Need Analysis of M-Learning for Basketball Class

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Abstract— This study aims to develop BL-based learning applications using a mobile application, produce learning models with the aim of improving student performance in practical lecture learning, examine the learning model process for wider use. Development, Implementation, Evaluation (ADDIE). The results show that 69% of students have never used M-Learning for basketball courses. A total of 93% of students think that it is necessary to develop new media that can increase the effectiveness and efficiency of learning. 72% of students hope that the developed media can be accessed via smartphones and laptops, light capacity, contains text, images, audio, visual, and audio-visual. 64% of students agree that this media can be used and is very effective and efficient in learning

Keywords— blended learning(BL), m-learning, mobile application, bolabasket.

I. INTRODUCTION

The years 2020-2021 are quite a tough period for education in Indonesia, where teaching which is usually carried out in one direction requires students to meet face-to-face with teachers. The existence of a pandemic that limits the mobility of students also requires teachers to reform the system and teaching methods, especially in practical lectures. The method using blended learning (BL) provides a solution to this problem, with related research results, such as the level of student understanding, because the pace of learning is carried out individually. Supports the development of lifelong learning by providing a student-centred environment. The flexibility of the mixed environment provides a rich educational experience for students with an active learning emphasis. The University values and strives to instill skills essential for lifelong learning, producing graduates who continue to develop intellectually, professionally and socially beyond the confines of formal education.[1][2][3]

Some of the obstacles that will be faced when conducting BL while in the field are that this method requires high-quality support at all levels: organizational infrastructure, course and faculty development, and consistent student learning support mechanisms. All elements must play a role in a responsive and reliable institutional culture. Obviously, these elements require an adequate investment of resources. However, with this investment comes the need for an effective evaluation process, which provides information that facilitates effective decision making at both the policy and instructional levels.[4][5]

Many previous studies have developed applications and methods in developing BL learning methods, one of which is developing the web as a development model [6][7][8][9][10], many of which have developed based on M-Learning[11][12], but no one has included podcasts and presences in the BL development model, especially in Indonesia. The research that will be carried out will update the features to make it easier for teachers and students to carry out the learning process, the objective elements in the assessment will be clearly visible later. The majority of learning in 2021 will be conducted with BL, with a composition of 25% face-to-face and 75% asynchronous and synchronous. With the initial data that bridges the needs of students and also evaluates the teachers, this method will be effective, especially in FIK UM later. Product specifications are in the form of a mobile application which supports independent learning, with learning materials
provided, illustrated e-books accompanied by barcodes that connect to video link examples of movements, pre-
test, post-test, attendance, podcasts from several
experts in the field of basketball (national coaches,
event management, professional players) support
the concept of independent learning. UTS, and UAS. The
product will be tested in small groups, then it will be
used in all 8 classes of basketball courses at FIK UM.
If the product has been standardized nationally, this
product can be used by teachers throughout Indonesia
who teach basketball courses, especially universities
that have a Faculty of Sports Science. Learning that is
easily accessible and has complete features, such as a
speech from the Minister of Education and Culture,
Nadiem Makarim, stated that online learning will
become permanent in Indonesia at universities.

The aims of this study are: (a) developing BL-based
learning applications using a mobile application, (b)
producing learning models with the aim of improving
student performance in practical lecture learning c)
reviewing the learning model process for wider use.

Technological innovation affects the learning
process in an area or country, expanding the range of
possible solutions that can be given to various
problems. BL is a technology-based innovation that
combines the composition of face-to-face meetings
between students and teachers, online, and offline.[13]
Face-to-face students are required to be present at the
venue and carry out a traditional learning system, by
making the teacher the center of point. Online learning has the advantage of being flexible in time and place
by students and teaching, but there are several
obstacles if the system or infrastructure is inadequate
and cannot learn optimally. Offline learning can be
packaged in many forms and is not connected to the
network, making it easier for students and teachers to
access the material, but the costs incurred are also quite
high for this method.[14] The challenge now is to make
learning experiences more effective, increase access
and flexibility, or reduce learning costs, it is likely that
BL learning systems will provide a mix of face-to-face
and computer-mediated experiences. Future learning
systems will not be differentiated based on whether
they blend in or how they blend in. Like any design
problem, this challenge is highly context dependent
with practically unlimited possible solutions.[3][15][16]

