



Improving the Ability of Students Through Blended Learning Based on Practical Courses

Nur Qudus^(✉), Adhi Kusumastuti, Delta Apriyani, Estu Tri Yulia,
and Tri Dewi Setiawati

Universitas Negeri Semarang, Semarang, Indonesia
nurqudus@mail.unnes.ac.id

Abstract. Blended learning is a learning system that combines face-to-face learning with online learning through the use of current developments in knowledge and technology. This learning is carried out in order to provide flexibility for students to be able to practice independently outside of learning hours that are carried out in class face-to-face. Learning with such a system will help improve the ability of students to practice outside of learning hours in order to get material widely with the activities possessed by each student. The blended learning-based learning process is currently very widely used by educators because there are still impacts from the COVID-19 pandemic, where the current education process still has limitations to be able to present students as a whole optimally and freely.

The application of this blended learning provides increased independence for students to be able to meet the competencies that must be achieved in practical learning. Not only independence possessed by students, but skills in developing students' creativity are increasing well.

Keywords: Ability · Blended Learning · Practical Course

1 Introduction

The current Covid-19 pandemic has not been completely finished, the government has not yet provided a stipulation so that the learning process is carried out normally as before, so that an alternative in the learning process is that it is still carried out using blended learning in overcoming this. This blended learning provides variations for students so that they can suppress the feeling of boredom in students when the learning process takes place which during this pandemic was carried out online. The development of technology and knowledge is very rapid at this time, making the learning process has long implemented blended learning. Blended learning is learning that combines classroom learning with online learning by utilizing all types of existing technological developments [1] [2].

Traditional learning (face to face) has often been done in learning so that in the current century the use of internet technology has begun to emerge, e-learning has been effectively used in higher education, one of which is learning with blended learning. Whether or not it is necessary and the significant influence of the use of blended learning is indeed seen from the needs that must be done in order to achieve the expected learning

outcomes, both from existing situations and conditions and must be in accordance with the learning style for students today who spend more time. time using technology [3]. There are so many applications that can be used to help the online learning process, including those developed by providing features that facilitate the learning process, such as Whats app Group, Google Classroom, YouTube, Ebook and Powerpoint [4].

All learning in transitional situations as currently is still carrying out the learning process with blended learning, both theoretical learning and practical learning.

Practical learning can also be done using blended learning because it can reduce the level of boredom for students and also as an alternative in a transition period like this. Blended learning in petrified practical learning increases the independence of students, but indeed practical learning is still rarely done because many educators argue that practical learning must be done directly so that educators can see the work process carried out by students.

2 Literature Review

Blended Learning is a learning method that combines face-to-face or conventional teaching with technology-based teaching in it, where this blended learning-based learning system has become popular in the 21st century. On the other hand, blended learning has so far become very popular for use in every academic field, where a significant amount of time spent in classroom learning has involved online learning activities that involve students in achieving learning goals [5]. Blended learning itself allows students to learn independently with a wider range of information to assist their learning where this learning system has also been widely applied in professional development and training because it can be used to translate knowledge into useful and practical skills for certain jobs [6]. Technological developments encourage educators to understand and utilize technology in learning activities and create a dynamic learning environment where blended learning itself is an effective combination with various delivery models, teaching, and learning styles that can be done in online and face-to-face learning environments so that this learning method can be applied to any subject [7].

What we know is that technology is the key to a modern production system, where its use in education is currently increasing and various technology-based learning models have been developed. Viewed from a pedagogical point of view, blended learning-based learning systems can improve student performance which leads to more effective learning, blended learning-based learning systems that are successful either directly or indirectly result in production and workability and higher skill levels, where learning blended learning can be used in education with a vocational context where the learning is practical, which from the results of the study shows that the blended learning learning model itself has a significant effect on student performance, and produces a higher success rate for students in vocational education [8]. In addition, not all students have the same learning style, so an effort to use all facilities and technology can certainly help students with different learning styles, using blended learning learning can include graphic material on web pages that may be of interest to students. With visual learning styles and when combined with additional lectures and tutorials can be attractive to students with auditory learning styles, in other words blended learning is an effective combination of

various delivery models of learning, teaching and learning styles [9]. Blended learning learning environment designed in online form such as sharing materials, forums, exams, texts, pictures, and lesson summaries supported by videos where students state that they can learn more effectively in a blended learning learning environment. They can access learning materials using web technology outside the classroom anywhere and anytime while attending face-to-face learning so that the beneficial aspects of blended learning are where face-to-face and online learning can complement each other so that it has a plus value for students and teachers [10].

3 Research Methodology

The methodology used in this study is divided into research design and research subjects, data collection methods and data analysis methods.

