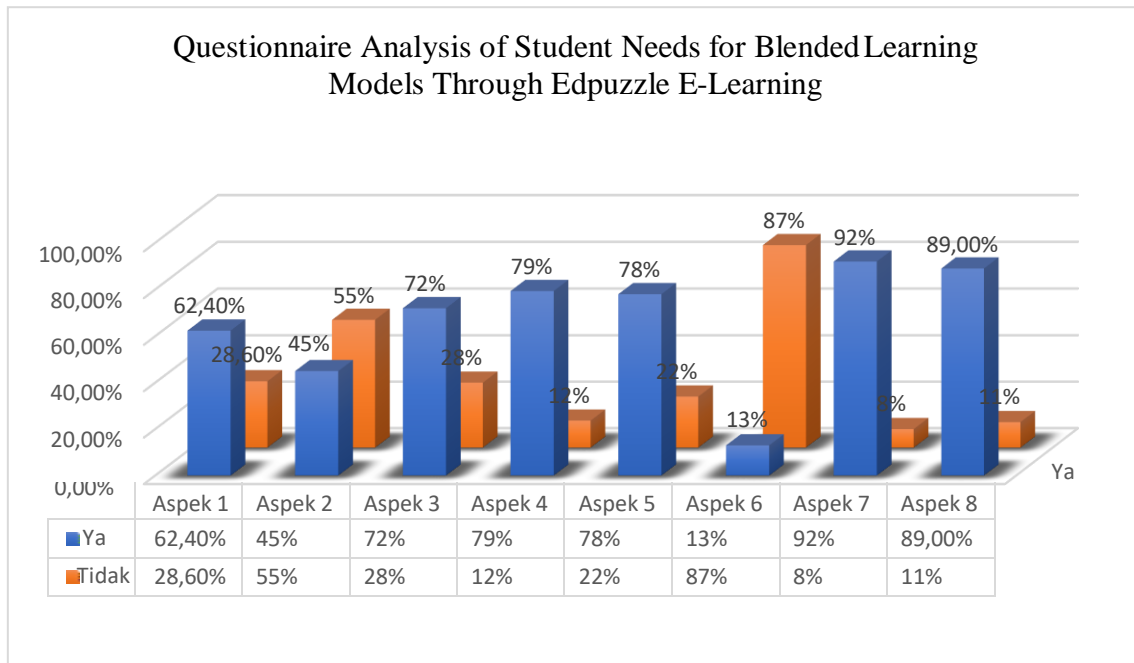
This shows that learning following the 2013 curriculum has not been applied by teachers because they have never invited their students to think critically, creatively, innovatively and collaboratively and communicatively. Besides learning material becomes unattractive because it only focuses on conventional learning models while the material that is essential, actual, relevant and prospective as well as contextual that takes place around students is never mentioned.

According to Widiara (2018) states that if the lecture is the only method of learning, students' abilities become less honed because students are not accustomed to thinking outside the context conveyed by the teacher and become passive in choosing additional learning resources outside the learning resources provided by the teacher. Though teachers should not be the only source of learning, especially in today's digital era where learning resources can be obtained relatively easily through the help of information technology.

Table 2. Analysis of Student Needs for Blended Learning Models

No	Rated aspect	Student Aswers (%)		Amount
		Ya	Tidak	
1.	Do you agree if you say that learning Mechanics of materials has been fun?	22,40 %	68,60%	100
2.	Is Mechanics of materials one of my favorite subjects?	55,00%	45,00%	100
3.	Are the mechanics of materials lessons difficult to understand?	72,00%	28,00%	100
4.	In delivering the material does the teacher use the learning model?	79,35%	11,65%	100
5.	Does the teacher still explain using the lecture method?	78,00%	22,00%	100
6.	In delivering the material, has the teacher used the Edpuzzle E-Learning based Blended Learning model?	13,00%	87,00%	100
7.	Do you need collaborative learning namely Edpuzzle's E-Learning based Blended Learning?	92,00%	8,00%	100
8	Do you agree, in the use of E-Learning based Blended Learning models in learning the mechanics of materials?	89,00%	11,00%	100

