

The Practicality and Effectiveness of Interactive Multimedia in Indonesian Language Learning at the 5th Grade of Elementary School

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Abstract

This article aims to explain the practicality and effectiveness of interactive multimedia in Indonesian language learning at class V of elementary school. This research is an R&D conducted in four stages, namely define, design, develop, and disseminate. This article is prepared based on the development stage, i.e. a large scale try out. The respondents are 5 teachers and 130 students of 5 elementary schools in Padang Timur, Padang, Sumatera Barat, Indonesia. The data are the students' and teachers' response towards a questionnaire, scores of students' learning outcomes, and recordings of the students' activities during learning process. The teachers' and students' responses to the questionnaires and student learning outcomes were analyzed quantitatively, while the recordings of students' activities were analyzed qualitatively. The result of the research shows that, firstly, the media are practical because the average score of the teachers' responses is 4.58 and students' responses is 4.53 on a scale of 1 to 5. Secondly, the media are effective to use because the student were learning seriously and enthusiastically by using this media, and the average of student learning outcomes is 87.20 on a scale of 1 to 100. Thus, the developed media can be applied and disseminated for Indonesian language learning in 5th elementary schools.

Keywords: Effectiveness; Elementary school; Indonesian language learning; Interactive multimedia; Practicality.



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1. Introduction

Like other learning, learning Indonesian needs to be managed as well as possible. Unfortunately, in the practice of Indonesian language learning, there are still various problems, such as low student activities due to lack of enthusiasm or interest in attending lessons and the use of instructional media is still not optimal yet. This condition results in unsatisfactory language learning outcomes (Fikri and Madona, 2017; Mardhatillah dan Fahreza, 2017; Marpaung *et al.*, 2016).

One solution to this problem is the provision of interactive multimedia for learning that combine the use of text, images, sounds, animations, and videos simultaneously, according to the needs in learning Indonesian. This solution is based on the opinion of Lindstrom (Neo Ken and Neo, 2004) which states that multimedia provides a means to complement teachers' efforts to gather attention, increase retention, and increase understanding of students. Triarini *et al.* (2017) states that media is very useful in learning interactions, even the interaction between students and the media is actually a manifestation of learning actions.

The provision of this media is important. Based on interviews with several teachers, teachers are currently burdened with the administrative tasks of preparing learning tools such as the making of learning implementation plans, teaching materials, evaluation tools, and reporting of evaluation results, in addition to implementing learning in fulfilling obligation as compensation for receiving certification allowances. Pradana (2017) stated that, nowadays, the claims for teachers is quite a lot. In the past, the important task of the teachers was teaching, but now, besides teaching quite hard, the teacher also carries out administrative duties.

Another reason is the technical ability of teachers in using computers is still relatively limited, both for designing as well as implementing multimedia, whereas, Antonietti and Giorgetti (2006) state that multimedia learning requires teachers to be skilled at using computers. Research conducted by Putri *et al.* (2016) shows that the low ability of teachers to use computer devices to design or implement multimedia is a problem in the use of multimedia in learning.

The severity of teacher workloads and the low ability of teachers to use computers is the cause of the low level of use of interactive multimedia. The results of the defining phase of this study indicate that teachers still tend to not be maximally using learning media, even though they already have a PC, laptop, tablet, or smartphone/gadget that can operate various learning media (Fikri *et al.*, 2017). Rozie (2018) also shows that teachers rarely use learning media. In fact, many research results indicate the importance of the role of the media in managing effective language learning. Amin *et al.* (2018) stated that the use of the latest multimedia is important thing in teaching language. Using multimedia to deliver their materials making the class interesting.

Good learning media are characterized by high validity, practicality and effectiveness. For this reason, development needs to be done with steps that are valid, namely through the application of research and development (R & D) methods.

The researcher has designed an interactive multimedia for Indonesian language learning at 5th grade student of elementary school that contains character education. This media can also be used by students at home, either using a personal computer (PC), laptop, tablet, or smartphone/gadget (Fikri *et al.*, 2017; Fikri and Madona, 2017).

