Perception of Novice Learners Using Blended Learning Approach During the Covid-19 Pandemic

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Abstract. This study aims to determine the perceptions of students in physics education department, faculty of teacher training and education - Universitas Syiah Kuala who have just learned (novice learners) using the blended learning approach during the Covid-19 pandemic. This research is quantitative research with data collection using the form of questionnaires and interviews. The questionnaire to measure novice learners’ perceptions used a semantic differential scale. The indicators measured consist of 5 aspects, including: technology, classroom management, instructors, interaction, and instruction. The population of this study was all students of the Physics Education Department, faculty of teacher training and education - Universitas Syiah Kuala. Purposive sampling technique was used to select sample and obtained 250 novice learners of blended learning approach. The data analysis technique used is descriptive statistical analysis through the process of data collection, data reduction, data presentation, and conclusions. The results of this study indicate that the perception of novice learners of the blended learning approach is positive at 87.92%. However, there is still a negative perception on each indicator with a different percentage value. The Indicator of technological at 14.52%, class management at 11.32%, instructors at 10.99%, interaction at 11.70%, and instruction at 12.60%. The results of the research are expected to be of concern for lecturers in the physics education department to find out the obstacles of students in distance learning during the pandemic period and can be used as a reference for improving and developing distance learning using a blended learning approach to make it better.

1. Introduction
The educational paradigm in this era has been forced to shift from direct learning in the classroom to online/distance learning. The COVID-19 pandemic is the issue that causes the sudden shift in the Education paradigm [1]. However, technology that continues to develop from time to time does not make this a barrier for education to change according to the current COVID-19 pandemic conditions [2]. Technological advances help all aspects of life to be able to continue even though they cannot interact directly in the same place [3] including aspects of education. The learning platform continues to be developed so that it can become a medium for student learning and communication, both with teachers and peers [4] in order to keep the learning process going. Although the learning process cannot be carried out directly in schools, with current technological advances, learning can still be carried out in different places using a learning platform and requires an internet network [5].

This change happened very suddenly where people who usually interact directly with each other, can no longer gather in large numbers. Public places, which may be a gathering place for many people, are closed for fear that they can become places with a high risk of virus transmission [6]. Schools are one of the public places that are prohibited from opening [7]. However, education must continue because education is the most important aspect of life [8] so that an appeal from the government was
issued to shift learning to a distance/online learning system [9]. Almost all Indonesian people learn to use the conventional learning system, namely face-to-face learning activities in schools with a number of students from 20-40 students per class. Students and teachers are accustomed to interacting directly to meet their daily learning needs. Currently, they cannot interact directly anymore, but learning needs must still be met so that they must be able to adapt to a new learning system using a new learning approach [10].

This condition is a new thing for both teachers and students. Currently, learning can only take place online, but if it is not properly supervised and the process is carefully planned, learning will be less effective [11]. The appropriate learning approach to be applied in this condition is the blended learning approach. This approach combines face-to-face learning and independent learning assisted by digital/online media [12]. Face-to-face learning is carried out online using video conferencing applications such as zoom meeting/ google meet (synchronous) [13] and independent learning assisted by digital/online media is carried out using learning platforms such as e-learning/ google classroom (asynchronous) [14]. The combination of these two learning environments is a learning process that can be applied by teachers and students for the sake of continuity of education in this era of the COVID-19 pandemic. By applying this approach, students get new experiences in the learning process because they have never experienced this condition before. New learners using this approach because of the paradigm shift in education in the era of the COVID-19 pandemic can be called novice learners using a blended learning approach [15].

The success of a learning process can be seen from the perceptions of students who experience the learning process and their learning outcomes [16]. Likewise with this blended learning approach, because this approach is a solution offered to overcome the problem of the education paradigm shift in the era of the COVID-19 pandemic, the perception of students who are just learning to use this approach needs to be measured in order to see the effectiveness of the application of this approach.

