

Student Experience and Perception of Blended Learning: A Case Study on Basketball Course Delivery During the Covid-19 Pandemic

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Abstract—The Covid-19 pandemic has had a significant impact on education. The right learning strategy is needed to get around the situation to achieve learning objectives amid pandemic challenges. This research aims to explore the perceptions and experiences of students during basketball lectures in a blended manner. The study also compared the learning outcomes of students who attended lectures in both groups. A total of 74 students were involved as samples in the study. Students are divided into two groups: blended groups (n=42) and online groups (n=32). This research uses a qualitative and quantitative approach. Qualitative data were generated through questionnaires and group interviews, while quantitative data was generated by comparing the student's marks in the mid-term exam (UTS) and final exam (UAS) between the two sample groups. The results of the different mean analyses show a significant difference in the UAS score ($p < 0.05$). Qualitative data also showed that the majority of students tended to like blended classes (95.6%). Students consider blended classes more effective to apply to sports practice courses (95.5%). The majority of students in the blended class also claimed to be satisfied with the marks obtained (82.2%). Therefore, the blended learning model is suitably applied in pandemic covid-19 to optimize learning outcomes while paying attention to health and safety protocols.

Keywords—student perception, blended learning, basketball, covid-19 pandemic

I. INTRODUCTION

The Covid-19 pandemic has had a significant impact on education. The high rate of transmission led the government to issue a policy to temporarily close

activities in schools and replace them with online learning activities (Flores & Swennen, 2020). According to a report from UNICEF, at least 80 million Indonesian children have been affected by the pandemic since it began in March 2020. Just over a year into the pandemic, children and young people across Indonesia are facing a challenging new normal (Irfannuddin et al., 2021). With more than half a million early childhood centers, schools, and universities closed, the average time spent on distance learning has varied from only 2.2 to 3.5 hours per day around the country. School closures have also increased the risk of school dropout, putting out-of-school children at greater risk of child marriage and other harmful and exploitative practices.

The education sector in Indonesia continues to improve with various innovations carried out to ensure learning and teaching activities continue to run even though they must take place online (Sadikin & Hamidah, 2020; Zulherman et al., 2021). Various learning models are introduced as an alternative to learning in the pandemic era, one of which is the blended learning (BL) (Broadbent & Lodge, 2021). For this research, we adopted Bonk & Graham's (2006, p.5) broad definition that BL is a combination of "face-to-face instruction and computer-mediated instruction". Blended learning is suggested to be the trend of education in the 21st century (Han et al., 2019). Given the situation of Covid-19 pandemic, BL is considered the most ideal learning method applied in pandemic situations because it is able to combine the advantages of offline learning without having to worry about the high risk of covid 19 transmissions. There is no doubt that the ideal condition in learning is

when teachers and students can interact directly, but the covid 19 pandemic forces teachers and students to play their roles in separate places because of social distancing recommendations. Alternative learning is then done online by utilizing a variety of online learning services to ensure learning activities continue. But research reveals that learning online has several shortcomings, including reduced social interactions, limitations of practices, loss of teacher-student relationships, and absence of evaluation methods (Albarak et al., 2021; Wahyu et al., 2021). Therefore, instead of adopting a complete e-learning approach, blended learning combines both e-learning technology with traditional education, which merges the strengths of both approaches (Jamil et al., 2019).

Physical education in college is a study program offered to educate and print graduates as school teachers in the field of physical education. The curriculum of physical at the undergraduate level contains many elements of popular sports learning, one of which is basketball. Basketball courses have mandatory materials taught to students that include mastery of basic techniques in the form of dribbling, shooting, passing, and footwork. Basketball is a course offered as a practicum activity because it requires students to hone their basketball playing skills throughout the lecture. In daily life, especially in physical education classes and/or club activities in school life, there are many opportunities to encounter and practice new motor skills. In such cases, some people can develop new skills quickly, while others take longer. In research terms, we call the former a fast learner and the latter a slow learner. Fast learners are generally considered as "gifted" or "talented," and their characteristics receive public interest. This difference in motor skill acquisition between fast and slow learners could be attributed to individual differences, including differences in the previous sports experience (Sekiguchi et al., 2021). Mastery of new motor skills is often facilitated by direct interaction between teachers and students through practical lecture activities. This is done solely to ensure that students' learning activities can be observed, and if there are mistakes made by students, corrections can be made through suggestions of improvement and demonstration of movements directly by teachers.

