

# Training on Interactive Multimedia Development (Android Application) Based on Powerpoint for Learning at MI Negeri Kudus Prambatan Kidul

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**Abstract:** Education is important in shaping human mindset and behavior. The quality of education in Indonesia, especially at the primary level, affects the development of the country and focuses on shaping student character. Interactive learning media based on Android Powerpoint Apps can increase student motivation. This training was held at MI Negeri Kudus as one of the work programs of KKN Muria Kudus University in developing interactive learning to attract students' attention and make it easier for students to understand the material presented. This training aims to inspire teachers to utilize technology in learning. The development method uses the ADDIE model with the stages of analysis, design, development, implementation, and evaluation. The result is the development of a successful interactive application media, supporting online learning and the use of technology by teachers.

**Keywords:** Learning, Interactive Multimedia, Powerpoint, Elementary School, Android App, Service-learning

## 1. Introduction

Education is an important aspect of human life because it can significantly change mindsets and behavior. Education is not just a routine activity without purpose and careful planning, but a conscious and planned effort (Atiah, 2020). Especially in schools, education has a central role in improving the knowledge and intelligence of the community and the development of the nation (Mustadi, 2020). The quality of education in Indonesia, including at the primary level, greatly affects the development of the country (Hasbi, 2021). Primary schools prepare students for the next step and focus on building superior character (Fardiansyah, 2022). School education is the second stage after family education and is important in child development (Kamaruddin et al., 2023). Ulfah (2019) argues that good learning at school can have a major impact on the development of student potential.

Learning is very important in education, supported by various factors including technological developments and the use of attractive media (Haleem, 2022; Ramdani et al., 2021). Technology is used to facilitate students' understanding and increase learning motivation with interesting material (Haleem et al., 2022). Learning media also stimulates students' interest, motivation, and learning activities and has an impact on their psychological aspects (Zagoto et al., 2019). Learning must be interesting for students to be enthusiastic (Dewaele et al., 2021), and teachers need to have the skills to organize learning efficiently, inspire, and create fun experiences (Farida et al., 2023). The lack of media use by teachers who only rely on books as a source of material can cause student difficulties (Masykur et al., 2018). To overcome this problem, teachers need to develop economical learning media and have skills in making media (Suchyadi & Suharyati, 2021).

Media is a tool to convey messages that have the potential to influence thoughts, feelings, attention, interests, and the learning process. Learning media is a tool used to achieve learning objectives (Trisiana et al., 2020). The media chosen must be appropriate in order to arouse student interest, function effectively and efficiently, and convey material or learning objects clearly (Meretha et al., 2020). Learning media is usually only used by teachers when presenting material with the aim of

explaining material that is difficult to understand or material that was previously abstract, so that it becomes easier to understand (Rahmawati, 2019). Interactive learning media creates learning experiences similar to real situations, facilitating understanding. It increases student motivation to respond to teacher material (Mutmainnah, 2018). Learning media can be presented in various variations including illustrated comic animation, computer-based media (power point) audio visual, and interactive multimedia (Ulfa & Rozalina, 2019). Interactive multimedia is a combination of various media elements including text, images, graphics, animation, audio, and video, and uses interactive methods to create learning experiences similar to real-world situations that can be enjoyed by students (Nata & Putra, 2021).

The education system needs to develop the use of learning media integrated with technology in accordance with the development of education. Optimal learning outcomes are influenced by various factors, including learning models, learning tools, and learning media (Anggun et al., 2018). Learning can be enhanced by technology, both in the classroom and online. Technology develops rapidly as science advances and is widely used (Arifin & Setiawan, 2020). Therefore, a teacher must have the ability to utilize technology as a medium or teaching aid. The use of this media is one of the alternatives for teachers to increase students' interest in learning (Supriyono, 2018). In this context, educators and learners need to adapt and innovate in utilizing technology to improve the quality of learning (Ahmed et al., 2020).