Based on expert opinion and limited trials, it was found that the media designed was valid, practical and effective to use. However, to increase confidence in practicality and effectiveness, this media need to be tested on a large scale. This paper is based on the results of a large-scale trial carried out in five public elementary schools in the Padang Timur Sub-district. The aspects studied were the practicality and effectiveness of the use of interactive multimedia for learning Indonesian. Thus, the purpose of this paper is to explain the practicality and effectiveness of interactive multimedia in Indonesian language learning at 5th grade of elementary school.

2. Literature Review

Interactive media development is based on the idea that learning activities will take place well, effectively, and pleasantly if supported by learning media that can attract children's interest and attention and can be operated by students themselves. With the media, various sensory devices of students will be involved in both the senses of sight, hearing, touch, and even motion. Lanre (2018) states that multimedia is one of the best educational techniques because it can generate more than one sense simultaneously. It is assumed that the more sense devices involved, the learning will be easily understood by students and the retention will last long.

In addition, interactive multimedia can accommodate a variety of student learning types, namely auditory, visual, or kinesthetic. By using multimedia, there are no students who are 'neglected' even though they have different types of learning.

Abdullah (2017) states that computer programs are recognized as the most effective in helping student-centered learning. In line with the both experts, Wang and He (2014) states that the use of reasonable multimedia technology will increase students 'interest in learning, spur students' understanding of the content of the lesson and explore relevant issues.

Multimedia allows students to explore and learn with different steps so that they have the opportunity to learn according to their potential (Neo Ken and Neo, 2004). This means that multimedia can serve the individual differences of students. In line with that, based on the opinion of Issa, Cox, and Killingsworth; West and Crook; and Bartlett and Strough, Yamauchi (2008) formulate some reasons why multimedia-based learning to be efficient and effective. Firstly, students can learn according to their own pace so that they are not bound by group learning arrangements that often hinder the natural development of certain students. Secondly, multimedia can enhance learner interaction with the teaching material. Thirdly, giving autonomy to students in the learning process, meaning that the sense of responsibility shifts from teacher to student. In addition to the benefits for students, multimedia can be useful for teachers who teach the same subjects in several parallel classes because multimedia ensures uniformity of teaching material in all parallel classes.

Several studies have been conducted on interactive multimedia in language learning by several researchers. Among of the studies are as follows. *Firstly*, studies found that computers are very convenient for transmitting images and information to help with fable learning. *Secondly*, research results of research conducted by Nur *et al.* (2013) showed that with the help of audio-visual media can improve student activities and skills in learning to write narratives. *Thirdly*, (Abdullah, 2017) reviewed two studies on the effect of computer-assisted learning (CAI) in reading learning. *Fourthly*, research conducted by Sholikhah and Yusuf (2017) showing that interactive multimedia can improve the learning outcomes of early reading for SLB students. *Fifthly*, (Jeena and Veliappan, 2017) reviewed the research about multimedia in language and literacy learning, namely communicative skills learning and environmental literacy learning, while Jeena and Veliappan (2017) it shows that multimedia has great potential and plays an important role in environmental literacy. *Sixthly*, research conducted by Triarini *et al.* (2017) concluded that media use can improve students' reading skills.

3. Methodology

Overall, this research is research and development (R & D), which is a research oriented to develop products, with 4-D model, consist of four phases, namely define, design, develop, and disseminate. In particular, this article was compiled based on the results of the development phase, namely a large-scale trial at 5th grade in five elementary schools in the Padang Timur Sub-district.

In accordance with the specific objectives of this activity, namely explaining the practicality and effectiveness of the product interactive multimedia, the research method that used is a mixed method, which is a combination of quantitative and qualitative research.

The subjects in this study were 5th grade students and teachers in five public elementary schools (Sekolah Dasar Negeri/SDN) in Padang Timur Sub-district area, namely SDN 26 Jati Utara, SDN 05 Sawahan, SDN 32 Andalas, SDN 06 Simpang Haru, SDN 29 Gantiang Utara. The appointment of the five schools was conducted by the chairperson of the Principal Working Group (Kelompok Kerja Kepala Sekolah/K3S) of Padang Timur Sub-district.

The data in this study are (1) the perceptions of students and teachers about the practicality of the media after the trial, (2) the results of student final tests after the trial, (3) recording of student activities during the trial. Practicality data will be collected through a questionnaire filled out by students and teachers. Student learning

outcomes will be collected through an objective test. Data about student activities will be collected through the camera and field notes.