- 3.1 **Research Design and Research Subjects** This research is a descriptive observational study on the practical learning process, using the triangulation method, which combines the methods of structured interviews, in-depth interviews and observations of some students in the Faculty of Engineering. The subjects in this study were students who were selected by purposive sampling. Subjects were selected according to the following criteria: 1) students from the engineering faculty, 2) had experienced blended learning in practical subjects, 3) were willing to be research subjects. The total subjects recruited in the study were 30 people.
- 3.2 **Data Collection Methods** This study used primary data obtained based on structured interviews and in-depth interviews with students. The data obtained include data on skills acquired, competencies acquired, perceived independence in learning,
- 3.3 **Data Analysis**, the data obtained were analyzed using descriptive quantitative and qualitative analysis and displayed in the form of a table.

4 Result and Discussion

This study resulted that from the three aspects assessed, namely the skills, competencies and independence of students through the teaching and learning process using blended learning, the results obtained in Fig. 1.

Skills

In connection with the blended learning learning process where students consider that the blended learning process helps students not to feel bored and stressed so that the learning process can run more effectively than when the conventional learning process only, where blended learning offers variations in the delivery method starting from experience instructional to structured learning, the blended learning learning process itself provides opportunities for students to encourage and improve efficiency in skills development [11]. Where according to the results of the research data shows the application of blended learning in practical subjects shows that as many as 80% of students' skills in practical

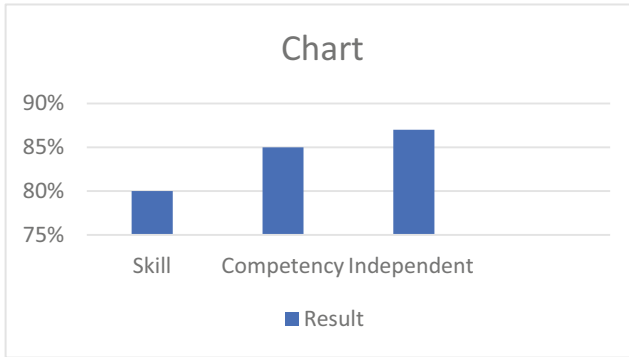


Fig. 1. Result of Learning Process using Blended Learning

subjects increase. This shows that the use of blended learning is able to hone students' skills in practical learning.

Competence

Blended learning has broad implications for students where online tools available for blended learning significantly increase student engagement, and can ensure that all students participate in discussions and benefit from collaborative learning [12]. This learning method enhances the learner's experience by creating opportunities for them to increase their understanding of a particular learning material through their own exploration and research on specific issues and topics. In other words, it can encourage student-led learning so as to provide greater learning flexibility and can improve their competence and learning experience [13]. Where according to the results of the research data shows the application of blended learning in practical subjects shows that as many as 85% of students' competencies in practical subjects increase. This shows that the use of blended learning has a good effect on honing student competencies in practical learning.

Independence

Blended learning environment can help students to deepen their interest in learning materials and encourage them to learn, technological support according to research findings can be efficient for students to understand and facilitate themselves in the learning process. Students consider learning in the blended learning format to make them easy to follow and improve their learning where online learning is well illustrated and easy to understand. Today's students who spend more time using technology, access to technology itself is one of the important factors that affect student satisfaction so that they can be encouraged to be involved in learning activities and ultimately can learn better independently [11]. In a blended learning environment, the independence of students also develops where most of them have received information about related learning, before they come to class. The advantageous aspect of this learning model is that it allows students to reach many resources regarding the lesson in advance before coming to class [10]. Where according to the results of the research data shows the application of blended learning in practical subjects is able to increase student independence as much as 87% from before.

5 Conclusions

The use of blended learning is very helpful both from educators and from students, because using blended learning in learning in this transitional period helps in increasing the independence of students. The increasing independence of students in learning creates awareness of students to continue to follow learning materials even though the current situation is still not normal after the Covid 19. The level of awareness in students helps develop the level of creativity of students so that educators are greatly helped by this in obtaining learning achievement. Increased creativity of students is really needed, especially in practical subjects, independence and creativity grows due to the limitations of tools and materials owned by students at home so that students indirectly improve their skills to find ideas that can be used as material for help in the learning process while at home. This is also assisted by the role of educators who give freedom to students to find or improve their skills to be able to carry out practice without having to determine or force students in something such as the use of certain tools and materials, where in fact there are only tools and materials that can be used. Replaced by others according to their needs and use. By providing such freedom, it will provide opportunities for students to be as creative as possible so that indirectly it can foster the creativity of students with these limitations.

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