Development of Mobile Application-Based Learning Media Material for the Nine Compulsory Malay Dance Using a Blended Learning Model to Improve Students' Dance Skills

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Abstract. The purpose of this research is to determine (1) the feasibility of mobile application-based learning media on the Nine Mandatory Malay Dances using the Blended Learning model. (2) determine the effectiveness of mobile application-based learning media on the Nine Compulsory Malay Dances using the Blended Learning model. This type of research takes the form of R&D using the ASSURE development model by Smaldino, S., Lowther, D., Mims, C., Rusell, J. This research was conducted in class X SMA N 1 Sei Kepayang with 60 students. The research subjects were material experts, media experts and design experts from Medan State University lecturers. The research results show that (1) the learning material expert test is at very good criteria (93.26%), (2) the learning media expert test is at very good criteria (90.62%), (3) the learning design expert test is in very good criteria (89.62%). The average effectiveness of (Experimental Class) was 84.43% and (Control Class) was 79.68%. The posttest results obtained the price Tcount = 2.050 at a significant level α = 0.05 with dk 58 obtained Ttable = 1.167 so that Tcount > Ttable, namely obtained 2.050 > 1.167. The use of the Mobile Application for the Material of the Nine Compulsory Malay Dances using the Blended Learning model is very feasible and effective to use.

Keywords: Mobile Application, Nine Mandatory Malay Dances, Blended Learning Model

1 Introduction
Education is one of the keys to creating change in the nation's generation, seen from the effective learning process carried out by teaching staff and transferred to educators in accordance with predetermined learning materials. According to Wisada (2019) that "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals, and the skills they need, society, nation and state". From the opinion above, education can play a role in forming the nation's personality which cannot be separated from developing potential so that they become skilled individuals with character in achieving a good learning process.

A good teaching and learning process can be implemented by teachers if the teacher understands students' problems and needs, one of which is determining learning models and
learning media so that students are able to get maximum results from the learning material provided by the teacher. When carrying out learning, you must pay attention to environmental needs, so you need new models and media to solve problems, so that students get a decent education.

Based on field observations at SMA N 1 Sei Kepayang, the author found that the learning carried out by educators was through assignment system learning specifically on cultural arts subjects, dance material and the learning system was carried out by recitation and using the website-based application "Wordwall". In the data on the dancing skill scores of odd semester students for FY 2022/2023, they are classified as less than optimal because there are scores below the KKM average, namely 75.

Based on the pretest conducted in the control class it has an average value of 73.76, while the pretest for the experimental class shows an average value of 74.87, through this the scores obtained by students are below the KKM. Mukhtar (2021: 90) states that "Learning can be achieved if educators can provide motivation and students can complete the process of teaching and learning activities properly".

According to Pratama (2019: 40) that "Motivation is one of the things that influences the success of student learning activities, without motivation the learning process will be difficult to achieve optimum success". The lack of motivation given by teachers to students makes it difficult to achieve learning success, so there is a need for channeling intense motivation.

According to The Liang gie (2014: 28) states that "Interest is defined as the most basic thing about being busy, interested, or involved in various things, especially in an activity that recognizes the importance of that activity." Students' interest in learning is influenced by the student's personality, that is, interest in learning is greatly influenced by the environment, including family, peers, teachers, and various technological factors in the environment. One of the factors is the use of technology in the learning process, there are habits of students who misuse cellphones during their lifetime. Supposedly with the presence of technology in life, students can make technology a basic facility in learning. By not involving technology in the learning process, it results in low student learning interest.

According to Safaat (2015) states that "Mobile applications come from two syllables including application and also mobile. In application, it means application, application, and use or a ready-to-use program that is designed to realize a function for the user, while mobile can be interpreted as a software system where every use has mobility with various PDA-digital assistant equipment on mobile phones. in implementing and using programs in which there is software that functions as equipment in using mobile phones, especially in the learning process.

