International Journal of Engineering & Technology, 7 (3.2) (2018) 747-750

SPC

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper



Eligibility Multimedia Interactive Language Skills Learning for Primary School Teacher Education

Biya Ebi Praheto[1]*, Andayani [2], Muhammad Rohmadi [3], Nugraheni Eko Wardani [4]

[1]*Primary School Teacher Education Department Universitas Sarjanawiyata Tamansiswa Yogyakarta, Indonesia*
[1,2,3,4] *Doctoral Program of Indoneian Language Education, Sebelas Maret University, Surakarta, Indonesia*
**Corresponding author E-mail: biya.ebi@ustjogja.ac.id*

Abstract

This study aims to determine the eligibility of interactive multimedia for Indonesian language skills courses in Primary School Teacher Education Study Program. This study is part of the development research at the limited trial stage. This research was conducted in university Sarjanawiyata Tamansiswa in the even semester of the academic year 2017/2018. The object of this research is the students who taught the subjects of Indonesian language skills, lecturers of Indonesian language skills courses, media experts and material experts. Based on the results of eligibility assessment from the expert, material expert, media experts, and users both lecturers and students can be seen that interactive multimedia skills in Indonesian language is declared eligible with the good category. The results of the assessment are media experts with a score of 3.38 percentages 67.63%, material expert score 4.41 percentage 88.14%, lecturer score 4.25 percentages 85% and students 4.42 percentages 88.43%. The average eligibility score of 4.12 with 82.3% percentages is in very good category.

Keywords: *interactive multimedia, language skill, properness, primary school teacher education*

1. Introduction

The main components in learning are teachers, students, learning materials and learning media. One factor that can influence the success of the learning process is the use of instructional media [1], [2]. Learning media has an important role in learning activities because it facilitates teachers to deliver materials to students in learning activities [3]–[6]. Learning media helps teachers to deliver learning materials and help students to understand learning materials. As education always evolves following the advancement of technology, as well as the development of learning media always follow the development of technology. It proved that technology has accompanied the learning process and language teaching for many years [7]. In the development of learning media switch from conventional media to computer-based media. The existence of computers has helped teachers of various interests related to their work in designing, applying and learning evaluation [8]. In addition, Technology provides so many options such as making interesting teaching and also making teaching more productive in terms of improvement [9]. Learning media is important not only for primary school but also it is important to the college. One of them is in primary school teacher education program. In this program the study requires many students to master various fields of science because students are prospective of primary school teachers. One of them is the language skills courses in Indonesia. This course is a course which must be taken by students and become important courses. The course requires students to master the four aspects of language skills that is, listening, speaking, reading, and writing.

In the implementation of Indonesian language skills learning in primary school teacher education programs there are some obstacles. One of them is the limited of learning media Indonesian language skills. The lack of learning media has an impact on students' difficulties to learn. Because of that the researcher developed an interactive multimedia of Indonesian language skills that aims to help students to learn Indonesian skills and help lecturers to deliver learning materials in the classroom. Interactive multimedia is a media based on computer technology. The use of technology in various fields has been so successful and beneficial for teachers to achieve some goals especially in education [10]. The adoption and the use of multimedia in the curriculum is one of the most interesting innovations in the 21st century [11]. In addition, e-learning technology is increasingly used in teaching to improve teaching and learning [12]. Multimedia is a combination of various forms of content. This includes a combination of text, audio, motionless images, animation, video, or interactivity content. Usually recorded and played, displayed, or accessed by information content processing devices, such as computer and electronic devices [13].

The majority of multimedia educational applications categorized as an interactive graphics application. The app is a fully multimedia tool capable of handling all media formats, as well as providing interactivity with users [14]. It also became one of the basic developing of interactive multimedia Indonesian language skills. This interactive multimedia is intended for primary school teacher education program and is made through the adobe flash program. Interactivity in multimedia is shown in the freedom of the user to choose the material to be studied with the availability several menus. The menu includes the home, materials, games, music, profiles, and references. In the material menu there are four main materials namely listening, speaking, reading, and biting skills. The materials are also equipped with examples of both pictures, videos, and are equipped with practices to train students' language skills [15].