Source: Results From A Questionnaire Analyzing Student Needs



Picture 1. Questionnaire Results Analysis of Student Needs For Learning Models Blended Learning Models Through Edpuzzle E-Learning

Based on Table 2, it can be said that the learning model used is still conventional, so that it influences the learning process, and causes students' interest in learning about the mechanics of materials to be lower. This condition increasingly makes the subject of mechanics of materials increasingly less desirable. Other conditions that make learning models in the learning process of mechanics of materials, especially in the matter of arranging parallel forces need to be developed. Based on the acquisition of histogram data above, it can be seen that the average answer of students in aspect 1 about learning fun mechanics of materials obtained a score of 22.40%, meaning that 68.60% said that learning mechanics of materials was less enjoyable. But the subject of mechanics of materials is much in demand by students this can be seen from the acquisition of student answer scores 55% like mechanics of materials lessons and 45% who answer no. Whereas in the aspect of the difficulty level of learning mechanics of materials 28% answered easy mechanics lessons while 72% answered difficult. Whereas in the fourth aspect related to the use of learning models delivered by teachers on average 89% answered the teacher using the learning model while those who answered were not at 11%.

On the other hand, on the fifth aspect, almost the average student agrees that the teacher in every learning process still uses the lecture method in teaching this can be seen from the answers of students with an average of 78% agreeing while 22% answers disagreeing. While in the sixth aspect is related to the application of the Blended Learning model scores student answers with an average of 87% answering no while 13% answering agree. So that in the seventh aspect about the needs of students for collaborative learning models Blended Learning on average answered yes with a score

of 92% while those who answered were not as much as 8%. and finally in the eighth aspect of student agreement to develop Blended Learning models through Edpuzzle's E-learning almost on average answered yes this is evidenced by the acquisition of an agreed score of 89% and those who answered not by 11%.

Thus it was found that students need innovative and latest learning models that can be used in learning that can support students' needs. Alternative learning models that can be used are Blended Learning through Edpuzzle E-Learning which aims to revive students' motivation and learning interest in learning. The concept of Blended Learning is one of the innovations in learning. This innovation involves mixing conventional learning models and online learning models with internet networks. Blended Learning will require students to play a more active role in their learning. Lucy Barnard (2009) succeeded in identifying that the Blended Learning model has the potential to facilitate students' learning independence, in addition to that several other studies have also proven that this method can have a good effect on independence. Because according to Usman (2018) in addition to increasing students' sense of responsibility Blended Learning models also create a motive for students to compete in learning. However, Blended Learning does not mean replacing conventional learning models in the classroom, but it strengthens the learning model through the development of educational technology. Blended Learning- based learning is the best choice for increasing effectiveness, efficiency, and greater attractiveness in interacting with people in diverse learning environments. Blended learning offers learning opportunities to be both together and separate, as well as at the same or different times. A learning community can be done by students and instructors who can interact at anytime and anywhere because it utilizes that obtained by computers and other devices as a learning facility

D. CONCLUSION AND SUGGESTION

The concept of Blended Learning is one of the innovations in learning. This innovation involves mixing conventional learning models and online learning models with internet networks. Blended Learning-based learning is the best choice for increasing effectiveness, efficiency, and greater attractiveness in interacting with people in diverse learning environments. Blended learning offers learning opportunities to be both together and separate, as well as at the same or different times. Learning that can utilize technology and can be packaged into a single unit with a combination that is based on the principle of synergy, the learning becomes quality because it can facilitate diverse learning resources. May the revival of learning that is sensitive to technological developments soon be realized.

Based on the results of the needs analysis, obtained information that students need an interesting learning model and by technological developments, especially in materials of mechanics of material. This is by the acquisition of student questionnaire learning needs of Blended Learning models through E-learning Edpuzzle reaching 92%. Students want a learning model that suits the context of technological development. Therefore, research needs to be done to develop a collaborative and

innovative learning model that can help students to better understand the material and following technological developments. As for some suggestions that researchers can convey include: (1) Because the results of the analysis address the feasibility or need of a learning model Blended Learning through E-learning Edpuzzle that can be utilized by students. Then it is time for teachers to innovate and develop learning models under student characteristics. (2) The results of this study may be possible to be continued at the development and implementation stages.

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