In accordance with the opinion of Akmal (2006) states that "Mobile applications can stimulate and attract the user's attention which can create motivation in the learning process". In the learning process that is followed by students, they can apply a mobile application that functions to stimulate the child's way of thinking and student actions in participating in learning. The Mobile Application functions so that students can be interested in understanding learning material in detail so that it provides functions and benefits for students in the learning process. The role of the media plays a very important role in motivating students in learning. This happens because they are given storyboards that really attract students' attention.
According to Tamimuddin (2015) stated that "The cognitive and psychological reward system activated by the Mobile Application has identified brain areas related to attention and arousal as well as motivation in improving learning". With the presence of Mobile Applications can stimulate brain work which can increase student enthusiasm and motivation in learning. This really affects student development if students have better direction in the learning process, especially in arts and culture subjects, namely learning the Nine Mandatory Malay Dances. This material will be found on the Mobile Application, the content of which is not far from the Nine Mandatory Malay Dances in the realm of appreciation (involving conceptual material, techniques and procedures) and the realm of expression (imitating various dance movements involving videos).

The use of mobile phones can be applied in the learning process in the form of applications, as well as using the Blended Learning model. In accordance with the opinion of Kutsiyyah (2021), "an educator must also be able to determine effective and interesting learning models and media in the midst of the learning process." From this opinion, it can be explained that there is a need for renewal in the learning process, especially in determining models, as well as making media an intermediary and helping students deepen learning. Therefore, the author and arts and culture teachers work together to provide a solution so that learning remains effective, by using the Blended Learning learning model using a Mobile Application in learning the Nine Mandatory Malay Dances.

According to Tucker (2012) in Yuliani stated that "The Blended Learning learning model consists of 6 models which are able to encourage students to continue learning without limits of space and time, namely: Face To Face Driver Model, Rational Model, Flex Model, Online Lap Model, Self Blend Model ,Online Driver Model". The Blended Learning model is able to encourage students to learn without space limitations or restrictions on where to study and at any time students can study at any time. This is the reason Blended Learning is implemented at SMA Negeri 1 Sei Kepayang, because of the lack of study time or student practice processes, so the author limits the application of the Blended Learning Flex Model to learning in the realm of appreciation and expression. According to Ahmad (2010) states that "Blended Learning Flex Model is a learning-centered learning that combines face-to-face and online learning by achieving learning objectives". The Blended Learning used is Flex Blended Learning which can encourage students to continue learning at school. 50% (Synchronous Flex Model Type) discusses explanations in the realm of appreciation (Concepts, techniques and procedures). While studying at home 50% (Asynchronous Flex Model Type) is more in-depth about the realm of expression (practice/exercise). These two domains can be explored in accordance with the basic competencies that have been determined in the 2013 curriculum, namely for the realm of greater appreciation of KD 3.1. technical concepts and procedures for the basic movements of the Nine Compulsory Malay Dances, and for the realm of expression KD4.1.

The development of a mobile application for learning the Nine Obligatory Malay Dances has never been carried out at SMA Negeri 1 Sei Kepayang, so the author is interested in developing a mobile application because previously this mobile application was packaged by the 2015 Stambuk Dance Education Alumni, Medan State University using one of the existing materials in the Nine Obligatory Malay Dances, so that by holding a development, the author hopes that the material summarized in the Mobile Application can be discussed more deeply so that students' dancing skills can improve from before. The development of mobile
applications for learning the Nine Compulsory Malay Dances has never been carried out at SMA Negeri 1 Sei Kepayang, so the writer is interested in developing a Mobile Application because previously this Mobile Application was packaged by the 2015 Stambuk Dance Education Alumni of Medan State University by using one of the materials in the Nine Compulsory Malay Dances, so by carrying out a development, the author expects the material summarized in Mobile applications can be discussed in more depth so that students' dancing skills can improve compared to before. The Mobile Application as a learning medium is accompanied by a Blended Learning model, so the authors are interested in developing a Mobile Application so that it can influence students' interests, learning activities, knowledge and dancing skills in the Nine Compulsory Malay Dances.