The pandemic situation then forced the entire lecture routine to change. Face-to-face learning activities are no longer allowed due to fears of covid 19 transmission between students and lecturers. Many teachers were unprepared for this transition and faced great challenges in delivering quality instruction in an online format. The current pandemic gives teachers and administrators a chance to evaluate the readiness of schools for distance education and increase readiness for future emergency situations. Because the current COVID-19 pandemic is unique, few studies have examined how teachers transition to distance learning in an emergency. Teachers were reported to

face difficulties in engaging students in learning activities due to a lack of social interaction and control during learning (Francom et al., 2021). This will certainly have an impact on the learning achievement of students who will be below the expectations of teachers. In order to keep students from falling behind academically, a teacher must develop strategies to respond to crisis events that make face-to-face instruction impossible. However, for sporting classes like basketball, it is unlikely students can learn a new motor skill if they are left without direct face-to-face guidance. Therefore, blended learning was the only way a teacher could propose to make sure students could achieve intended learning outcomes while reducing the risk of covid 19 infections.

This study investigates student perspectives during basketball courses organized with a blended learning model. This study also examines the effect of blended learning on student's academic success. We exploit the variation from a series of natural experiments at a university in Surakarta, in which blended learning was introduced for one group of basketball course students – but not for another group of students who took identical exams. We estimate the effects of blended learning using a mean difference on the exam's result between the two groups.

II. METHODS

A. Research Design

The present study carried a mixed-method, quasi-experimental followed by a qualitative survey in order to meet the objectives of the research. In this study, researchers tried to examine the effect of blended learning on student's learning outcomes. The study also explores the experiences and perceptions of students during their participation in blended learning settings.

B. Research participants

This study involved students who attended basketball courses in the academic year 2020/2021 at one of the universities in Surakarta City. In pandemic situations, program managers offer basketball lectures in online and blended learning. A total of 74 students signed up for this lecture with 42 people chose to study in a blended learning setting and 32 students chose to study online. Basketball lectures were held with a total of 18 meetings. A total of 32 students who took lectures online, to be called control group, attended the whole 18 meetings online while 42 students who chose blended learning, to be called experiment group, attended 7 online lectures and 11 subsequent lectures in face-to-face settings.

C. Data collection method

The data in this study consists of qualitative and quantitative data. There were two stages in collecting

the data, namely the quantitative stage and the qualitative stage. In the quantitative stage, the quasi-experimental is adopted during the process. Before giving treatment, both experimental and control groups were given a pre-test. The pre-test was taken in the form of a mid-term exam. At the end of the first stage, the post-test in the form of a final term exam was conducted in order to get information about students' learning progress.

For collecting qualitative data, questionnaires were used to study the perception of students in the experiment group. The questionnaire consisted of 13 questions related to the following indicator, namely practicality, economic, safe, and advantageous. The questionnaires used in this study have been tested for its validity with Pearson Correlation >0.235 tested at 74 students. Furthermore, regarding its reliability, Cronbach's alpha method was used and got valued at 0.594. Semi-structured group interviews are conducted to explore more of the answer collected from the questionnaires.

D. Statistical Analysis

Pearson correlation test, one-way ANOVA with Tukey post hoc analysis, and t-test were performed in the statistical program IBM Statistics®. The data were considered statistically significant if the $P < 0.05$.

III. RESULTS

In the experimental stage, students attend lectures online using the Schoology platform for half a semester and continue with offline meetings in the middle of the next semester. This blended learning model was adopted from the blended learning model proposed by Popovic et al. (2018). Students take the midterms as part of a formative assessment. At the end of the course, students take the final semester exam as part of a summative assessment. Formative and summative assessment scores were compared between the experiment group and the control group.

A. Results from Formative Assessment

Formative assessments are held in the form of midterms followed by students in both groups. The midterms are conducted online through the LMS Schoology platform. The materials tested in this assessment include theories about the basic techniques of basketball, the facilities and infrastructure required in the game of basketball, as well as the rules of basketball.

TABLE I DESCRIPTIVE STATISTICS OF FORMATIVE ASSESSMENT

Groups	N	Min	Max	Mean	SD
Experiment	42	52	90	70.71	11.07
Control	32	42	84	68	10.67

Prior to the formative assessment, students in both groups participated in online learning through the Schoology platform for a total of 7 meetings and 90 minutes for each meeting. Descriptively there was a difference in the mean value of the two groups where the experimental group had a higher formative test score than the control group. However, when we compared test scores between the experimental group and the control group, there was no significant difference between the two $p > 0.05$. This proves that students in both groups have the same level of knowledge because they pursue learning with the same model, namely the online learning model.