A. Mobile Learning

Looking at the state of mobile learning around the
world, several critical issues can be highlighted. The
current section aims to highlight similar issues,
concerns and mindsets in the seven regions reviewed
in Canada, the US, Europe, Russia and Ukraine, Latin
America, Africa, and the Middle East, Asia and the
Pacific.[17] The rapid development of mobile devices
(including smartphones) is a commonly observed
phenomenon. Recent studies estimate that access to
mobile devices is far superior to access to laptops or
PCs (personal computers) due to the low cost of mobile
phones. [18] Despite the challenging new environment
for mobile learning to immerse itself in around the
world, supported also by the expansion of 3G or 4G,
technology adoption rates for mobile learning are not
developing at the same rate.

Potential positive effect for the disability of
students and children with special needs learning to
communicate and interact with others using mobile
devices.[19] Though, accessibility issues also arise for
many mobile devices because they can’t be used by
people of different ages and different problems. The
lack of educational policies that specifically address
the issue of mobile learning leads to another side effect
that also appears to be a significant roadblock to the
adoption of mobile learning.

The problems that are often faced in the use of M-
Learning are:
1. Disruption of students in the classroom, safety
concerns, exposure of students to risky
environments containing inappropriate material,
hostile behavior such as cyber bullying, sexual
misconduct or sexting, potential for cheating
during school exams and game addiction.
2. Negative effects on students’ health and their
physical development, further reinforcing the
ambiguity of key role players (ie, in the Asian
region) regarding the appropriateness of mobile
device use in schools.
3. The most frequently reported negative
implications, thermal and non-thermal effects,
radiation absorption cause cancer, asthenopia,
excessive eye strain resulting from excessive cell
phone use, etc. [17]

To overcome the problems above, so the learning
strategy must pay attention to several things, namely:
• fair use;
• flexible use;
• simple and intuitive;
• visible information;
• tolerance for faults;
• low physical and technical effort;
• student community and support; and
• learning climate.

Learning using M-Learning has the potential to
transform learning spaces and transcend the
boundaries of traditional physical and conceptual
education.[20] Mobile learners can traverse different
learning spaces to build and build with them learning
experiences. Five conceptual spaces of mobile learning
were identified as essential elements of the m-learning
ecosystem. While some of the characteristics of those
spaces are illustrated, the emphasis of the discussion
remains on their interactions and the opportunities presented by the overlap and interrelationships of these fields. The next topography of mobile learning includes the following spaces: (1) temporal, (2) physical, (3) transactional: intrapersonal, personal, and interpersonal (social and public), (4) technology, and (5) pedagogy.[21].

II. METHOD

1. Desain penelitian
This study uses the Research and Development (R and D) model of Analysis, Design, Development, Implementation, Evaluation (ADDIE). The research design is divided into 3 parts, namely planning research design, product manufacturing, and the implications of BL-based m-learning.

2. Research place and time
Research This research was conducted at FIK UM. This research is planned to take place from March to November 2021.

3. Research Instrument Data Collection Techniques

![Fig. 1 R&D Pattern](image)

3. Data Analysis Techniques
To analyze the quantitative data used descriptive statistics, namely percentage and mean analysis.

4. Research design
The procedure used in this study consists of seven steps, namely: (1) conducting a needs analysis, (2) identifying an application model that suits the needs of students, (3) developing a model, (4) conducting expert tests, (5) conducting tests small-scale trial (test using the model), (6) conduct a field test (test the application of the model) using action research (action research), and (7) produce the final model

B. Karakteristik subjek
The research subjects were students of class 2019 study program PJK, PKO, IKA, Faculty of Sports Science, State University of Malang. The number of students who filled out the online questionnaire was 72 people. There were 72 research subjects (students) in this study whose data collection instrument was an online questionnaire to collect information about the understanding of FIK UM students about basketball lectures. The results of data collection will be described in accordance with the questions asked in the online questionnaire. The results can be described as follows:

a. Students Taking Basketball Courses

![Fig. 2. Percentage Who Have Taken Basketball Course](image)