The analysis procedure of practicality data is, firstly, adds the total score for each indicator. Secondly, calculates Respondent Achievement Level (RAL). Thirdly, interprets RAL based on categories as listed in Table 1.

Table-1. The Criteria of RAL

No.	RAL (%)	Category
1	90 – 100	Very good
2	80 – 89,99	Good
3	65 – 79,99	Good enough
4	55 – 64,99	Not good
5	0 – 54,99	Very not good

Fourthly, calculates the value of practicality. Thirdly, interprets practice based on categories as listed in Table 2.

Table-2. Category of Practicality

No	Value	Criteria
1	$80\% < x \leq 100\%$	Very practical
2	$60\% < x \leq 80\%$	Practical
3	$40\% < x \leq 60\%$	Practical enough
4	$20\% < x \leq 40\%$	Less practical
5	$0\% < x \leq 20\%$	Not practical

Source: Modified from (Riduwan, 2009)

The step was taken to determine the effectiveness of the media from the post-test results is, firstly, calculates the average value of each school and the total of all schools. Secondly, converses the value based on categories as listed in Table 3.

Table-3. Value Conversion

No.	Category Range (%)	Category
1	81-100	Very good
2	61-80	Good
3	41-60	Good enough
4	21-40	Not good
5	1-20	Very bad

Thirdly, calculates the percentage of success of student learning outcomes in classical by total of students who complete then divided by the total number of students and multiplied by 100 percent. Fourthly, interprets the value based on categories as listed in Table 4.

Table-4. Category of Effectiveness

No.	Value	Category
1	81%-100%	Very effective
2	61%-80%	Effective
3	31%-60%	Not effective
4	0%-30%	Very not Effective

Modified from (Riduwan, 2009)

To determine the effectiveness of the media from the point of view of student activity, the step taken is to look at the form of student activity from recorded photos and videos and then look for trends that occur, both in frequency as well as impact.

4. Results and Findings

The tryout was carried out in 5 public elementary schools in the Padang Timur Sub-district. Principals and 5th grade teachers in each school have clearly known the objectives and activities of this tryout because previously they have been involved in the Focus Group Discussion held on July 13, 2018. The material taught is adjusted to the presentation schedule of the material in each school. The timing of the trial and the number of respondents in the five schools can be seen in Table 5.

Table-5. Name of Schools, Schedule and Respondents' of Try Out

No.	Name of School	Schedules	Respondents	
			Teachers	Students
1	SDN 26 Jati Utara	9 August 2018	1	20
2	SDN 05 Sawahan	13 August 2018	1	31
3	SDN 32 Andalas	20 August 2018	1	29
4	SDN 06 Simpang Haru	24 August 2018	1	26
5	SDN 29 Gantiang Utara	27 August 2018	1	24
Total			5	130

Source: Primer Data

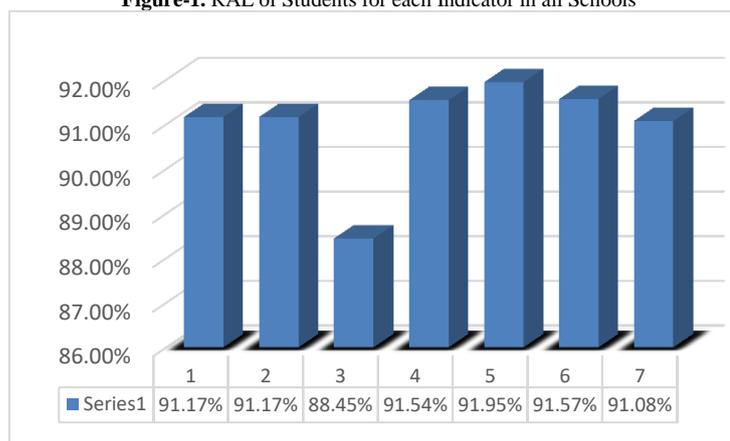
4.1. Practicality of Media

4.1.1. Practicality of Media Based on Students Point of View

After the material presentation and post-test were carried out in each class, students were asked to fill out a questionnaire. The questionnaire contains ten indicators, namely: (1) the attractiveness of the appearance of the media to be studied, (2) the pleasure in learning by using media, (3) the easiness in using media, (4) the function of presence of images or videos to clarify material, (5) understanding of the material in the media, (6) the attractiveness of writing, illustration/image and animation in the media, (7) the understanding of the benefits of media in learning, (8) the understanding of the language used in the media, (9) the enthusiasm to follow a similar model of learning, and (10) the suitability of the media usage with the time available.