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Some previous studies related to multimedia in language skills learning include studies that examine the effectiveness of Multimedia Interactive Packages in developing communicative skills in English in standard VI [16]. In addition there are also studies that examine the effectiveness in learning English in college [17]. Other studies examine the impact of instructional constructs that are driven on increasing Higher Order Cognitive Skills (HOCS) when using multimedia and text material [18]. Then there are also developing multimedia storybooks for learning vocabulary for students who have difficulty hearing or deaf [19]. In addition, there is also a study of the influence of Multimedia Approaches Teaching and Learning-Based Tasks on EFL Learners in the skills of oral skills [20]. Other research related to Implementation of Multimedia Learning Material in Teaching English Speaking Skills [21]. In addition, there are also research that aims to improve the ability to listen through interactive multimedia [22]. Looking at some previous research has not found the development of interactive multimedia skills of Indonesian language for primary school teacher education programs. It makes the interactive multimedia of Indonesian language skills good for further development in the next stage.

To obtain an interactive multimedia skill of quality Indonesian language hence required the assessment of material experts and media experts, as well as limited trials of users. It aims to assess the eligibility of interactive multimedia as well as to explore the inputs of media experts, material experts, and users for multimedia improvement so it is eligible to proceed at a next stage.

2. Methods

This research is part of a research development on the Eligibility phase of media experts and material experts, as well as limited trials. This type of research is a qualitative research which is conducted in the even semester of academic year 2017/2018. The media expert Eligibility tester is Prof. Dr. Abdul Ghofur, M.Sc. and material experts namely Prof. Dr. Suhardi, M.Pd, both experts are from Yogyakarta State University. As for the limited test is conducted in the educational program of primary school teachers in Sarjanawiyata Tamansiswa University of Yogyakarta. In the limited test phase conducted in 4H class with the number of 30 students and Octavian Muning Sayekti, M.Pd. as a lecturer Indonesian language skills subjects.

This study focuses on the assessment of the Eligibility of interactive multimedia skills of Indonesian language by media experts, material experts and users both lecturers and students. Data is taken through questionnaires, interviews, and documentation. Data were analyzed descriptively qualitative. The data analysis consists of three simultaneous activity flow, data reduction, data presentation, and conclusion or verification [23].

3. Result

Interactive multimedia of Indonesian language skill is created using adobe flash program. There are several main menu in the interactive multimedia, and those are: home menu, semester learning Plan menu, material menu, Games menu, Music menu, profiles menu, and references menu. The home menu displayed welcoming screen. Then, the semester learning plans menu contains learning objectives, learning achievements and learning plan materials for one semester. Furthermore, the material menu, on this menu there are 4 main material such as listening skills, speaking skills, reading skills, and writing skills. These materials not only contain theories but also are equipped by the examples and practices. Then, the game menu and Music menu. Both menus are intended to make the multimedia more interesting. Games which contained in the multimedia, categorized as puzzle game which challenge the user to arrange number. That activities aims to refresh students mood to avoid boring when learning. In addition, there is a music menu that contains some songs that can be chosen by user as music back sound while using interactive multimedia. Then the profile menu and reference menu. The profile menu contained the biodata of the interactive multimedia user, while the reference menu contains a list of references which is used in the presentation of interactive multimedia materials. Here is a welcoming screen of the interactive multimedia skills of Indonesian language.



Fig. 1: Welcoming Screen

It can be seen in the figure above there are some menus in the welcoming screen that can be selected by the user. it is necessary to have a Eligibility test by media experts and material experts in purpose to develop further this program, as well as limited testing as users test is conducted by lecturers and students. Based on the Eligibility test obtained the following results.

Media Expert Eligibility Test

Eligibility tests which is conducted by media experts emphasized on the form and display of interactive multimedia in Indonesian language skills. The results are shown in the table below.