B. Results from Summative Assessment

Summative assessment is held in the form of final semester exams to find out the achievements of students in both groups during basketball lectures. After participating in a formative assessment, each group attends the lecture in a different way. The control group followed online lectures through Schoology, while the experimental group followed offline lectures with practicum models. Practicums are held on the basketball court 11 times, with each meeting lasting 90 minutes. What was tested on the summative assessment for both groups was basketball playing skills seen from mastery of basic techniques in the form of dribble, shooting, passing, and pivot. The scoring score is in the range of 0-120.

TABLE II DESCRIPTIVE STATISTICS OF SUMMATIVE ASSESSMENT

Groups	N	Min	Max	Mean	SD
Experiment	42	50	120	90.24	15.69
Control	32	30	120	74.06	26.38

Table II shows descriptive statistics of final exam scores from both groups. There is a descriptive mean difference for both groups. Through analysis of variance, we found that the difference is statistically significant, $p < 0.05$. This finding suggests that there is a tendency to increase final test scores for students who choose to attend the courses in a blended learning setting.

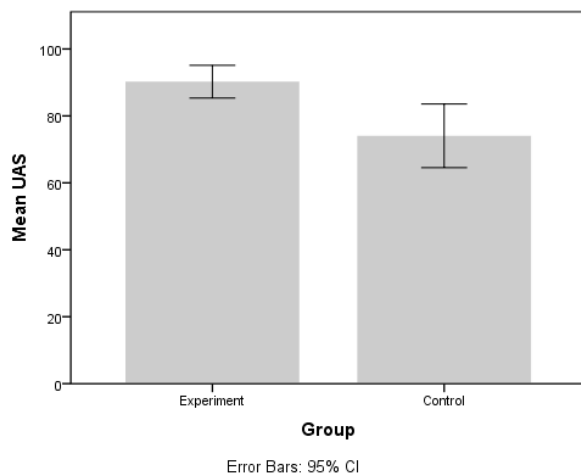


Figure I Result of final exam of experiment group (taking course in blended settings) compared with control group (taking course in online learning). The experiment group had a significantly higher test score during the final exam (means \pm SD; 70.71 \pm 11.07 for experiment group vs. 68 \pm 10.67 for the control group; P=0.02)

C. Survey Results

Demographic data. In this study, there were 42 students who were members of the experimental group. A total of 8 students are female, and 34 students are male. The survey was organized in the form of a voluntary distribution of questionnaires filled out by students. Surveys show that students get a good impression when attending basketball courses in blended learning settings.

In addition, the survey showed that the majority of the student reported their information and communication technology (ICT) skills as average or better (figure). Most of the students reported that they

were using smartphones to attend the lecture, whereas 24,4% of students use the combination of smartphones and personal computers (PC).

Close-ended questions. In the questionnaire, we included questions about the benefits gained when participating in online learning. We cite the benefits of online learning through findings from several studies. 68.9% of students agree that online learning makes it easier for them to follow it from anywhere. The majority of students also agree that the biggest benefit of online learning in the era of the Covid 19 pandemic is to reduce the risk of transmission of the virus.

Questions using a 5-point Likert scale. The summary of survey results is shown in Table III. The results are presented as a percentage of the total number of surveyed students who answered that particular question. The two most common answers to each question are in bold.

Open-ended questions. We conducted semi-structured interviews with students who participate in blended learning. The purpose of the interview is to confirm the answer to the questionnaire that has been submitted. Interviews are also aimed at exploring the greatest benefits felt by students during their participation in basketball courses using a blended learning style. All in all, the majority of students are satisfied with the results they get during the course. Students get great summative scores through a combination of online and offline learning. Students also appreciate the management of basketball lectures in the blended setting because, during the lecture, there was no transmission of the covid 19 viruses.

TABLE III SURVEY RESULT

No	Graded Statements	1.Strongly disagree	2.Disagree	3.Neutral	4.Agree	5.Strongly agree
1	I feel the ease of attending basketball lectures online	6,70%	40%	33,30%	13,30%	6,70%
2	It's easier for me to go to basketball lessons offline.	4,40%	0%	20%	75,60%	4,40%
3	I prefer to attend basketball lectures offline.	2,20%	2,20%	24,40%	71,10%	2,20%
4	I can save money if I attend lectures offline.	11,10%	44,40%	17,80%	26,70%	11,10%
5	My parents did not spend much if I attended basketball lecture offline.	8,90%	46,70%	17,80%	24,40%	8,90%
6	I can save more of my money if I attend basketball lecture offline.	11,10%	55,60%	4,40%	26,70%	11,10%
7	Restrictions on the number of offline lecture participants proved to minimize the risk of Covid-19 transmission	0%	8,90%	26,70%	33,30%	31,10%
8	In the sports hall, there were provided a place to wash hands, check body temperature, and demand to obey health and safety protocol	2,20%	0%	17,80%	35,60%	44,40%
9	I feel I can master the new motor skill when I attend basketball lectures offline.	0%	0%	4,40%	33,30%	62,20%
10	I feel satisfied with the summative score I got after I attended offline lecture.	0%	0%	15,60%	31,10%	53,30%
11	I enjoy taking basketball lecture offline rather than online	4,40%	0%	2,20%	28,90%	64,40%