Based on the results of initial observations and interviews with teachers at MI Negeri Kudus Prambatan Kidul, it was revealed that learning at the school is still limited in the development of application-based interactive media, especially in the use of information technology. The use of learning media such as PowerPoint by teachers at MI Negeri Kudus has not been well optimized. Learning there is still conventional and the use of learning media tends to be less innovative and monotonous, which results in a lack of student interest in following and focusing on the teaching and learning process. Therefore, the Prambatan Kidul KKN team is committed to assisting teachers in creating more innovative and creative learning media, with the aim that students can be more interested and actively participate in their learning process. By focusing more on the utilization of information technology, which has a great influence that can build education for the better (Pujiani et al., 2020).

Based on the above problems, the Prambatan Kidul KKN team conducted community service in the form of training for teachers at MI Negeri Kudus Prambatan Kidul and developed interactive learning media based on Powerpoint which was then converted into an Android application to improve the quality of learning. This is done because teaching requires teachers to integrate information technology in the teaching and learning process (Ayu et al., 2021). One of the information technologies that can be developed is Microsoft Powerpoint. Microsoft PowerPoint is a program developed by Microsoft that allows you to create interactive learning media (Akbar, 2022). Microsoft PowerPoint is able to help develop interactive games as learning media that can encourage students to participate in learning (Puspitarini et al., 2019). Powerpoint can be an interactive learning media because the facilities contained in it can support the creation of interaction between students and learning media learning media. Powerpoint can be an interactive multimedia if made according to procedures and assisted by VBA (Anomeisa & Ernansih, 2020). VBA is an object-based programming language to facilitate the daily work process in Microsoft excel (Pettit, 2022). By utilizing programs and technology that are developing today, coupled with the use of easily accessible applications, it will create learning media for students that are certainly innovative and not boring for students.

This training aims to inspire teachers at MI Negeri Kudus Prambatan Kidul to more actively utilize technology, such as gadgets, in learning. Currently, students are very familiar with gadgets for entertainment, but have not fully utilized them in the learning process. Therefore, the role of teachers as mentors and facilitators is very important in guiding students in using technology wisely. This training also aims to help teachers plan learning well and systematically, so that the expected educational goals can be achieved. We conducted this training as part of our community service activities in Prambatan Kidul Village, especially in MI Negeri Kudus Prambatan Kidul. Hopefully, this will encourage teachers to develop more creative and innovative learning in accordance with the needs of students, so that future educational goals can be better achieved.

## 2. Methods

The implementation of this community service uses methods used to increase knowledge of making learning media (Minardi & Akbar, 2020). There are 3 stages, namely 1) identifying problems, by conducting observations, interviews and providing questionnaires to the target. The targets of this training are teachers and students of MI Negeri Kudus Prambatan Kidul, 2) the product manufacturing stage, after identifying the problems that occur in MI Negeri Kudus, the team gets a data that can later be processed and used as material to support the manufacture of these products, and 3) the application stage, the latter applies the product to students so that later it can be seen how the results of the product are, able to achieve learning objectives or still need evaluation.

In the first stage, the KKN team identifies problems using three data collection methods: observation, interviews, and questionnaires (Sappaile et al., 2023). Observation is an activity that involves all senses to understand the conditions and situations in the school (Anufia & Alhamid, 2019). The observation was conducted on September 4, 2023 at MI Negeri Kudus, Prambatan Kidul, Furthermore, the KKN team conducted interviews with teachers at the school to obtain accurate

data. The data we obtained showed that although teachers have provided various types of learning media, both offline and online, they still face obstacles in developing them to make them more interesting and effective for students. These interviews were well-prepared, including thorough questions and responses, following Artha & Putra's (2021) opinion that interviews are a systematic method of data collection. In addition, the KKN team also used the questionnaire method, which provides a list of written questions to respondents, to effectively complete the data collection process.

This research uses the Research and Development (R&D) method with the aim of creating specific products and testing their effectiveness (Sugiyono, 2019). This research follows the ADDIE model, which consists of five steps: analysis, design, development, implementation, and evaluation (Suryani et al., 2019). The ADDIE model has the advantage of always starting with the evaluation stage, making it possible to identify and address errors or shortcomings early on (Mesra, 2023). The use of the R&D method and the ADDIE model in the training of making applications with teachers aims to carry out the process of making products in a systematic way that can be controlled and can develop well in the future. It begins with the analysis of material needs, followed by the preparation of software, such as Ms. Powerpoint, iSpring, and Web APK Builder v4.0. This method is also useful for validating the products that have been made so that when the application can run smoothly and effectively.