The highest average score of students' answers is on indicator 5 (4.60) while the lowest score is on indicators 3 and 10 (4.42). Totally, the average score of the student's answer is 4.53. The scores of each indicator of each school are changed to RAL. RAL for all indicators in 5 schools is 90.64% with the highest value found in indicator 5 (91.95%) and the lowest one on indicator 10 (88.39%). Thus, when compared with the criteria in Table 5. It is seen that the average and highest RAL are in the very good category, while the lowest RAL is in the good category. Overall, all RAL indicators in all schools can be seen in Figure 1.

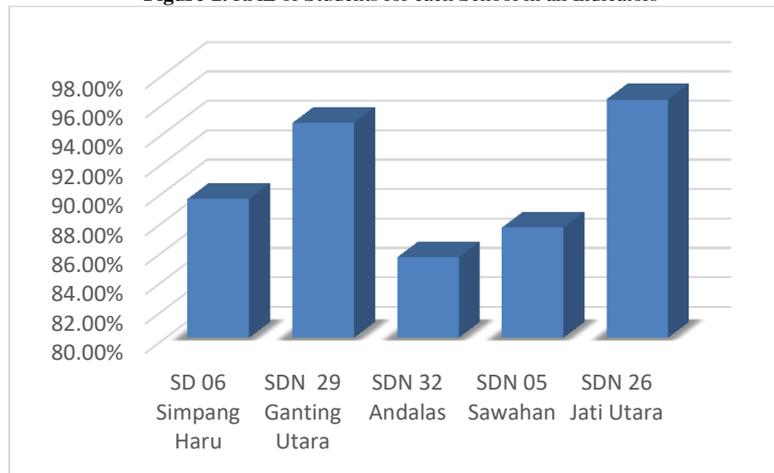
Figure-1. RAL of Students for each Indicator in all Schools



From Figure 1, it can be seen that the indicator 5 i.e. understanding of the material in the media the attractiveness of writing, illustration/image and animation in the media (91.95%) is categorized very good which are sequentially followed by indicators 6 i.e. the function of presence of images or videos to clarify material (91.57%), indicator 4 i.e. the attractiveness of the appearance of the media to be studied (91.54%), indicator 1 i.e. the attractiveness of the appearance of the media to be studied (91.17%), indicator 7 i.e. the understanding of the benefits of media in learning (91.08%), indicator 8 i.e. the understanding of the language used in the media (90.90%), and indicator 9 i.e. the enthusiasm to follow a similar model of learning (90.17%), while indicators 3 the easiness in using media, (88.45%) and 10 the suitability of the media usage with the time available (88.39) are categorized as good..

Based on school, the highest RAL was given by SDN 26 Jati Utara (96.20%), while the lowest one was given by SDN 32 Andalas (85.47%). Overall, the RAL according to the school can be seen in Figure 2.

Figure-2. RAL of Students for each School in all Indicators



From figure 2, it can be seen that the RAL was three among five schools, namely SDN 06 Simpang Haru (89.43%), followed sequentially by SDN 05 Sawahan (87.48%), and SDN 32 Andalas (85.47%) categorized as good. The other two schools, namely SDN 26 Jati Utara (96.20%) and SDN 29 North Ganting (94.60) are categorized very good.

