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by Fahrur Rozic

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Improving Australian Students' Cognitive Critical Literacy through E-Bipa Based on Android

Farid Ahmadia* , Intan Permata Hapsarib , Fahrur Rozic , Cecily Bishopd , a Primary Teacher Education Department, Faculty of Education, Universitas Negeri Semarang, Sekaran Gunungpati Semarang Indonesia, b English Department, Faculty of Languages and Arts, Universitas Negeri Semarang, Sekaran Gunungpati Semarang Indonesia, c Economics Education Department, Faculty of Economics, Universitas Negeri Semarang, Sekaran Gunungpati Semarang Indonesia, d Darling Heights State School, Queensland, Australia, Email: a*farid@mail.unnes.ac.id

Abstract

One of the potentials of internet usage is the vast availability of information, especially when social media has been widely used among the digital society, including students. Students are able to acquire information easily and respond and give comment to information directly. However, this ease of access to information leads to an issue where the validity of information becomes uncertain. This will create a bigger problem if students are not taught literacy. Bahasa Indonesia has now become the language favoured by foreign society. BIPA Program (Bahasa Indonesia untuk Penutur Asing) or equals to Bahasa Indonesia Foreign Speaker is the government's program to provide an opportunity to socialise Bahasa Indonesia to every corner of the world. Literacy in Bahasa Indonesia of foreign society has become the mission of BIPA. Yet, learning activities like reading to merely answer questions is only to discover what is explicitly delivered in the text without revealing the implicit meaning by exploring the text. Based on this condition, the students who are projected to be BIPA participants other than mastering the knowledge and structure of Bahasa Indonesia, should also understand and have the skill of critical literacy through android-based learning media during BIPA learning activities that is developed using Adobe Flash CS 6. This research development adopted ADDIE model to develop android-based learning media throughout BIPA learning activity. The stages of ADDIE consist of Analysis, Design, Development, Implementation, and Evaluation. Android-based media that was developed through this research has undergone the process and staged according to the research development model implemented. As a conclusion the content material is very feasible, the media is viable and E-BIPA teaching media is effective in improving 75% the learning result and receives a response from the teachers and students. E-BIPA teaching media is able to help BIPA tutors in teaching Bahasa Indonesia to their students.

Key words: Technology Education, E-BIPA, Language learning media, android

Introduction Technology has been extensively developed and the industry revolution 4.0 has been running, high-tech electronic devices equipped with internet facility has been emerging in order to ease communication process. All these occurrences bring changes in every aspect of people's lives, including education. Consequently, many educational institutions strive for numerous of technological changes such as Computer Based Test (CBT), Android Based Test (ABT) based on intranet, local area network (LAN) or Internet connection. They also try to utilise elearning or social media during the teaching and learning process. The ease of access on information through web sites and social media might become a threat for

the digital society since the validity of the information provided tends to be unclear, and this will lead to confusion among society.

Students as the digital society who use internet and social media often find difficulties in selecting the right information as their reference in learning. Acquiring the wrong knowledge could influence their knowledge and skills on something since they assume the knowledge acquired from the internet is correct without critically reading and analysing the text from several point of views.

Critical Literacy may serve as one of the solutions to figure out the content of information. "To be critically literate, readers must come to understand that texts are not 'true' but rather that they represent the perspectives of the writer and the socio-cultural times in which they were written" (Lapp & Fisher, 2010).

Critical Literacy is one of the solutions to train the students to critically select the right information and reveal the implicit content of a text with their own words. Critical Literacy is one's ability to not only focus on what is presented from a text but also think about what is within the text (Elizabeth, 2015).

The technology has already developed to an advanced standard and the material has also becomes so modern, but the teaching system is still using the methods of 14th century. The teaching of such influences the desired goal, including the ability of reading in the teaching of Bahasa for foreign speakers. To achieve this, we need an advanced media with the high calibre modern technology so that the skill of Critical Literacy in reading in the teaching of Bahasa becomes better.

Smartphones are one of the media type with high calibre modern technology with various operating systems that is built within. A frequently used operating system is Android. In schools, almost every student use the smartphone that is Android-based. This opens the opportunity of developing the android-based application for the teaching of Bahasa. One of the softwares that can be used to develop the android-based application for the teaching of Bahasa is Adobe Flash CS 6.