This is in accordance with the opinion of Santoso (2012) which states that "Using a cell phone as an independent learning medium is equipped with video tutorials that are shown presenting soldering technique instructions that are packaged systematically, and can be repeated, further this learning is called CELMI (Celluler Explorer Learning). Movie Instructions).” Using a cellphone can be used as a medium in accessing downloaded applications in order to create independent learning for students who are carrying out the learning process without any space and time limits. The advantages of studying using a mobile phone can increase study time which can be repeated at home if students do not understand the material about the Nine Compulsory Malay Dances. By strengthening the development of learning media that is practically used by students, the development of Mobile Applications can be carried out and adapted to the material on the Nine Mandatory Malay Dances, namely in the syllabus. The syllabus used is KD.3.1 in the realm of appreciation or also known as knowledge, namely understanding the concepts, techniques and procedures of the Nine Mandatory Malay Dances. In KD.4.1. is a realm of expression in measuring students' dancing abilities (practice), namely imitating various basic dance movements according to the count/beat, so that the development of the Mobile Application is expected to be widespread and can be used in educational circles and outside of education such as other art studios.

2 Research Methods
This study uses a quantitative descriptive method that aims to develop learning media based on Mobile Applications using the Blended Learning model, according to the material on the Nine Compulsory Malay Dance class X SMA N 1 Sei Kepayang, which can be measured from feasibility and effectiveness. According to Borg and Gall in Sugiyono (2019) states that this type of research is included in research and development (Research and development) or called R&D research, as a type of research that can develop a new or cutting-edge product aimed at perfecting previous products.

According to Neuman (2003) states that research and development in learning is a product development process by validating it for use in the ongoing learning process. This cannot be separated from the product being validated first to determine the feasibility and effectiveness of the product being developed. So that in this study, the authors used the R & D (Research and Development) model as a form of procedure in developing the product according to the stages in detail. Developing applications and making the media feasible and effective can connect students with teachers in mastering the learning contained in the Nine Compulsory Malay Dances.
This research is the development of R & DD (Research and development) which is in accordance with the opinion of Smaldino, S., Lowther, D., Mims, C., Rusell, J. in Sugiyono (2011), namely by applying the development of the ASSURE model. The development of learning media, especially mobile applications, can be arranged systematically. The development procedure can be carried out by research on the development of mobile application-based learning media using Android Studio as the first step in making the application which contains material on the Nine Compulsory Malay Dances. The steps for developing the ASSURE model are: analyzing student characteristics, determining learning objectives, choosing methods, media, learning strategies, using materials and media, asking for responses from students, and conducting evaluations and revisions.

According to Suharsimi Arikunto (2000: 134) that "Data collection techniques are tools that are selected and used by researchers in their collecting activities so that these activities become systematic and made easier by them". An instrument is a measuring tool used to obtain quantitative information about variations in variable characteristics objectively. The method designates a method so that its use can be demonstrated through questionnaires, interviews, test observations, documentation and so on. Data Collection Instruments are tools used to collect data. Because it is a tool, the instrument can be in the form of interviews, camera photos, check list sheets, and questionnaire data (open/closed questionnaires). The questionnaire used in this research was a direct questionnaire with scale answers (rating scale). With a questionnaire, you will get proof of accurate data on Mobile Application packaging. The author uses research questionnaires such as: (1) Questionnaire sheets distributed for students’ needs, (2) Questionnaire sheets distributed to educators, (3) Questionnaire sheets distributed to learning material experts, (4) Questionnaire sheets distributed to learning media experts, (5) Questionnaire sheet on media effectiveness for educators, (6) Media effectiveness questionnaire sheet for students. Everything can be measured from the trend level as follows:

3 Results And Discussion
Based on the data obtained in the field, the total number of students can be taken into 2 classes which are classified into 2 groups, namely the control class and the experimental class.