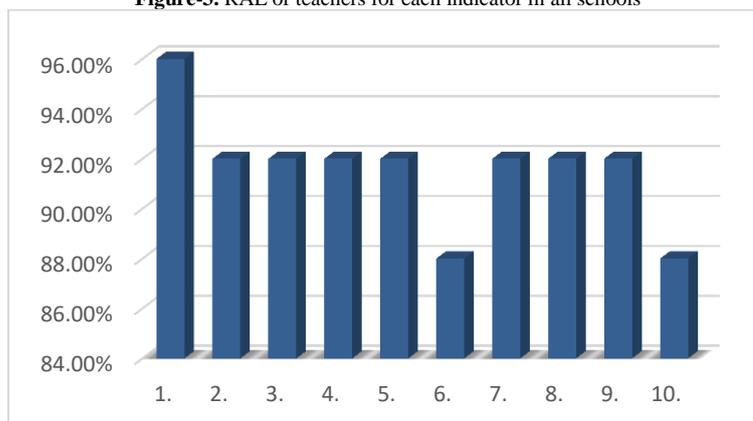
If the RAL is converted into a practical category based on the criteria in table 6, the average of the response of all students, both according to indicators as well as schools were categorized as very effective because the values is in the range of $80\% < x \leq 100\%$.

4.1.2. Practicality of Media Based on Teachers Point of View

When conducting large scale tryout according to schedule, the research team also asked the teacher to fill out the practicality questionnaire. The practicality indicators contained in the questionnaire by the teacher are: (1) the easiness in teaching by using media as whole, (2) the easiness of delivering the learning objectives through the media, (3) the suitability of the steps in usage the media with the available time, (4) the suitability of the overall media usage with the time available, (5) the function of images in the media to make teaching easier, (6) the suitability of placement of illustration, sound and video with sequences of material presentation, (7) the conformity of text in media with the Indonesian spelling, (8) the effectiveness of sentences in media, (9) the suitability of the character education content with students, and (10) the conformity of character education content with the text in the media.

The highest average score of the teacher's answer is on indicator 1 (4.80) while the lowest score is on indicators 6 and 10 (4.4). Totally, average score of the teacher's answer is 4.58. The scores of each indicator of each school are changed to RAL. RAL for all indicators in 5 schools is 91.60% with the highest value found in indicator 1 (96.00%) and the lowest value found in indicator 6 and 10 (88.00%). Thus, when compared with the criteria in Table 5. It is seen that the average and highest RAL are in the very good category, while the lowest RAL is in the good category. Overall, RAL indicators in all schools can be seen in Figure 3.

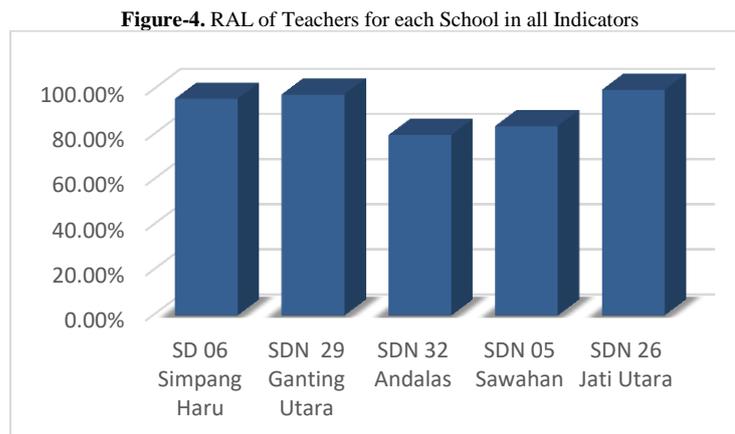
Figure-3. RAL of teachers for each indicator in all schools



From Figure 3, it can be seen that the indicator 1 i.e. the easiness in teaching by using media as whole (96.00%) is categorized very good which are followed by indicators 2 i.e. the easiness of delivering the learning objectives through the media, indicator 3 i.e. the suitability of the steps in usage the media with the available time, indicator 4 i.e. the suitability of the overall media usage with the time available, indicator 5 i.e. the function of images in the media to make teaching easier, indicator 7 i.e. the conformity of text in media with the Indonesian spelling, indicator 8 i.e. the effectiveness of sentences in media, indicator 9 i.e. the suitability of the character education content with students (92%). Meanwhile, indicators 6 namely the suitability of placement of illustration, sound and video with

sequences of material presentation and indicator 10 namely the conformity of character education content with the text in the media are categorized as good..

Based on school, the highest RAL was given by SDN 26 Jati Utara (96.20%), while the lowest one was given by SDN 32 Andalas (85.47%). Overall, the RAL according to the school can be seen in Figure 4.



