

# Development of Instructional Media for Teaching *Bahasa Indonesia* through Interactive Multimedia Based on Response of Trends in Using Instructional Media by the Students and Teachers during the Learning Process

Hasnul Fikri, Ade Sri Madona and Yulfia Nora  
*Universitas Bung Hatta, Padang, Indonesia*  
{hasnul\_ubh, yulfia\_nora}@yahoo.com, adesrimadona@gmail.com

**Keywords:** Instructional media, Bahasa Indonesia, Interactive Multimedia.

**Abstract:** The use of interactive-based instructional materials for teaching Bahasa Indonesia enables students to develop their cognitive skills. The current research is a development study which consists of four steps: definition, design, development, and dissemination. The definition stage is conducted based on the needs analysis, both for students and for teachers. Data were collected using student response questionnaire. The purpose of the needs analysis was to determine the tendency of student and teacher response to use instructional media. Subjects in this research are students of grade V SD Padang Timur academic year 2016/2017. The result of the of the research shows that the tendency of teacher and student response to the use of instructional media for leaning Bahasa Indonesia are diverse. The analysis of tendency using media by teacher indicates that basically, the teachers have positive response toward the benefits of using instructional media, while the tendency of students show their interest in using instructional media since they can access the media via the android program. Based on the analysis of the requirement, it is designed interactive multimedia-based media for learning Bahasa Indonesia to be used by teachers and students, both at home and at school.

## 1 INTRODUCTION

Language plays an important role in human life. By language, people can express ideas, thoughts, feelings or information to others, both verbal and written form (Iskandarwassid and Dadang, 2008).

Language learning is a linear process, starting with mastering spoken language (listening and speaking) and then turn to writing (reading and writing) (Ghazali, 2010). In practice, teachers often encounter various constraints related to the four skills in Bahasa Indonesia, such as the lack of student's interest in pursuing the lessons which make them to quite passive. Among other cause for this is the method in teaching Bahasa Indonesia, both from the learning strategy and Instructional media. The study shows that learning activities are still tended to be traditional with focuses on reading and listening. Teachers only focus on using textbooks, even if they use media, the media used is the basic media, such as pictures/posters. Of course, it makes learning language become a boring subject

since students are less engaged in learning activities. In fact, if multimedia is well prepared, it can affect the effectiveness of learning and assist in the process of teaching and learning "(Neuman et al., 2010). In addition, the National Association for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media (2012) states: "if it is managed properly, the use of technology can have an impact on children's language development, vocabulary, understanding of mathematical logic, skills of problem-solving, self-regulation, and the development of social skills".

In addition, a few of the teachers demonstrate less attention toward language skills, both for learning activities, as well as for the everyday life of and the future. This affects the low average result of the evaluation of student learning outcomes. There are many cases regarding Bahasa Indonesia subject which indicates average learning result below standards, which are sometimes lead to remedial learning. Though Marcon (1993) explains that child failures in learning at the beginning will be an

important predictor of learning failure in the next classes.

Base on this fact, it is necessary to provide learning alternatives that focusing on learning process where students can find the information through interesting media which help them that learners can understand all Indonesian learning materials easily. Among the alternative is an interactive multimedia media which using the combination of images, sounds, animations, and videos. In addition, media used by teachers in the classroom can be accessed as well by students when they are at home using a computer (PC), laptop or android device. As stated "posit computer-based multimedia environment has paved the way for more effective teaching and created a platform for applying Computer Assisted Language Learning" (Nazir et al., 2012).

In learning Bahasa Indonesia, in order to achieve the ideal condition, it is necessary to develop interactive multimedia-based media which can give clear information to the students. Kaur (2012) that the current era of Information and Communication Technologies (ICT), the teaching of literacy has taken on new and modern technological implications especially for students. With rapid transformations occurring in today's interconnected technological world, it is relevant to integrate the teaching and learning of literacy skills within electronic and digital environments.

The media also has character-based value, it must be fit with the text. In addition, by using media, students are lead to more creative and honest.

The purpose of this study is to provide an interactive multimedia for learning Bahasa Indonesia which contains character education for elementary school grade V as for the implementation of 2013 Curriculum.

## 2 METHODS

The current research is development research which focuses on development and production of new products in a learning system that will be applied to learners as users (users).

Procedures for developing an interactive multimedia-based media for learning Bahasa Indonesia include four stages: definitions, design, development, and dissemination. In this paper, we will present the process and the results of the first two phases; definition and design. First, the needs analysis phase includes analysis of learning facilities and infrastructure, children's needs, characteristics of

children, analyzing the ability of educators in dealing with obstacles encountered during learning. Second, the design phase, which sets the main concepts of the characteristics of elementary school students that will be integrated with interactive multimedia-based media.