3. 1 Media Effectiveness Test

<table>
<thead>
<tr>
<th>No</th>
<th>Kategory</th>
<th>Rabout Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>saremembOK</td>
<td>81%≤Score≥ 100%</td>
</tr>
<tr>
<td>2</td>
<td>OK</td>
<td>61%≤Score≥ 80%</td>
</tr>
<tr>
<td>3</td>
<td>Cucoup Okay</td>
<td>41%≤Score≥ 60%</td>
</tr>
<tr>
<td>4</td>
<td>Kless OK</td>
<td>21%≤Score≥ 40%</td>
</tr>
<tr>
<td>5</td>
<td>saremembNot Good</td>
<td>0%≤Score≥ 20%</td>
</tr>
</tbody>
</table>
The control class uses a recitation learning model, while the experimental class uses a mobile application as a learning medium using the same material, namely Nine Mandatory Malay Dances, but the experimental class uses a Blended Learning model. It was found that the control class which had carried out the posttest had a score of 79.68 while the standard deviation was 9.701. In the posttest experimental class the average student score was higher, namely 84.43 with a standard deviation of 7.47. This is the difference or difference from each class. To be more clear, it can be explained in Table 2 below:

<table>
<thead>
<tr>
<th>Class</th>
<th>( \Sigma ) Dance Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Class</td>
<td>79.68</td>
</tr>
<tr>
<td>Experiment Class</td>
<td>84.43</td>
</tr>
<tr>
<td>Difference</td>
<td>4.75</td>
</tr>
</tbody>
</table>

With class lengths or intervals 64–68 have a value of 20%, intervals 69–73 have a relative frequency 6.7%, interval 74 – 78 has a value of 20%, interval 83 has 5% while 84 – 88 has an interval of 48.3%, so it can be concluded that more students are incomplete or below the KKM 75. For more clarity, see graph 1 below.

This is different from the posttest scores of the control class and the posttest scores of the experimental class, because more students achieved above the KKM 75. This can happen by implementing the Mobile Application on the Nine Compulsory Malay Dances material using the Blended Learning model, which can be seen in the following graph:

![Graph 1. of student grades](image)

![Graph 2. of the results of the control and experimental classes](image)
3.2 Normality Test
The normality test can be carried out which has the aim of knowing whether the research data are normally distributed or not. At the testing stage, it cannot be separated from the Chi square test in both classes according to the attachment, the results are normally distributed because Xcount < Xtable at the significance level α = 0.05. Based on table 4.34, obtained learning results using the recitation model (control class) of (Xcount= 11.02) and while (Xtable= 11.070) with a significance level of 5%, it is obtained (Xcount= 11.02 <Xtable= 11.070) so that it can be concluded that the distribution data results from student learning in the control class is normally distributed. Likewise with the distribution of learning outcomes data in (experimental class) of (Xcount = 5.59) and (Xtable = 11.070) with a significant level of 5%, then obtained (Xcount = 5.59 < Xtable = 11.070) so that it can be concluded that the distribution of data from students’ dancing skills using the Mobile Application with the Blended Learning model is Normal Distribution. The normality test results can be seen in Table 3 below:

<table>
<thead>
<tr>
<th>Class</th>
<th>Xhit</th>
<th>Xtable</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>11.02</td>
<td>11.070</td>
<td>Normal</td>
</tr>
<tr>
<td>Experiment</td>
<td>5.59</td>
<td>11.070</td>
<td></td>
</tr>
</tbody>
</table>

3.3 Homogenitas
There is a normality test to determine the differences in each data variance in the control class and experimental class. Determining homogeneity can be seen in Table 4 below:

<table>
<thead>
<tr>
<th>Class</th>
<th>Xhit</th>
<th>Xtable</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.68</td>
<td>1.86</td>
<td>Homogeneous</td>
</tr>
<tr>
<td>Experiment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The calculated F value can be compared with the numerator dk = n-1. Each with n or the number of students is 30 between the control class and the experimental class. So dk in numerator = 30, dk in denominator = 30. Based on the F distribution table, F table = 1.860 with a significance level of 5%. The prices for Fcount and Ftable can be compared, namely (Fcount=1.68<Ftable1.860). It can be concluded that the dancing skills of students in the control class and experimental class are homogeneous.