From graph 2, it can be seen that RAL three among five schools, namely SDN 26 Jati Utara (100%), followed by SDN 29 North Ganting (98.00%), and SDN 06 Simpang Haru (90.00%) are categorized very good. Another two schools, namely SDN 05 Sawahan (84.00%) and SDN 32 Andalas (80.00%) are categorized good.

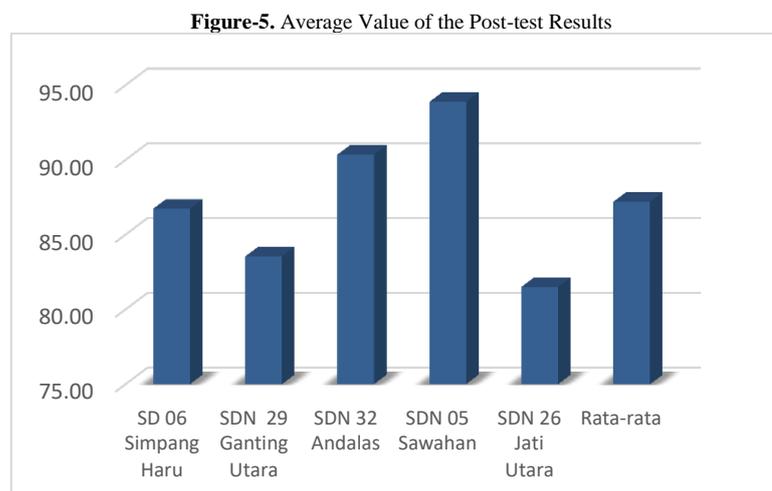
If the RAL is converted into a practical category based on the criteria, the average responses of all students, both according to indicators as well as schools is categorized very effective because it is in the range of $80\% < x \leq 100\%$.

Based on the results of data analysis about practicality, it can be concluded that the large-scale try-out prove that the media designed is very practical, both from student and teacher responses. Thus, the media developed can be disseminated to 5th grade students of Elementary School.

4.2. Effectiveness of Media

4.2.1. Effectiveness Based on the Results of Learning Outcomes

The Post-test is given to students after learning using the interactive multimedia. The examination material is adjusted to the teaching material that is practiced in each school. Student scores are processed with a range of 1-100. From the processing of values, it was found that the highest value obtained by students was 100 while the lowest score was 55 with an average value of 87.20 and mode 90. Overall, the average value of students according to school can be seen in Figure 5.



From Graph 5 it can be seen that the student learning outcomes are categorized very good compared to value conversion in Table 3 because it is in the range 81-100. The highest score was obtained by students of SDN 05 Sawahan (93.87), followed sequentially by SDN 32 Andalas (90.34), SDN 06 Simpang Haru 86.73, SDN 29 Gantiang Utara (83.54), and SDN 26 Jati Utara (81.50). If compared with the minimum completeness criteria of Indonesian language learning in the pilot school of 80, the average score of the students is above the level of completeness.

From the value of each student, it can be seen that 109 students (83.85%) have reached the minimum criteria of completeness, and only 21 students have not reached the criteria yet (16.15%). Grouply the post-test results are categorized as complete. If it is associated with the category of effectiveness in Table 4, the student learning outcomes are categorized as very effective because they are in the range of 81% -100%

4.2.2. Effectiveness Based on Students Activity

During the learning process using interactive multimedia, students look very enthusiastic in learning. A little commotion occurs at the beginning of learning because their local is rearranged for group learning. They began to seriously take part in learning when the teacher explained the usage of media through the example on the laptop projected with the LCD projector to the whiteboard.

Their enthusiasm is increasing when they start using tablets to operate the media. Although there was a little bit of learning disorganization with the group, this was natural because each group consisting of 5 to 6 students only operated one tablet. So, they were asked to use the equipment alternately. They start to learn the material seriously through the media in their hands, while some of the other students in the group took notice and gave responses.

After students take turns using tablets in groups, the teacher asks them to operate the media through the teacher's laptop projected with the LCD. In this process, once again, they look very enthusiastic. They point hands to ask for opportunities, sometimes even with voices.

These events happened to almost all students in the five schools where large scale tryout was conducted. Thus, it was concluded that the use of media is very effective to grow and increase student activity in Indonesian language learning in 5th grade of elementary schools.