12	I'm satisfied with my final grades on basketball courses.	0%	0%	17,80%	51,10%	31,10%
13	I would recommend to my juniors to take basketball courses offline.	0%	0%	13,30%	33,30%	53,30%

Values are presented as a percentage of the total no. of surveyed students who answered that particular question. Answers were graded on 5-point Likert scale. The two most common answers to each question are in bold.

IV. DISCUSSION

A. Impact of Basketball Lectures in Blended Learning Setting on Improving Students Grade

The results show that attendance of blended learning is associated with better academic performance of students. This is likely because this type of practical lecture such as basketball requires direct demonstrations from lecturers to students. Demonstration of basic techniques directly by lecturers will be able to provide a clear picture of understanding for students. Furthermore, students can demonstrate their skills in mastering the basic techniques of basketball with the supervision of lecturers. Direct supervision allows lecturers to identify student errors to then provide corrections and improvement advice (Basaragin & Savić, 2019). Students will have the opportunity to master the lecture material well because it is directly guided by lecturers offline, meaning there will be no risk of a communication breakdown due to technical constraints such as those often experienced by students and lecturers when conducting online lectures.

In terms of supervision, lecturers will be more free to pay attention to the seriousness of their students in following the course of lectures. In online lectures, this is difficult to do because lecturers and students are in different places, so it is very difficult to monitor the level of attention of students during the lecture. Attending in the same place at the same time makes students always have more motivation when attending lectures (Bugler et al., 2015). Motivation for student can grow from the internal and external sides (Archambault et al., 2009; Mayer & Alexander, 2011). The desire to show ability in front of lecturers and peers can be a source of internal motivation, while the circumstances always feel supervised can add to the motivation of students externally. In the end, as the findings in many studies, high motivation will be positively correlated with learning outcomes.

B. Survey Results

The survey results suggested that students are aware of the benefits of online lectures. The great majority of students (68%) admit that online lectures make it easier for them to follow it from anywhere so there is no obligation to come to campus and attend

lectures from the classroom. In addition to that, students also admitted that it is the best way to attend the lecture online given the existing pandemic situation that put everyone at risk for getting infected with the virus if they not carefully keep distance with other people. Therefore online learning can be run as a substitute for face-to-face meetings to keep education running without worrying about the risk of transmission of the covid 19 virus.

Although many students think that online lectures are very suitable for the current pandemic situation, they think online lectures are only suitable for theoretical lectures. While for lectures that are practical such as basketball, students still need direct guidance from lecturers through offline lectures. As a bargain solution to anticipate the still high rate of transmission of the covid 19 virus and also to get maximum results in each lecture, the policy to offer lectures in blended learning setting is considered by students as a accommodating. This is in accordance with the recognition of the majority of students (95%) that they have more grasp on teaching material in offline sessions than in online sessions. Students reported that they were satisfied with learning achievements during blended classes (82%). The majority of students acknowledged the benefits of their participation in blended learning classes and would recommend their juniors to attend blended basketball courses (86.6%).

Positive impressions are also felt by students during the implementation of offline classes as part of the cycle in blended learning. Most of the students (80%) consider that the sports hall manager pays attention to their safety and health by providing a place to wash their hands, take body temperature measurements when entering the arena, and make verbal and written requests so that students always exercise the safety measure to lower the risk of virus transmission.

V. CONCLUSION

The study presented here shows several benefits of the use of a blended combination of web-based course and face-to-face meetings in basketball course compared with online learning. The main contributions are summarized as follows:

- The paper describes a case study of implementing a blended learning setting in a basketball course that combines online and offline learning, which

resulted in better academic performance rather than participating only in online learning without face-to-face meetings.

- The study suggested that, although the use of the offline learning system was very well received by the students and course instructors, they all agreed that, for the safety of students and lecturer during the covid-19 pandemic, learning activities for the student should not eliminate online learning since it can reduce the risk of getting infected by the virus. Therefore, blended learning was the right choice to maintain the balance between sports skill acquisition and minimize the risk of infection.

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