3.4 Hypotesis Testing
3.4.1 Test the Hypothesis for the Feasibility of the Product Being Developed
The feasibility test of the product that has been developed is analyzed from the feasibility validation from the expert and the feasibility of the trial on 3 groups. The results of the trial and validation of feasibility by these experts can be seen in Table 5 and Table 6 below.

<table>
<thead>
<tr>
<th>Expert Assessment</th>
<th>%</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter Expert</td>
<td>93.62%</td>
<td>Very good</td>
</tr>
<tr>
<td>Media Expert</td>
<td>90.62%</td>
<td>Very good</td>
</tr>
<tr>
<td>Design Expert</td>
<td>89.62%</td>
<td>Very good</td>
</tr>
<tr>
<td>Average</td>
<td>91.28%</td>
<td>Very good</td>
</tr>
</tbody>
</table>
Student test results can be obtained in Table 6 as follows:

<table>
<thead>
<tr>
<th>Expert Assessment</th>
<th>%</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Group</td>
<td>90.9%</td>
<td>Very good</td>
</tr>
<tr>
<td>Medium Group</td>
<td>91.4%</td>
<td>Very good</td>
</tr>
<tr>
<td>Field Trials</td>
<td>93.7%</td>
<td>Very good</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>92%</strong></td>
<td><strong>Very good</strong></td>
</tr>
</tbody>
</table>

Based on the two tables, namely Table 4.36 and Table 4.37, it can be seen that the average of research from experts and trials is 92%. So Ha is accepted and Ho is rejected, because the average rating is greater than 60%. Thus the developed Mobile Application-based learning media is included in the "Very Good" assessment criteria and the product is very feasible to use in learning.

3.4.2 Product Effectiveness Hypothesis

The results of product effectiveness hypothesis testing can be seen in the differences in posttest scores in learning outcomes between the control class and the experimental class which can be seen in Table 7 below.

**Table 7. The results of product effectiveness hypothesis testing**

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Control</th>
<th>Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Means</td>
<td>79.68</td>
<td>84.43</td>
</tr>
<tr>
<td>Sd</td>
<td>9.701</td>
<td>7.47</td>
</tr>
<tr>
<td>$S^2$</td>
<td>94.12</td>
<td>55.87</td>
</tr>
</tbody>
</table>

$T_{count} = 2.05$

$T_{table} = 1.167$

Status: Ha accepted

$$S^2 = \frac{(n1 - 1)S_1^2 + (n2 - 1)S_2^2}{n_1 + n_2 - 2}$$

The combined variance of the two classes is:

$$S^2_{Gab} = \frac{(n1 - 1)S_1^2 + (n2 - 1)S_2^2}{n_1 + n_2 - 2}$$

$$S^2 = \frac{(30 - 1)94.12 + (n2 - 1)55.87}{30 + 30 - 2}$$

$$S^2 = \frac{2729.48 + 1620.23}{58}$$

$$S^2 = \frac{4349.71}{58}$$

$$S^2 = \sqrt(74.995)$$
Then $T_{count} = \sqrt{\left(74.995\right)}$

$S^2 = 8.65$

$$T_{count} = \frac{(\bar{x}_1 - \bar{x}_2)}{S} \sqrt{\frac{n_1 + n_2}{n_1 \cdot n_2}} = \frac{(84.43 - 79.69)}{8.65 \sqrt{\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$= \frac{(4.75)}{8.65 \sqrt{(0.06)}}$$