The high level of practicality and effectiveness of the interactive multimedia is because it is designed by combining various media, namely text as a base for language learning, image/picture, sound, and video. Moreover, the media is operated by students, both in groups by using tablets or alternately in front of the class using the teacher's laptop. This is in accordance with the learning principle that the more sensory tools are involved, the faster the student's understanding and the longer the retention. In addition, the incorporation of various media also accommodates differences in student learning types. This is consistent with the characteristics of elementary school-age children, namely (1) happy to play so that learning materials are made in the form of games, but still pay attention to the achievement of teaching material, (2) enjoy moving so learning should condition children to always move dynamically, (3) happy activities in groups so that classroom learning can be made with group assignment models, and (4) happy direct practice, so it is very effective in combination with direct practice (Abdul Alim in Burhein (2017)).

In detail, the practical level of this media can be explained as follows. The reason for highest tendency occurs in the indicator of understanding material in the media is the material is packaged in an attractive appearance and the contents are adjusted to students' textbooks. This is proven by the student learning outcomes which are above the minimum completeness criteria, both individually and in groups. This conclusion is supported by the existence of indicators in the second highest order, namely the attractiveness of text, illustration/animation of the media, and the third highest order, namely the function of images or videos to clarify the material and the fourth highest order namely the attractiveness of the appearance of the media to be studied.

With these conditions, it is only natural that they understand the benefits of media in learning. The high level of understanding of the language used in the media is caused by the text in the media created by the book development team, which of course has taken into account the level of readability while the instructions in the media are arranged by the researcher and validated by the expert, so it is readability level is high too. This argument also explains the reason for the high enthusiasm for following a similar model of learning.

Although the indicator of easiness in using media and the suitability of the media usage with the time available is relatively lower in category, but still in the good category. This happens because the available time and tools cannot accommodate all students to use the media freely, so they assess that suitability of time for learning is low.

These findings are in line with expert opinion that multimedia technology if prepared as well as possible can affect the effectiveness of learning to read and assist in the teaching and learning process (Pasnik *et al.*, 2007). Lindstrom (in Neo and Neo (2004)) also states that multimedia provide a means to complement teachers' efforts to gather attention, increase retention, increase understanding, and bring students into agreement. Some studies show the role of multimedia in improving learning processes and outcomes. Research conducted by Zaini and Ahmad (2011) shows that media with game elements that offer attention, curiosity, fun, enjoyment tend to increase students' interest in learning. Research results conducted by Nur *et al.* (2013) showed that with the help of audiovisual media can improve student activities and skills in learning to write narratives. Experimental research conducted by Zulfriti (2014) also concluded that multimedia can improve the students' ability in early reading.

5. Conclusion

Based on data analysis and discussion, it can be concluded as follows. Firtly, in terms of practicality, it can be seen that (a) the media is very practical in terms of student responses because the average score of students' answers is 4.53, RAL for all indicators in 5 schools is 90.64%, and the average of responses from all students, both according to indicators as well as schools were categorized very effective because the values are in the range of $80\% < x \leq 100\%$, (b) the media is very practical seen from the teacher's response because the average score of teachers' answers is 4.58, RAL for all indicators in 5 schools are 91.60%, and the average values of responses from all teachers, both according to indicators as well as schools, are in the range of $80\% < x \leq 100\%$. So, the large-scale try-out proves that the media is designed to be very practical, both from student and teacher responses.

Second, in terms of practicality, it can be seen that (a) the media is very effective based on learning outcomes, because the average value of students in post-test is 87.20 and 83.85% of students have reached the minimum criteria of completeness, so in a group they have reached this criteria too, (b) the media is very effective based on students' activity, because students look very active and enthusiastic in learning. So, it can be concluded that the large scale

tryout proves that the media is very effective for growing and increasing student activity in Indonesian language learning in 5th grade of elementary schools.

Acknowledgement

This research work is supported by the Director General of Higher Education (Dirjen DIkti), the Chancellor of the University of Bung Hatta, the Chairman of the LPPM Bung Hatta University, the Dean of the Teacher Training and Education Faculty, the Director of Graduate Program of the Bung Hatta University, the UPTD Coordinator and Chairman of the Principal Working Group (Kelompok Kerja Kepala Sekolah/K3S) Padang Timur Sub-District.

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