Table 1: The result of Eligibility Test Media Expert

Aspect	score	Percentage %
Layout Design	4	80
Text/Typography	3	60
Image	3	60
Animation	3	60
Audio	3	60
Video	3,5	70
Packaging	3,33	66,67
Usage	3,6	72
Navigation and Interactive Links	4	80
Average	3,38	67,63

Based on table 1 above, it can be seen aspects of the media experts assessment include layout design, text/typography, image, animation, audio, video, packaging, usage, as well as Navigation and Interactive Links. It can be known for the assessment of media experts has an average score of 3.38 with a percentage of 67.63% are in good category. There are some improvement notes by media experts such as enlarged text size, made more colorful, and multiplied the video, image and animation.

Material Expert Eligibility Test

The Eligibility test conducted by the material expert is emphasized on the quality of the of Indonesian language skill material which includes four skills of listening, speaking, reading, and writing. The results of the Eligibility test of the material expert described in the table below.

Table 2: The Results of Eligibility material expert

Aspect	Score	Percentage %
Semester Learning Plan	4,67	93,33
Content Material	4,33	86,67
Learning	4,43	88,57
Linguistic	4,2	84
Average	**4,41**	**88,14**

It can be seen in table 2, the aspects of interactive multimedia assessment by material experts. These aspects are semester learn-

ing plan, content material, learning, and linguistic. Based on the table above it can be seen the average value of the Eligibility of the expert score 4.41 with the percentage of 88.14% are in very good category. There are some improvement notes from the material experts, such as correcting some of the terms that are misused, adding material about children's literature, and reproduced examples that appear.

The user Eligibility test of the lecturer

Eligibility test which is conducted by the user is the lecturer, emphasized on the aspect of the usage of interactive multimedia when used in the process of learning in the classroom. The results of the Eligibility test of lecturer users are shown in the table below.

Table 3: The Results of Eligibility test of the lecturer

Aspect	score	Percentage %
Software	4,67	93,33
Instructional design	4	80
Language	4	80
Audio and visual communications	4,33	86,67
Effects for learning strategies	4,25	85
Average	**4,25**	**85**

Based on table 3 above can be seen the assessment aspects by the use of lecturers include aspects of software, instructional design, language, audio and visual communications, effects for learning strategies. The results of the assessment of lecturer users showed the average score of 4.25 with the percentage of 85% was in very good category. There are some inputs by lecturers of Indonesian language skills subjects to interactive multimedia, such as increase the size of letter and display material systematically.

User Eligibility Test of Student

The Eligibility test conducted by the user, Student, is emphasized on the usage of interactive multimedia aspects when used in the learning process in the classroom or outside the classroom. The result of the student's Eligibility test is shown in the table below.

Table 4: The results of User Eligibility Test of Student

Aspect	score	Percentage %
Software	4,5	90
Instructional design	4,3	86
Language	4,37	87,33
Audio and visual communications	4,44	88,81
Effects for learning strategies	4,5	90
Average	**4,42**	**88,43**

Based on table 4 above, it can be seen that the assessment aspects by the user such as students include aspects of software, instructional design, learning design, language, audio and visual communications, and effects for learning strategies. The results of the assessment of lecturer users showed an average score of 4.42 with a percentage of 88.43% was in very good category. There are some inputs from students of Indonesian language skills subjects to interactive multimedia such as enlarged letter size and improved sound effects on buttons into more interesting.

Assessment on expert Eligibility tests and user-limited testing is an important part of development research. The assessment is used to improve the product in the form of interactive multimedia so that it is feasible to be tested on extensive test and effectiveness test. Overall assessment of the Eligibility test of both media experts, material experts and users can be seen in the following tables and diagrams.