2. Method
This research is quantitative research with data collection techniques using questionnaires and interviews. The population of this study was all students of the Department of Physics Education, FKIP - USK, and the samples used in this study were taken using a purposive sampling technique that only focused on students who had just experienced distance learning based on blended learning (novice) totaling 250 students. The questionnaire used as an instrument to measure student perceptions uses a differential semantic scale with points 1 to 7. The indicators measured consist of 5 aspects, including technology, classroom management, instructors, interaction, and instruction [17] with a total of 43 items after being validated and measuring the reliability using Cronbach’s alpha. The reliability test results show the instrument has high reliability of 0.96. The grid of the questionnaire instrument to measure the perceptions of novice learners using a blended learning approach can be seen in Table 1 below:
| No | Aspect                  | Indicator                        | Description                                                                 | No Item | Total Item |
|----|-------------------------|----------------------------------|-----------------------------------------------------------------------------|---------|------------|
| 1  | Technology              | ICT Skills                       | The lecturers skills to use ICT in Blended Learning                        | 1,2     | 2          |
|    |                         | Blended Learning Facility        | Availability of facilities that support the implementation of blended learning | 3,4,5   | 3          |
|    |                         | Lesson Plan                      | Preparatory activities carried out by lecturers and students before the start of the learning process | 6,7,8   | 3          |
| 2  | Manajemen Kelas         | Managing Class                   | Activities carried out by lecturers by involving students in the learning process | 9,10,11,12,13 | 5    |
|    |                         | Learning Evaluation              | Evaluation activities for the results of the learning process carried out by lecturers for students in the form of assignments/exams | 14,15,16,17,18,19,20 | 7    |
|    |                         | Frequency of using blended learning applications | How often do lecturers use learning platforms for activities from preparation, teaching, to responding to student questions and opinions in chat forums) | 21,22,23,24,25 | 5    |
| 3  | Instructor              | Give Motivation                  | The behavior shown by the lecturer in motivating students                   | 26,27   | 2          |
|    |                         | Discipline                       | Behavior that shows the discipline of the lecturer in the learning process | 28,29,30,31,32 | 5    |
|    |                         | Material Mastery                 | The ability of the lecturer to explain the material with various media, answer questions, and relate the material to developing issues | 33,34   | 2          |
The data analysis technique used is descriptive statistical analysis in the form of percentages using the equation:

\[ P = \frac{\text{Total score each item}}{\text{Maximum score}} \times 100\% \]

Then the percentage results are compared with the criteria for interpretation of novice learning perceptions using a blended learning approach to determine the measurable percentage result categories by referring to the following criteria table:

| No. | Range Score | Criteria  |
|-----|-------------|-----------|
| 1   | 86-100      | Very Good |
| 2   | 76-85       | Good      |
| 3   | 60-75       | Fair      |
| 4   | 55-59       | Poor      |
| 5   | ≤54         | Very Poor |

In addition, an analysis of the interview results was also carried out. The final results of the analysis were obtained through the process of data collection, data reduction, data presentation, and drawing conclusions.

3. Result and Discussion

Novice learners in this study were students who did not have experience learning using a blended learning approach. The application of this approach was experienced by novice learners for the first time and the results obtained by novice learners after using the blended learning approach as shown in the graph below:
Figure 1. Novice Learners' Perceptions Using Blended Learning Approach

Of the five aspects that measure students’ perceptions after using the blended learning approach, it shows that novice learners have positive perceptions of 87.92%. The highest perception is found in the aspect of instructors at 89.01%. This is caused by several factors, including the frequency of lecturers using LMS in the application of the blended learning approach, the way lecturers provide motivation to learn, the suitability between the instructions given and the discipline of the lecturers in the learning process, and the mastery of lecturer materials in giving instructions using the blended learning approach. In addition, the lowest perception is on the technology aspect at 85.48%. This is caused by several factors, including the skills of lecturers and students in using IT and facilities owned by lecturers and students to learn using a blended learning approach. The percentage of novice learning perceptions using a blended learning approach in detail can be seen in the following table:

Table 3. Percentage of novice learning perceptions using a blended learning approach per indicator

| No | Aspect               | Indicator                                      | Percentage of Novice Learners Perceptions (%) |
|----|----------------------|------------------------------------------------|-----------------------------------------------|
| 1  | Technology           | ICT Skills                                     | 87.00                                         |
|    |                      | Blended Learning Facility                      | 83.96                                         |
| 2  | Class Management     | Lesson Plan                                    | 88.51                                         |
|    |                      | Managing Class                                 | 89.63                                         |
|    |                      | Learning Evaluation                            | 87.88                                         |
| 3  | Instructors          | Frequency of using blended learning applications| 90.00                                         |
|    |                      | Give Motivation                                | 88.54                                         |
|    |                      | Discipline                                     | 87.43                                         |
|    |                      | Material Mastery                               | 90.06                                         |
| 4  | Interaction          | Skills in discussion                           | 90.43                                         |
|    |                      | Application use for online discussion          | 86.17                                         |
| 5  | Instruction          | Instruction in the Blended Learning            | 88.29                                         |
|    |                      | Satisfaction with learning achievement         | 86.51                                         |
3.1. Technology

The data above shows that 87% of students and lecturers have excellent IT skills. This is indicated by the implementation of teaching and learning activities without being present directly in the campus environment. All students and lecturers carry out lectures in their respective homes in accordance with government recommendations which prohibit direct learning activities in the university environment during the COVID-19 pandemic [18]. Learning activities are carried out using the help of information and communication technology entirely in this era [19]. In addition, novice learners' perception of this distance learning facility is 83.96%. This figure shows the perception of novice learners using blended learning is quite good for the facilities used in learning. However, this figure is the lowest percentage of all indicators measuring novice learners' perceptions using blended learning. Most students consider the learning facilities to support the implementation of this blended learning approach, such as complete lecture materials that they can access in e-learning/ google classroom, the availability of a zoom meeting/google meet platform without a time limit for face-to-face lectures, and a chat application for discussions when only through WhatsApp-group/ discussion forum in e-learning. Novice learners' are quite helped by the learning facilities prepared by the lecturers because these are the main elements needed in learning [20].

In addition, in distance learning using this mixed approach, the strength of the internet network is a major factor in the effective running of learning activities [4] because the entire process of learning activities are in a network, both virtual face-to-face learning using applications video conference (synchronous) [13] as well as independent learning assisted by learning platforms or learning management systems (asynchronous) such as e-learning, google classroom, or Microsoft teams [14]. Mixed learning between these two learning environments (synchronous and asynchronous) requires lecturers and students to have the skills to use IT and good learning facilities for effective learning [21]. Based on the data above, the perception of novice learners' using blended learning shows that they have very good IT skills and good learning facilities, so it can be concluded that learning using the blended learning approach is effective for novice learners who are just learning to use this approach from the technology aspect.

3.2. Class Management

Novice learners' in this study are students who are just learning or experiencing the learning process using a blended learning approach. Previously, they generally studied using a conventional approach with a direct instruction model in the classroom [22]. In this era, students are required to learn in 2 environments, namely synchronous and asynchronous to optimize the results achieved from the learning process [23]. The application of blended learning also requires class management like other approaches in general, from planning to evaluation. The perception of novice learners using blended learning on class management carried out on the application of the blended learning approach is classified as very good. This is illustrated by the high percentage of each indicator, such as planning, process, and evaluation of lectures. Students admitted that almost all lecturers had very good planning in their lectures because they showed lecture contracts at the first meeting of lectures, provided references to books and media that would be used during lectures, and explained the lecture system that would be used during lectures. This shows that lecturers prepare/plan their lectures very well because the initial planning determines the process and results achieved in the lecture [24]. Students will be better prepared to attend lectures if they begin with a clear plan [25].