The subjects of the study were teachers and students Grade V of Elementary School located in Padang Selatan Subdistrict who registered in the even semester of the academic year 2016/2017.

The instruments used are observation sheet of proprietary tendency and the use of mobile phones and computers that can run an android program and the use of media in learning Bahasa Indonesia.

Data are analyzed using descriptive statistics, including (1) finding the percentage of yes-no questions (2) calculating the total of respondent's achievement from Likert scale statement 1-5. To Classify the percentage, the following description are used:

Table 1: Classification of response.

90% - 100%	Very good
80% - 89,99%	Good
65% - 79,99%	Fair
55% - 64,99%	Bad
0% 54,99%	Worse

## 3 RESULTS AND DISCUSSION

Base on two steps of development research, the following are outlined the definition and design of the research. The first aspect is definition which focuses on analyzing the tendency of media usage among teachers and students of Padang Selatan sub-district.

### 3.1 The Tendency in Using Instructional media

The tendency of teacher and students' answers to the use of android and instructional media are grouped into two, namely (a) ownership and the use of devices using android programs and (b) the use of instructional media

First, on the teacher side, the highest tendency to answer on the ownership and use of the device. The results of each indicator can be seen in Figure 1.

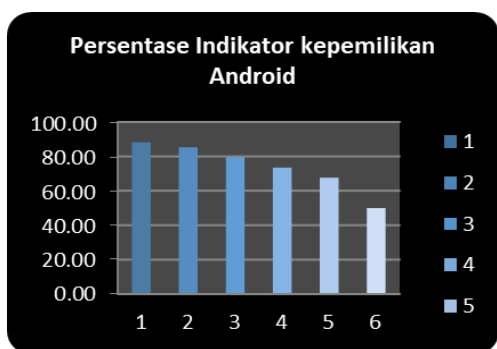


Figure 1: Graphic of android phone possession by teacher.

- Indicator 1: has a phone with an android program.
- Indicator 2: capable of using a phone with Android program.
- Indicator 3: can use computer/laptop with an android program.
- Indicator 4: schools provide computers / laptops with Android program.
- Indicator 5: has a computer/laptop with android program
- Indicator 6: the nucleus family having a computer/laptop with android programs which can be borrowed.

From Figure 1, it can be seen the highest value is the first indicator: has a phone with an android program (88.24%) and the lowest percentage on the indicator has a computer/laptop with an android program (50%). This indicates that teachers have access to devices with android programs.

The highest tendency of teacher response in the using of instructional media viewed from the total respondent achievement for each question is in graph 2.

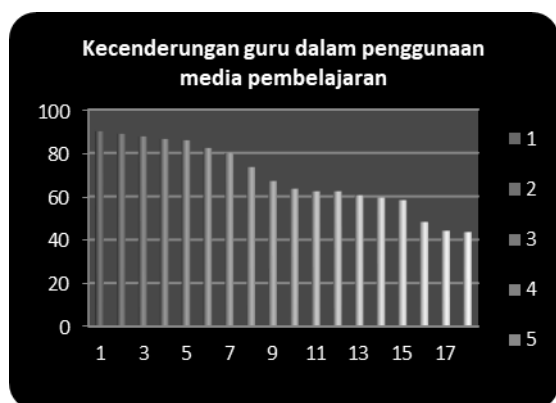


Figure 2. Graph of teacher's tendency in using instructional media.

Information:

- Indicator 1: the use of media as a medium of learning makes students motivated to learn.
- Indicator 2: using instructional media can increase students' attention to learn.
- Indicator 3: more students want to be involved in learning when used instructional media.
- Indicator 4: students want to know more when used media in learning.
- Indicator 5: learning by using instructional media is more fun for the students than just by lecture method.
- Indicator 6: use of instructional media to make students learn independently
- Indicator 7: uses instructional media to assist students in solving problems that arise in learning
- Indicator 8: brings phone/laptop android to school
- Indicator 9: uses print media such as posters, newspaper clippings or magazines, collections of folklore in learning
- Indicator10: The core family indicator allows the use of their Android computer/laptop
- Indicator11: uses interactive multimedia in learning.
- Indicator12: students feel quickly bored when following the learning that only record and listen without any media learning.
- Indicator13: students are less able to capture the material presented only by using lecture methods without any examples of images or video.
- Indicator14: uses phone for the benefit of teaching in schools
- Indicator15: uses e-learning (internet) in learning
- Indicator16: uses video media such as film and television in learning
- Indicator17: uses audio media such as radio and tape-recorders in learning
- Indicator18: uses transparency media such as OHP and PowerPoint in learning

Figure 2 shows the highest TRA score is indicator 1: the use of instructional media makes students motivated to learn (90%), whereas the lowest TRA is indicator 18: using transparency media such as OHP and PowerPoint in learning (43.53%). It can be concluded that basically, teachers are very confident of the benefits of using instructional media, but they still tend not to maximize the use of instructional media.