Tabel 5: Eligibility Result

Evaluator	Score	Percentage
Media Expert	3,38	67,63
Material Expert	4,41	88,14
Lecturer	4,25	85
Student	4,42	88,43
Average	4,12	82,3

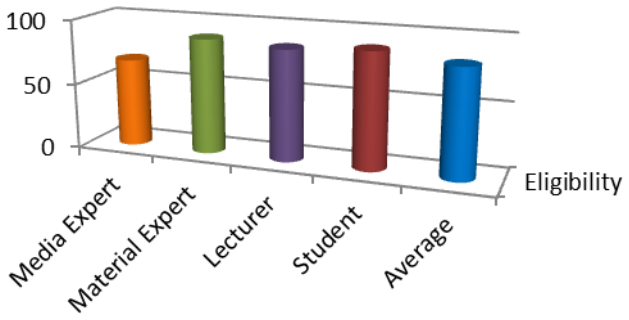


Diagram 1: Eligibility score

Table 5 and diagram 1 show the Eligibility test scores performed by media experts, materials experts and users both lecturers and students. The data shows score value from media expert 3,38 with percentage 67,63%; score of expert material assessment 4.41 with percentage 88,14%; score assessment of lecturers of Indonesian language skills subject 4.25 with percentage of 85%; and score of student appraisal 4,42 with percentage 88,43%. Based on each value, it can be seen the value of interactive multimedia worthiness as a whole which is the average score value of 4.12 with 82.3% percentage. The value indicates the category is very good, so it can be said that the interactive multimedia skills of Indonesian language is very worthy to be tested more widely with some notes that have been given by media experts, material experts, lecturers, and students.

4. Conclusion

Interactive multimedia is one type of media in learning that plays an important role in the learning process. Similarly, the development of interactive multimedia skills in Indonesian language aims to assist lecturers in conveying learning and assist students in understanding the learning materials in the primary school teacher education program. The interactive multimedia of Indonesian language skills contains materials which related to the four skills of listening, speaking, reading and writing. This interactive multimedia is developed using adobe flash program to make it look more interesting. Based on the results of expert Eligibility tests and limited user testing can be known the eligibility of interactive multimedia skills of Indonesian language. The results show the score of expert media assessment of 3.38 with a percentage of 67.63% in good categories and material experts of 4.41 with a percentage of 88.14% in very good category. Then for the user is the lecturer assessment of 4.25 with the percentage of 85% in very good category and student ratings of 4.42 with the percentage of 88.43% in very good category. For the average value as a whole shows the value of 4.12 with 82.3% percentage in very good category. Based on the assessment it can be concluded that the interactive multimedia of Indonesian language skills for primary school teacher education program is very Eligible to be used with some improvements such as increasing the font size, made more colorful, multiply examples and multiply video / animation / Image..

Acknowledgement

Acknowledgments are addressed to the Ministry of Research Technology and Higher Education of the Republic of Indonesia with full support through the Doctorate Research dissertation grant program under contract number: PDD.DIKTI.02/UST/LP3M/K/III/2018.

References

[1] A. Tenri Ampa, M. Amin Rasyid, M. Asfah Rahman, H. Haryanto, and M. Basri D., "The Implementation of Multimedia Learning Materials in Teaching English Speaking Skills," *Int. J. English Lang. Educ.*, vol. 1, no. 3, p. 293, 2013.

[2] S. Sriadhi, R. Rahim, and A. S. Ahmar, "RC4 Algorithm Visualization for Cryptography Education," *J. Phys. Conf. Ser.*, vol. 1028, no. 1, p. 012057, Jun. 2018.

[3] D. Y. Saputri, Rukayah, and M. Indriayu, "Need Assessment of Interactive Multimedia Based on Game in Elementary School : A Challenge into Learning in 21 st Century," *Int. J. Educ. Res. Rev. Need*, vol. 3, no. 3, pp. 1–8, 2018.

[4] E. Kartikadarma, T. Listyorini, and R. Rahim, "An Android mobile RC4 simulation for education," *World Trans. Eng. Technol. Educ.*, vol. 16, no. 1, pp. 75–79, 2018.

[5] N. Nasrudin, I. Agustina, A. Akrim, A. S. Ahmar, and R. Rahim, "Multimedia educational game approach for psychological conditional," *Int. J. Eng. Technol.*, vol. 7, no. 2.9, pp. 78–81, 2018.