$$= \frac{(4.75)}{8.65 (0.24)}$$

$$= \frac{(4.75)}{2.076}$$

$$= 2.05$$

From the calculation of Table 4.38, the price $T_{count}$ is obtained 2.05, with a significant level ($\alpha=0.05$) $dk = n1 + n2 = 58$, thus it can be compared with $T_{table}$ with $T_{count}$ (2.05>1.67), then $H_a$ is accepted. So it can be concluded that the Mobile Application of the Nine Compulsory Mealyu Dance material using the Blended Learning model is feasible to use and very effective in the learning process.

Using the Mobile Application, it can be seen that the feasibility level is in accordance with the assessment indicators contained in the previous theory, namely regarding the validation of material experts consisting of 4 assessment indicators, namely: material aspects, learning aspects, display aspects, and linguistic aspects, which shows that the media listed on the Mobile applications with material extensions are feasible to use, this is in accordance with the studies contained in ten previous relevant studies, with the existence of assessment indicators it can find out the response from each situation in the form of a feasibility questionnaire that cannot be separated from the points of the assessment indicators. Learning the Nine Compulsory Malay Dances is contained in the Mobile Application which has previously passed various validations and user trials. All of these scores show the criteria "Very Good". Based on observations and studies during research that the Mobile Application is able to improve student learning outcomes such as increasing students' dancing skills on the Nine Compulsory Malay Dance material especially on (Lenggang Patah Nine, Mak Inang Pulau Kampai Dance, Anak Kala Dance).

Validation stage got the assessment criteria "Very Good" with an average value of 91, 28% of them were (93.62% material experts, 90.62% media experts, and 89.62% design experts). After being validated, then carry out trials which have 3 stages, namely small group trials of 90.9%, medium group trials of 91.4% while field trials of 93.7%, so the overall trial average can be 92%. From the results of the average validation and the average of the pilot test, the Mobile Application for the Nine Compulsory Malay Dance material is very appropriate to use in the ongoing learning process.

Purchaser The teachings of the Nine Compulsory Malay Dances in particular (Patah Sembilan Lenggang Dance, Mak Inang Pulau Kampai Dance, Anak Kala Dance) can be found in the
Mobile Application which has previously undergone validation and trials. The next step is to see the effectiveness of the Mobile Application in the learning process. This can be obtained from the results of the posttest average value of the control and experimental classes. From the overall calculation that learning using the Mobile Application using the Blended Learning model is higher, namely 55% getting the "Very Good" criterion, while for the posttest control class using the "Wordwall" Website-based application with the recitation model, namely 45% who get the "Very Good" assessment criteria. Good". In the control class has an average score of 73 dancing skills, 3% while the experimental class has an average score of 84.43%, it can be concluded that the difference between the two classes is 11.13%. From this explanation, the Mobile Application learning media material on Nine Compulsory Malay Dances is effectively used in learning, especially in class X High School.

4 Conclusions, Implications And Suggestions

4.1 Conclusion

Based on the formulation, objectives, results and discussion contained in the development of Mobile Application-based learning media, the conclusions can be described as follows:

1. nMobile Application-based learning media on the material of the Nine Obligatory Malay Dances using the Blended Learning model is appropriate to use
2. nMobile application-based learning media on the Nine Compulsory Malay Dances using the Blended Learning model is effective
3. nMobile Application-based learning media on the Nine Mandatory Malay Dances using the Blended Learning model is practically used in learning

4.2 Suggestions

The research that has been done, the authors draw a suggestion with the following suggestions:

1. As input for teachers as facilitators to continue to provide good service, especially in using the Mobile Application so that the learning process is not hampered and students learn smoothly. Such as providing a network before starting learning.
2. We recommend using the Mobile Application because the overall product presentation is very good and able to provide feedback and is suitable for use at class X level.

References