Secondly, on the student side, the highest tendency to answer on the ownership and use of the device is indicator has phone with android program (61.34%), while the lowest indicator is the school provides computers / laptops that have android

program that can be used by students, 92%) Complete can be seen in figure 3.



Figure 3: Graph ownership of the device by students.

**Information**

- Indicator 1 : has a phone with android programs
- Indicator 2 : parents allow student to use a phone with android program
- Indicator 3 : parent has a computer/laptop with android program
- Indicator 4 : has a computer/laptop with android program
- Indicator 5 : schools provide computers / laptops with android programs that can be used by students

From Figure 3 it can be seen that 58% of parents allow their children to use a phone. As Flewitt (2011) shows that parents support digital technology for their children because it affects literacy and knowledge skills, providing an appropriate footing that allows engaging with various texts. This is in accordance with the opinion of the American Academy of Paediatrics Council on Communications and Media (2011) that the parents allow the use of media technologies such as tablets, smart phones and others under supervision and guidance of parents.

The highest tendency of students' answers in the use of instructional media can be inferred from TRA for each question, the highest score is in indicator 1, that is the use of media as instructional media makes motivated to learn (71,6%), whereas the lowest TRA is on indicator 22, parents allow to bring phone/laptop with android program to school (32,96%).

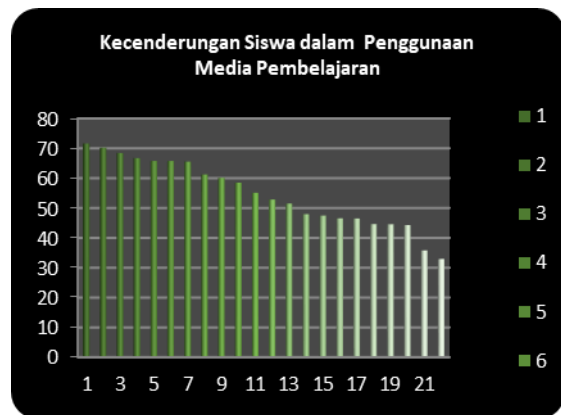


Figure 4: Graph of student's propensity in the use of instructional media.

**Information:**

- Indicator 1: the use instructional media makes student motivated to learn.
- Indicator 2: parents warn the students when learning while playing phone/ laptop/computer.
- Indicator 3: wants to know more if the teacher uses the media in learning
- Indicator 4: the use of instructional media can increase attention in learning
- Indicator 5: the use of instructional media helps in solving problems that arise in learning.
- Indicator 6: teachers use print media such as posters, newspaper clippings or magazines, collections of folklore in learning
- Indicator 7: the use of instructional media makes me study independently
- Indicator 8: more interested in learning when teachers use instructional media
- Indicator 9: learning by using instructional media is more fun than just by lecture method
- Indicator 10: parents allow using phone with Android program
- Indicator 11: unable to capture material presented only by using lecture methods without any examples of images or video.
- Indicator 12: using phone / computer / laptop for home study
- Indicator 13: quickly bored when following a learning that only records and listens without any instructional media.
- Indicator 14: teachers use transparency media such as OHP and PowerPoint in learning
- Indicator 15: teachers use e-learning (internet) in learning
- Indicator 16: teachers use interactive multimedia in learning
- Indicator 17: understand material after using phone/laptop / computer in learning

- Indicator 18: more diligent study after using phone/laptop / computer in learning
- Indicator 19: teachers use video media such as film and television in learning
- Indicator 20: teachers use audio media such as radio and tape-recorders in learning
- Indicators 21: teachers use video media such as film and television in learning
- Indicator 22: parents allow bringing phone/laptop that has android program to school

This response shows that the use of instructional media is very prospective because students can relatively access devices with android programs, both own and core families, although schools have not provided such a device. Students also feel the importance of the use of instructional media, but feel that the use of instructional media for this less than the maximum and the form is still the first generation (basic form), the print media.

Based on the results of the analysis on the trend of teacher and student response as described previously, among the alternatives that need to be done to improve students' interest in learning Bahasa Indonesia is to provide interactive multimedia-based instructional media.