The subjects of this development research consisted of 20 fourth grade students who were selected as samples using random sampling techniques. Random sampling is a sampling method in which each member of the population has the same opportunity to be selected as a sample (Arieska & Herdian, 2018). The KKN team chose grade IV students as subjects based on the direction of the Principal of MI Negeri Kudus that we visited. In addition to students, teachers are also the subject of this research, they will assist in providing training in making applications so that they can develop them according to the desired material. After this product is approved by the validator as feasible, it can be launched or applied to students in the learning process.

### **3. Results**

The results obtained from the data above that this Powerpoint-based Interactive Multimedia (Android Application) was developed in response to the needs in the field for an alternative learning tool that has appeal to students, and helps them understand the learning material. Before the application of this product in the application stage of learning, this product must first be tested for validity. Is this product feasible to be applied to students in learning. The purpose of conducting an interactive application media development validity test is to test the level of feasibility related to the use of interactive application media in the learning process.

The development of Interactive Media in this study follows the ADDIE development model, which is one of the systematic learning design approaches (Safitri & Aziz, 2022). The process of developing this interactive application media involves five comprehensive stages. Each stage is carried out to improve the development product both in terms of subject content, learning design and learning media so that the developed product is well used by students. The stages are as follows.

#### **1. Analysis Stage**

First, in the Analysis stage, at this stage it was found that the lack of utilization of digital media that was interactive in the learning process, students at SD / MI in Prambatan Kidul were still less enthusiastic in learning because of less interesting learning (Fig. 1.). This analysis also goes through the process of gathering information for this development through interviews, observations, and questionnaires. So that it can obtain data related to learning conditions at MI Negeri Kudus, that teachers there are still lacking in developing media and utilizing technology such as Microsoft Powerpoint. The data we obtained showed that although teachers have provided various types of learning media, both offline and online, they still face obstacles in developing them to be more interesting, innovative, and effective for students. From this analysis, the KKN team, before making this Android Application product, must first prepare: (1) The subject matter, which is following the learning needs, (2) choose images or animations that easily illustrate the material presented in interactive learning videos so that there are no misconceptions caused by improper visualization, and (3) Determine the supporting software used in the preparation of device-based interactive learning videos, iSpring, Web APK Builder & HTMLvideo.



**Fig. 1-bservation and photo with mi negeri kudus prambatan kidul.**

## 2. Design Stage

The second stage is the design stage. At this stage the thing that is done is the selection and determination of software that will be used to create this interactive media including using the PowerPoint application, Ispring & Web APK Builder v4.0. In the learning media there are several inputs including: (1) The background color should be added a colored background but rather transparent so that the writing is clearer (2) Added an interactive video menu to make it more applicable.

The design provided must be attractive to students in order to foster student interest and enthusiasm for learning. This of course already exists in Powerpoint and VBA. It can also be added by utilizing other tools that can support the creation of innovative and creative work for students (Fig. 2.).