[6] J. Simarmata *et al.*, "Prototype Application Multimedia Learning for Teaching Basic English," *Int. J. Eng. Technol.*, vol. 7, no. 2.12, pp. 264–266, Apr. 2018.

[7] M. Tayebinik and M. Puteh, "Mobile Learning to Support Teaching English as a Second Language," *J. Educ. Pract.*, vol. 3, no. 7, pp. 56–63, 2012.

[8] W. Wiana, "Application Design Of Interactive Multimedia Development Based Motion Graphic On Making Fashion Design Learning In Digital Format," vol. 6, no. 05, pp. 102–108, 2017.

[9] C. Patel, "Use of Multimedia Technology in Teaching and Learning communication skill " : An Analysis," *Int. J. Adv. Res. Technol.*, vol. 2, no. 7, pp. 116–123, 2013.

[10] E. Amiri and L. Branch, "A Study of The Application of Digital Technologies In Teaching And Learning English Language And Literature," vol. 1, no. 5, pp. 103–107, 2012.

[11] A. Chigona, "Using multimedia technology to build a community of practice: Pre-service teachers' and digital storytelling in South Africa.," *Int. J. Educ. Dev. using Inf. Commun. Technol.*, vol. 9, no. 3, pp. 17–27, 2013.

[12] M. J. Riasati, N. Allahyar, and K.-E. Tan, "Technology in Language Education: Benefits and Barriers," *J. Educ. Pract.*, vol. 3, no. 5, pp. 25–30, 2012.

[13] I. Journal, E. Language, T. Vol, E. Centre, and D. Uk, "USE OF MULTIMEDIA TECHNOLOGIES IN ENGLISH LANGUAGE LEARNING: A STUDY Simhachalam Thamarana," *Int. J. English Lang. Teach.*, vol. 4, no. 8, pp. 15–30, 2016.

[14] A. A. Mohd Elmagzoub Babiker, "For Effective Use of Multimedia in Education, Teachers Must Develop their Own Educational Multimedia Applications," vol. 14, no. 4, pp. 62–68, 2015.

[15] P. Poningsih, "Design of the expert system to analyze disease in Plant Teak using Forward Chaining," *Int. J. Artif. Intell. Res.*, vol. 1, no. 1, p. 11, Jun. 2017.

[16] G. Singaravelu, "Efficacy of Multimedia Package in Communicative Skill in English," *J. English Lang. Teach.*, vol. 4, no. 4, pp. 50–55, 2014.

[17] J. Liu, "An Experimental Study on the Effectiveness of Multimedia in College English Teaching," *English Langauge Teach.*, vol. 3, no. 1, pp. 191–194, 2010.

[18] E. Bagarukayo, T. Weide, V. Mbarika, and Min Kim, "The impact of learning driven constructs on the perceived higher order cognitive skills improvement: Multimedia vs. text," *Int. J. Educ. Dev. using Inf. Commun. Technol.*, vol. 8, no. 2, pp. 120–130, 2012.

[19] Vicki Donne and Margaret L. Briley, "MULTIMEDIA STORYBOOKS: SUPPORTING VOCABULARY FOR STUDENTS WHO ARE DEAF/HARD-OF-HEARING," *Int. J. Spec. Educ.*, vol. 30, no. 2, pp. 95–106, 2015.

[20] M. Bava Harji and M. Gheitanchian, "Effects of multimedia task-based teaching and learning approach on EFL learners' accuracy, fluency and complexity of oral production," *Turkish Online J. Educ. Technol.*, vol. 16, no. 2, pp. 25–34, 2017.

[21] A. T. Ampa, "The Implementation of Interactive Multimedia Learning Materials in Teaching Listening Skills," *English Lang. Teach.*, vol. 8, no. 12, p. 56, 2015.

[22] A. Arono, "Improving Students Listening Skill through Interactive Multimedia in Indonesia," *J. Lang. Teach. Res.*, vol. 5, no. 1, pp. 63–69, 2014.

[23] M. B. Miles and A. M. Huberman, *Analisis Data Kualitatif*. Jakarta: UI Press, 2014.