### 3.2 Design of Interactive Multimedia-Based Instructional Media for Learning Bahasa Indonesia

Design stage aims to provide an optimal design of application with respect to problems and needs as identified in the analysis. The process includes finding the right combination of hardware and software to obtain optimal results and easy to implement.

Development of computer-based interactive media design according to Susilanan and Riyana (2007) can be done by: (1) gathering material needs to design and make the application. (2) making flowchart, (3) storyboard making, and (4) programming.

The steps are as follows. First, gather the material needs to design and create applications. The materials are as follows (a) hardware and software, (b) theme of teaching material originating from student's book and teacher book in accordance with the curriculum 2013, (c) images, audio and video supporting teaching materials. At this stage, images, audio, and video are obtained from internet browsing based on material needs. At the time of application creation, the files containing images,

audio, and video will be combined into interactive multimedia. The media used to combine these files is Macromedia flash 8.

Second, create detailed specifications of the structure of multimedia applications that will be created. In this structure is described in the form of flowchart system.

The following describes the flowchart used in the design of multimedia-based interactive learning applications.

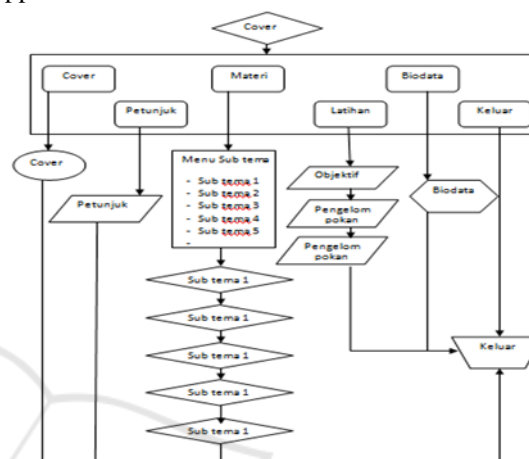


Figure 5: Interactive multimedia flowchart.

Third, create a storyboard, which visualizes text that describes the scene, lists all the multimedia objects and links to another scene, or describes the shape of the application to be created. Storyboard is a series of manual drawings made entirely so as to describe a story. Storyboard describes the description of each scene. First, the storyboard is designed for the initial scene which is the initial use of the application by the user, then the storyboard continues for the next scene, the page where the input will be delivered in the program. Storyboard is developed for each topic, i.e.: (a) Scene 1: cover of main menu display, topic menu, biodata, cover, (b) Scene2: topic 1, (c) Scene3: Topic 2, (d) Scene4: Topic 3, (e) Scene5: Topic 4, (f) Scene6: Topic 5; and (g) Scene7: Exercise. For each scene output, there is a button back to return to the main menu and the exit button.

Fourth, programming that combines text, images, sound, video, and animation using the necessary tools. From this merging process, all multimedia objects are built into one unity in multimedia learning animation.

The results of the implementation of the design of multimedia-based stenographic learning applications to produce interactive interface of multimedia applications. Details can be seen in the

following description. First, the opening page view (cover media) that has a single button that is the entry button. The entry button is useful for entering into the application and leading to the main menu as in the following view:



Figure 6: Display of interactive multimedia product cover.

Second, the main menu display consists of the cover button, instructions, materials, exercises, biodata and buttons as shown below:



Figure 7: Display of main menu of interactive multimedia products.

Third, the menu display of the learning topic that contains the overall material as in figure 8:



Figure 8: Interactive multimedia product topic menu display.

Fourth, the menu display option sub-topic consisting of three sub-topics and each consisted of six meeting as in the following view:



Figure 9: Display the interactive multimedia product sub-topic menu.

Fifth, the display of material in the form of images and text. The available text contains important information about the value of the characters contained in the text that is available. From the text that has been read, students are asked to find the character value within the text, and at the end, students will be directed to the quiz by answering the question to find the character value within the text. The character value within the text that is the value of the spirit of nationality and love of the country.



Figure 10: Display material in the form of images and text of interactive multimedia products.

Sixth, the appearance of the material in the form of pictures, on the view of the students are asked to pay attention to the image on the display, the image of the students was asked to look for important information in the picture, and at the end of the session, student is exposed to find the character value within the picture, including the value of environmental care, tolerance, and social care.

The design of interactive multimedia-based instructional media is argued to improve the process and student learning outcomes. Through view, listening and touch activities, students will be

actively involved in learning activities. This active to be active is pushed by an eye-catching media display and the use of sophisticated tools widely used by the public. According to Neo and Neo (2004), if multimedia is integrated into the teaching and learning process, the situation will be changed. By using multimedia, the instructional materials can be delivered in a multi-sensory environment using multimedia elements such as text, graphics, animation, sound, and video. This process also cultivates some interaction between the student and the information itself, making the learning process more effective for the student. Multimedia provides a means to garner attention, increase retention, improve comprehension, and to bring an audience into the agreement "(Neo and Neo, 2004).