The learning process using the blended learning approach is also considered very good by students with the ability of lecturers to manage the class by 89.63%. Novice learners using blended learning argue that they experience a structured lecture process. Lecturers not only give assignments but carry out face-to-face lectures virtually and provide complete lecture materials on the learning platform. The learning process runs very dynamically using various strategies, such as face-to-face using video conferencing, sending text messages via chat forums, providing lecture materials (PPT, PDF, animation) through e-learning, and students are given the opportunity to ask questions and discuss anytime. through the platform provided by the lecturer. Merging all these activities is a strategy used in the blended learning approach [26]. Varied learning media can increase students' learning motivation [27] so that students take learning seriously and achieve maximum results [28].
At the end of the lesson, novice learners’ using blended learning said they got assignments to be completed independently/in groups and uploaded them into the learning management system (e-learning / google classroom). Mid-semester exams and end-of-semester exams are also given by lecturers through LMS with a transparent scoring system. Evaluation is the last stage in the learning process that is indispensable in classroom management [29]. Without evaluation, learning cannot be measured validly [30]. Novice learners using blended learning perceptions of the planning, process, and evaluation of learning are very good, so it can be concluded that the class management approach of blended learning is very good for novice learners using blended learning.

3.3. Instructors
This aspect is the aspect that has the highest percentage of perception compared to other aspects, which is 89.01%, meaning that novice learners using blended learning are very satisfied with the instructors/lecturers who guide them in learning. The role of the instructor in learning is one of the factors that greatly influence the success of a lesson [31]. Especially in this blended learning approach, where the instructor is tasked with fully facilitating learning [32]. If the instructor is not good at preparing, managing, and evaluating learning, then this approach will not work well [33].

Novice learners argue that lecturers have a high frequency of accessing learning platforms to teach or just responding to student questions on chat forums. Although not all lecturers do the same thing, most do this. Lecturers attend and end lectures on time, just like lectures in class. In addition, lecturers are also able to deliver material using various digital media that make it easier for students to receive lecture material. The role of this instructor is equally important in both conventional and blended learning approaches [34] there is no difference of both.

3.4. Interaction
In the learning process using a blended learning approach, learning should not only run in one direction (from teacher to student). Learning must run in two directions, namely from teacher to student and from student to teacher [35] so that interaction is needed in learning in this approach [36]. The perception of novice learners’ using blended learning on the interaction aspect is 88.30% with discussion proficiency of 90.3% and the use of applications for discussion is 86.17%. This figure shows the perception of novice learners using blended learning is very good in this aspect. Novice learners admit that lecturers provide time for students to discuss during virtual face-to-face lectures and outside class hours using chat forums in the learning management system so that students can interact with lecturers and their peers through this media [37]. The existence of platforms such as zoom meetings, WhatsApp, chat forums, etc, really helps lecturers and students to keep interacting even though they don’t meet face to face in class. This does not reduce the essence of the interaction needed in the learning process because the interaction can continue because of the media that connects it.

3.5. Instruction
Instruction in the learning process is another important factor that affects the outcome of a learning process [38]. The clarity of the instructions given determines the direction of the learning process [36]. If the instructions given are not clear enough, students will experience confusion and reduce their motivation in learning [39] so that the results achieved by students at the end of learning will not be optimal [28]. After using the blended learning approach, students felt that the instructions/instructions given by the lecturers during lectures were very clear and well received by students. This is indicated by the perception of novice learners using blended learning in the instruction aspect of 87.40% which is classified as very good. Therefore, it can be concluded that students can follow lectures very well using a blended learning approach during this covid-19 pandemic.

4. Conclusion
Novice learners have a positive perception of learning using a blended learning approach. This positive perception shows that the blended learning approach is quite effective during the COVID-19 pandemic in the Department of Physics Education, FKIP USK. However, there are still negative
perceptions in every aspect that is measured. The largest percentage of negative perceptions is found in aspects of technology and instruction. This shows that there are still obstacles faced by novice learners in terms of the technology used and the instructions given during the learning process. This obstacle must be a special concern for the lecturer of the Department of Physics Education, FKIP USK to be able to find a solution so that learning can run effectively and efficiently.

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