

# Development Of Android-Based Learning Media To Improve Student Learning Outcomes In Life Theme Thematic Learning In Class V SD IT Prima Mandiri Deli Serdang District T.A 2022/2023

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**Abstract.** This research is motivated by the low student learning outcomes and the selection of learning media that is not yet relevant and does not yet have a variety of media. The purpose of this study was to determine the feasibility and effectiveness of android-based learning media on the theme of 7 events in the life of sub-theme 1 of national events during the colonial period in improving student learning outcomes in class V SD IT Prima Mandiri. The sample in this research is 44 people. The type of research used is research and development (Research and Development R&D) with the Borg and Gall model. The research instrument used was a validation questionnaire for material, media and design experts. Research result show that android-based learning media is very feasible and effective in improving student learning outcomes . This is evidenced by the acquisition of an average score of 4.56 and the average learning outcomes of the experimental class using Android-based learning media obtained N-Gain results of 0.7 "High". While the average learning outcomes of the control class using reading books obtained an N-Gain of 0.5 "Medium".

**Keywords:** Android-based media, Events in Life, Learning Outcomes

## 1 Introduction

This Word document can be used as a template for papers to be published in EAI Core Proceedings. Follow the text for further instructions on text formatting, tables, figures, citations and references. The rapid development of this technology is certainly a challenge for teachers to be able to play a role and facilitate students in building knowledge in the global era. (Sugiyarto et al., 2021) states that the use of technology is unavoidable because it is indeed the era, a teacher is required to be able to keep up with these changes and developments with the aim of preparing students to face change. A teacher is required to carry out an innovation by creating technology-based learning media, so that it can attract more interest and make it easier for students to learn. (Ponza et al., 2018) mentions that the development of technology in

this modern era makes a teacher have to innovate regarding the learning media that will be used in the learning process. To implement active learning, teachers are required to use effective methods so as to increase students' creativity and interest, one way is to use active, innovative, creative, effective, fun, and up-to-date learning media (H. P.S. Muttaqin et al., 2021). Android devices, besides having a function as a communication tool, also have the opportunity to be used in developing learning media that can be utilized by students. Integrating technology in learning is one of the solutions in achieving learning goals, considering that currently Android devices have become everyday friends among students. It should be that Android devices are so close and familiar with students' daily lives that they can be put to good use in supporting learning activities. (Jannah et al., 2020) Currently in the 2013 curriculum the use of modern learning media is very necessary. (Fatmawati et al., 2021) said that curriculum is the most important component in the world of education. The development of learning in the 2013 curriculum applies integrated learning. Integrated learning requires every educator to have high creativity in carrying out the learning process, including in motivating each learning media taught. In fact the use of media in the learning process is very low.

Based on the results of observations made at SD IT Prima Mandiri from July to August 2021, it was observed that the use of media by teachers was still limited to textbooks so that the impact on student motivation and learning outcomes was still low. This can be seen from the students who do not pay attention to the teacher when teaching in class, there are still students who have never studied at home, are lazy to study and do homework and most of the students still have not reached the minimum standard of completeness criteria. The minimum completeness criteria set for this Thematic subject is 75. However, there are 20 students out of 31 students whose learning outcomes have not been completed. The 20 students had scores of Thematic learning outcomes below 75. These results illustrate how low the level of motivation and student learning outcomes are in Thematic learning. One of the causes of low student learning outcomes is due to the lack of use of learning media, especially those based on technology as a means of conveying messages in the implementation of learning in schools.

This is in line with (Wuryanti & Kartowagiran, 2016) the application of conventional learning results in less effective and boring for students so that students do not understand the material provided by the teacher. With media, students become enthusiastic, active, more critical by using all the five senses of students in learning, and making learning more meaningful. The meaning of media for learning is as a tool and infographic for rearranging visual and verbal information (Wahyuni et al., 2020). Learning media can help the teaching and learning process. Submission of messages and content of the material can be well received by students. A media is said to be efficient if it is used correctly and is easy to use while also not spending a lot of time (Khairunnisa et al., 2020). Based on this, it is necessary to conduct research with the title "Development of Android-Based Interactive Learning Media to Increase Student Motivation and Learning Outcomes Theme 7 Events in Life sub-theme 1 National Events during the Colonial Period Class 5 SD IT Prima Mandiri, Deli Serdang Regency.

## 2 Research Method

This study uses a development research model. The type of development research used is research and development (R&D). This research uses a development research model. The type of development research used is research and development (R&D). According to Borg and Gall "Educational research and development is a process used to develop and validate educational products (Gall, Meredith Damien Borg, Walter R. Gall, 1996) In this study, researchers will develop a media in the form of Android-based learning media in thematic learning for fifth grade elementary school students in semester 2, theme 7, theme 7 events in the life of sub-theme 1, national events during the colonial period .In the implementation phase with limited trials involving fifth grade students and teachers of SD IT Prima Mandiri Deli Serdang Regency to produce android-based learning media.