Based on research conducted by Neuman et al. (2010) it was found that the use of interactive media demonstrated the enormous potential of instruction for improving children's ability to develop a rich network of interconnections of knowledge about concepts and the meanings that words represent. It also shows that a program targeted to conceptual learning is very appropriate for pre-schoolers. The results of Yamauchi's research (2008) show that through the use of interactive media can increase knowledge, direct the perception to a more positive direction, and increase the satisfaction of learning. Similarly, the results of research Nusir et al. (2012) shows the positive impact of using interactive multimedia for teaching elementary education. In accordance with the design of research development (R & D), the instructional media that has been designed this will be tested in a limited manner and asked the opinion of practitioners and experts about the reliability of this media.

## 4 CONCLUSION

The importance of media in learning Bahasa Indonesian can be inferred from teachers and students. The accessibility to use hardware with an android program is also quite high, either through phone, laptop, and desktop based on Android, both owned and owned by their nuclear family. However, in reality, the use of media, especially interactive multimedia, is relatively low.

Therefore, this research developed interactive multimedia based on Android as instructional media for learning Bahasa Indonesia. The steps are (1) gathering material requirements for designing and creating applications, (2) detailed specification of multimedia application structures to be created in the flowchart system, (3) storyboarding, and (4) combining text, images, sounds, video, and animation. In addition to mastering the learning materials, to students can also be implanted

character education, both in the process of operating the media and through the pictures and text in the media.

## REFERENCES

- American Academy of Paediatrics Council on Communications and Media, 2011. *Policy statement: Media use by children younger than 2 years*. Paediatrics, 128(5), 1040–1045.
- Flewitt, R. S., 2011. Bringing ethnography to a multimodal investigation of early literacy in adigital age. *In Qualitative Research*, 3, 293–310.
- Ghazali, S., 2010. *Pembelajaran Keterampilan Berbahasa dengan Pendekatan Komunikatif Interaktif*, Refika Aditama. Bandung.
- Iskandarwassid, I., Dadang S., 2008. *Strategi Pembelajaran Bahasa*, Remaja Rosdakarya. Bandung.
- Kaur, Sarjit, 2012. Designing Learning Elements Using the Multiliteracies Approach in an ESL Writing Classroom, 3L. *In the Southeast Asian Journal of English Language Studies*, V 18(3). pp 119-134.
- Marcon, R. A., 1993. *At-risk Preschooler: Early Predictor of future grade retention*. In ERIC Document (ED357880).
- National Association for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media, 2012. *Technology and interactive media as tools in early childhood programs serving children from birth through age 8: A joint position statement*. Retrieved from [http://www.naeyc.org/files/naeyc/file/positions/PS\\_technology\\_WEB2.pdf](http://www.naeyc.org/files/naeyc/file/positions/PS_technology_WEB2.pdf)
- Nazir, M. I. J., Rizvi, A. H., Pujeri, R. V., 2012. Skill development in multimedia based learning environment in higher education: An operational model. *In International Journal of Information and Communication Technology Research*, 2(11), 820-828.
- Neuman, S. B., Newman, E. H., Dwyer, J., 2010. *Educational Effects of an Embedded Multimedia Vocabulary Intervention for Economically Disadvantaged Pre-K Children: A Randomized Trial*. Ann Arbor, MI: University of Michigan. [www.umich.edu/~rdyolrn/pdf/RTL2021210.pdf](http://www.umich.edu/~rdyolrn/pdf/RTL2021210.pdf).
- Nusir, S., Alsmadi, I., Al-Kabi, M., Sharadgah, F., 2012. Studying the Impact of Using Multimedia Interactive Programs at Children Ability to Learn Basic Math Skills. *In Acta Didactica Napocensia* Volume 5 Number 2.
- Susilanan, R., Riyana, C., 2007. *Media Pembelajaran*, Wacana Prima. Bandung.
- Neo Tse-Kian, Neo, M., 2004. *Classroom innovation: engaging students in interactive multimedia learning*. In *Campus-Wide Information Systems* Volume 21 · Number 3 · 2004 · pp. 118-124.
- Yamauchi, L. G., 2008. *Effects of multimedia instructional material on students' learning and their perceptions of*

*the instruction.* Retrospective Theses and  
Dissertations. <http://lib.dr.iastate.edu/rtd/15324>