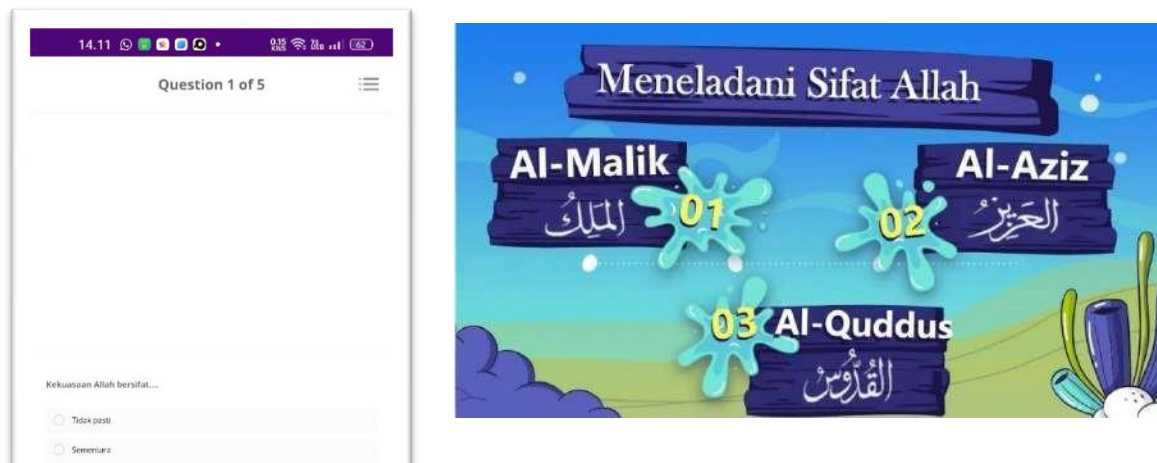


**Fig. 2 - Interactive multimedia display.**

## 3. Development Stage

The third stage is the development stage. At the development stage the activities carried out are: 1) Developing Powerpoint into an android application that includes material, images, animations, and quizzes, 2) Collection of materials and materials, Activities carried out are collecting basic materials that will be used to develop interactive multimedia such as materials, images, text, audio, and animation.

In addition, because Powerpoint is still limited and cannot make this Interactive Multimedia accessible through personal devices other than laptops. Because other software is still needed such as Web APK Builder and iSpring to make this product accessible via mobile phones and also have a Quiz feature in this Interactive Multimediam(Fig. 3.).



**Fig. 3 - Interactive multimedia display and quiz accessed on mobile phone.**

#### 4. Implementation Stage

The fourth stage is the implementation stage. at the implementation stage, the activities carried out include: (1) product validation test by experts including the Principal of SD / MI in Prambatan Kidul, learning design experts and learning media experts (Fig. 4.). (2) product trials including individual trials consisting of three students and small group trials consisting of five students. The purpose of conducting expert assessments and product trials is to determine the attractiveness, product effectiveness and feasibility of interactive application media products that have been developed.

The trial conducted on students received a good and encouraging response. Students are happy and it is the first time they have learned with media like this. Moreover, this media can be accessed through a personal Smartphone that can be accessed without using the internet.



**Fig. 4 - Application to students of mi negeri kudus.**



## 5. Evaluation Stage

The fifth stage is the evaluation stage. at this stage the activity carried out is the evaluation of the data obtained at the implementation stage (expert validity, individual trials, and small groups). The evaluation carried out is formative evaluation. Formative evaluation is the process of providing and using information to serve as the basis for decision making in order to improve the quality of learning products or programs (Aeni & Yusupa, 2018). Formative evaluation aims to assess the interactive application media products developed. Based on these stages, the development of interactive application media by applying the ADDIE model is said to be successful (Fig. 5.).



**Fig. 5 - Training and information for teachers of mi negeri kudus.**

The information presented during the training is not only able to improve the competence of teachers in utilizing technology, but also become an alternative solution that is very meaningful in supporting the smooth running of online learning activities. Although the learning process is conducted online, teachers still have the ability to supervise and guide students effectively. This not only gives positive value to this training, but also encourages teachers at MI Negeri Kudus Prambatan Kidul to more actively utilize technology, such as gadgets, in the learning process. Our hope is that this media development will provide many benefits in the future, help achieve more effective learning goals, and bring positive changes in the world of education.

## 4. Discussion

Initially, learning media at SD/MI in Prambatan Kidul was already available and running. The KKN team discussed with the Principal of MI Negeri Kudus in Prambatan Kidul village to develop interactive learning media according to the desired material and approved from the school that had been visited. With the approval of the KKN team's presence at the institution, it made it easier for the team to be able to conduct training in developing interactive multimedia (android application) based on Powerpoint, in order to motivate teachers to be able to utilize information technology so that later they are able to create and develop interactive and innovative media for classroom learning.

## 5. Conclusion

It was found that the lack of utilization of digital media that is interactive in the learning process, students at SD / MI in Prambatan Kidul are still less enthusiastic in learning because of less interesting learning. Selection and determination of software to be used to create interactive media including using PowerPoint, Ispring & Web APK Builder v4.0 applications. The development activities carried out are: 1) Developing Powerpoint into an android application that includes material, images, animations, and quizzes, 2) Collection of materials and materials, Activities carried out are collecting basic materials that will be used to develop interactive multimedia such as materials, images, text, audio, and animation.

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## Conflict of Interest

The authors declare no conflicts of interest.

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