## 3 Results and Discussion

The development stage carried out in this study refers to the development stage using the Borg & Gall model development which has the following steps:

- 1) Research and Information Collecting, Preliminary research which includes interviews, class observations.
- 2) Planning, At this stage the researcher carried out a plan to develop android-based learning media by using programs namely Microsoft Power Point, Ispring Suite 10 and APK Builder pro . The product developed is an Android-based learning media theme material 7 events in the life of subtheme 1 national events during the colonial period in class V SD IT Prima Mandiri, Percut Sei Tuan District.
- 3) Develop preliminary form of product performs development design in presenting learning materials for Android-based media scenarios. starting with the collection of material (filming), managing the material (editing) and finally the production of android-based learning media on the theme of 7 events in the life of sub-theme 1 of national events during the colonial period. Then when the interactive learning multimedia has been developed, it will be tested by experts validator. The stages for product trials are carried out as follows : (1) material validation (2) design expert validation, (3) media expert validation

**Table 1. Media feasibility assessment scores by Material, Design & Media Experts**

Validators	Rated aspect	validity	
		score	Category
Dr. Faqih Hakim Hasibuan, M.Pd	Material	4.62	Very Worth it
Dr. Syarbaini Saleh, S.Sos, M.Si	Design	4.44	Very Worth it
Dr. Nirwana Anas, M.Pd	Media	4.61	Very Worth it
<b>Average</b>		4.55	Very Worth it

Based on the table above, it can be explained that the feasibility of Android-based learning media products with the theme of life events uses three experts for the validation process of the Android-based learning media that has been developed. The fields that are validated are materials, media and learning designs (presentations) that have been revalidated. It is known

that the results of the material expert obtained a score of 4.62 including the "Very Decent" category. The design expert got a score of 4.44 in the "Very Decent" category. Media experts received a score of 4.61 in the "Very Decent" category.

- 4) Preliminary field testing validate material experts, media experts and Android-based learning media design experts material theme of events in life and used as input material for revising the initial product , after being declared feasible for testing, it will be tested on a small group of 9 people to find out whether there are obstacles /weaknesses to the Android-based learning media when it is used.
- 5) Main product revision carries out revision stages from small groups
- 6) Main field testing Test try use was carried out with subjects 20 students of class V SD IT Prima Mandiri, Percut Sei Tuan District.
- 7) Main product Revision carried out revision stages from a large group of 22 students
- 8) Operational field testing conducts effectiveness tests using pretest and posttest
- 9) Final product/Final product. The final product is learning media based on Android with the theme of events in the life of subtheme 1.
- 10) Dissemination disseminates products that have been developed through the mass media.

The feasibility of android-based learning media products with the theme of events in life using three experts for the validation process of android-based learning media that has been developed. Fields that are validated are material, media and learning design (presentation) which have been validated again. It was found that the results of the material expert obtained a score of 4.62 including the "Very Eligible" category. Design experts get a score of 4.44 including the "Very Feasible" category. Media experts get a score of 4.61 including the "Very Decent" category. After all the experts stated that Android-based learning media with the theme of events in life was valid and feasible to try out . Then the researcher immediately conducted a small group trial of 9 people . Small group trials were conducted in SD IT Prima Mandiri, Percut Sei Tuan District, was carried out on 9 students consisting of 3 high achieving students, 3 moderate achieving students and 3 low achieving students. The results of the small group tryout got a score of 94.00 including the "Very Practical" category while the field group tryout was carried out on 22 class V students at SD IT Prima Mandiri. The results of the group tryout got a score of 96.76 including the "Very Practical" category.

The effectiveness of Android-based learning media is seen through how much student learning outcomes increase in the form of pre-test and post-test individual learning mastery, classical learning mastery by looking at the increase in the gain score results. The research subjects are divided into two classes, namely one class being an experimental class and one the other class becomes the control class. The experimental class in this study was the V A class and the control class was the VB class. The experimental class was given treatment, namely the use of android-based learning media with the theme of events in life . V A class students who got the experimental class got an average score of 88.64% with a gain score percentage of 0.77 (High). Whereas learning in the control class only took place in one direction, where the teacher delivered learning material in front of the class, then students listened to the material delivered by the teacher. Furthermore, students work on questions given by the teacher

regarding the material that has been presented. VB class students who got the control class got an average score of 75.68 with a Gain Score percentage of 0.60 categorized (Medium).

#### **4 Conclusion**

Research result show that: (1) assessment expert material are on the criteria very worthy with average score 4.62 (2) rating media experts are on the criteria very worthy with average score 4.61 (3) rating expert design are on the criteria very worthy with average score 4.44 Android-based learning media is very effective in improving student learning outcomes on the theme of events in life in class V SD IT Prima Mandiri, Deli Serdang Regency. This is evidenced that the average learning outcomes of the experimental class using Android-based learning media were 88.64 with an N-Gain of 0.7 "High". While the average control class learning outcomes using reading books obtained 75.68 with an N-Gain of 0.5 "Medium". This proves that Android-based learning media is effectively used and proven correct in improving student learning outcomes on the theme of events in life in Class V SD IT Prima Mandiri, Percut Sei Tuan sub-district, Deli Serdang Regency.

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