Of the 72 research subjects: 59 research subjects had received and underwent basketball courses; 13 research subjects have not received and undergo basketball courses. These data indicate that the subject of this research is not all students who are the subject of the study have received basketball courses.

b. Acquisition of Basic Basketball Technique Material

![Fig. 3. Percentage of Students Who Have Received Basic Basketball Techniques](image)

The data in the results section shows the acquisition of basic basketball technical material for 2019 students.
The data shows that a total of 71 students have received basic basketball technical material and the rest have not.

c. Basketball Invasion Game Material Acquire

Percentage of Students Who Have Received Basketball Invasion Game Materials

- Already: 31%
- Never: 69%

Fig. 4 Percentage of Students Who Have Received Basketball Invasion Game Materials

The data in the results section shows the acquisition of material for the 2019 student basketball invasion game. The data shows that a total of 22 students have received basic basketball technical material and 50 have not.

d. Acquisition of Basketball Refereeing Material

Percentage of Students Who Have Received Basketball Invasion Game Materials

- Already: 6%
- Never: 94%

Fig. 5 Percentage of Students Who Have Received Basketball Invasion Game Materials

The data in the results section shows the acquisition of material for the 2019 student basketball invasion game. The data shows that a total of 4 students have received basic basketball technical material and 68 people have not.

e. Data analysis

The data analysis technique is used to analyze quantitative data using descriptive statistics, namely percentage and average analysis.

III. RESULT AND DISCUSSION

Data pada bagian hasil menunjukkan bahwa 59 subjek penelitian telah menempuh mata kuliah bola basket sedangkan 13 subjek penelitian belum menempuh mata kuliah bola basket.

A. Frekuensi Mahasiswa dalam Penggunaan media m-learning yang berisi materi perkuliahan bola basket

Penggunaan media m-learning yang berisi materi perkuliahan bola basket menunjukkan bahwa 31% subjek penelitian menggunakan media tersebut sedangkan 69% subjek penelitian tidak menggunakan media tersebut.

B. Student Opinions in Using Application Media That Contains Basic Basketball Techniques

The data in the results section shows that 46 students agree that the M-Learning application media is very effective and efficient for basketball learning.
C. The Importance of Developing New Media in Basketball Lectures

There is a need for the development of new media in basketball lectures so that the learning process becomes more interesting.

Fig. 8 development of new media in basketball lectures so that the learning process becomes more interesting

The data in the results section shows that 67 students need the development of new media in basketball lectures so that the learning process becomes more interesting.

D. Expected Media to Increase Knowledge about Basketball

Fig. 9 Media That Students Expect To Develop

- Contains text, images, audio, visual, audio-visual = 11 People
- Can be accessed via smartphone or laptop, Light capacity, Contains text, images, audio, visual, audio-visual = 52 People
- Light capacity, Contains text, images, audio, visual, audio-visual = 8 people

E. Expected Display Wishes In The Application

Fig. 10 Media Display Expected by Students

The data in the results section shows that the opinion of the research subjects hopes that the developed media can be accessed through anything, by anyone and anywhere as needed. That way the product developed can be useful.

F. Material Variations in Media

From the bar chart above, students expect that the material in the media is presented thoroughly, including basketball history and equipment, basic basketball techniques, combination of basic basketball techniques, invasion games or modifications to basketball games, refereeing and organizing basketball matches. With the hope that students can understand and apply all the material listed.
IV. CONCLUSION

To update the features using blended learning (BL) to make it easier for teachers and students to carry out the learning process, the objective element in the assessment will be clearly visible later. In addition, this study aims to develop BL-based learning applications using a mobile application, produce learning models with the aim of improving student performance in practical lecture learning, reviewing the process of learning models for wider use.

Based on the results, 69% of students have never used M-Learning for basketball courses. A total of 93% of students think that it is necessary to develop new media that can increase the effectiveness and efficiency of learning. 72% of students hope that the developed media can be accessed via smartphones and laptops, light capacity, contains text, images, audio, visual, and audio-visual. Students hope that this development can make it easier and present material that is more varied and not boring.

REFERENCES