Adobe Flash CS6 is effective in the development of the android-based teaching media. The 3sult of the media development of android-based teaching media using the Adobe Flash CS 6 indicates that there is learning effectiveness in using android-based teaching media by the students (Muyaroah, 2017) and the media developed is to be used in the independent study (Susilawati, 2017).

One of the government programs to increase the literation of Bahasa in the world is to establish a special training program. The BIPA training program has the benefit of better and more fluent communication in various context and purposes and the institution and the BIPA training creates standardised graduates.

This is the reason for the development of android-based teaching media for BIPA using the Adobe Flash CS 6 in teaching Bahasa in improving the skill of Critical Literacy on the BIPA material of Level A1 and A2 for the foreign students that study in Indonesia and Australia.

Critical Literacy in the skill of not only focusing on the text or essay that is presented, but it focusing on the text presented as well as their skill in thinking within (Elizabeth, 2015). Critical literacy can strengthen the curriculum in the teaching of English and improve our understanding about the competition of present interest in the teaching of English (Fajardo, 2015).

In Australia the national curriculum that is applied did not discuss the contemporary world, and thus the literacy problem may start to emerge. Only by changing the attitudes and focus of students in the classroom, Australia can change the traditional curriculum to become literate in a new literacy. The

students will then have a more active place in their classroom (Alfarhan, 2016). The strategy that can be used to develop Critical Literacy is the reading strategy (answering, asking, summarizing, writing). This strategy is effective to develop the Critical Literacy (Mahmoud Hassan, 2015). E-BIPA is the android-based media that is developed for the teaching of Bahasa for the Foreign Speaker. E-BIPA is developed using the application of Adobe Flash CS 6.

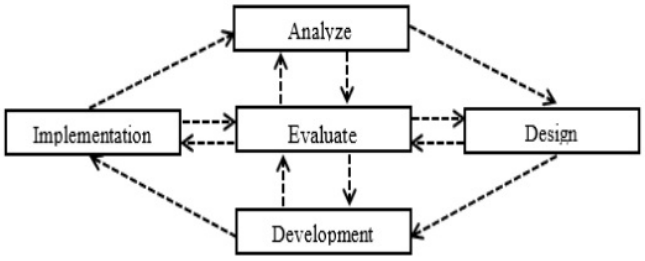
Many researches indicate the positive result on the developing method of Critical Literacy, but the current research is not integrated with modern technology. The android-based teaching media development that uses the Adobe Flash CS 6 indicates that there is effectiveness of media usage of android-based teaching media with the learning result that is gained by the students (Muyaroah, 2017), the media developed is worthwhile to learn independently (Susilawati, 2017), and it is worthwhile in the teaching of equilibrium of chemistry in the Vocational High School. The technology gains positive responses from the students (Saselah, 2017) and is able to become one pedagogical technology that promises to be implemented in the tertiary education environment (Al-emran, 2014). Android-based flipped classroom model is one of the solutions in the development of teaching media and learning material. Teaching media and content developed, namely user manual, discussion forum, e-book, learning video, and quiz were very valid to use (Ahmadi Farid, 2019)

Research Method

ADDIE model is the most common model used in the teaching design to produce a design that is effective. This model is the approach that helps in making the instructional design, the development of content, or even for the teacher to make the teaching design that is efficient and effective by applying the series of ADDIE model to the instructional product design (Aldobie, 2015). The ADDIE model can also be used for the development and the validation of the package of e-content to the students of Senior High School in teaching (Muruganantham, 2015). Meanwhile, a quasi-experimental method is used in this research. The duration of the teaching learning using this e-media to the students is three weeks with a meeting once in a week.

The development process of E-BIPA is to 1) analyse the needs of students of Australia, 2) gather the information of pictures, materials, lesson, and teaching supporting books, those are all the materials that will become the media making of android-based teaching media for Bahasa, 3) formulate the points of teaching materials, 4) develop the instrument, 5) design the product that covers the map of competence, materials, flowchart, the making of GBIM (Outline of Media Content), the script/storyboard and the making of teaching media product, 6) validate the design by experts of media and content, 7) revise the product after validation, and 8) product testing (Experiment). The product of E-BIPA has already been validated in term of design by expert and the revision.

Figure 1. The design of ADDIE



Results and Discussion

The Design of E-BIPA The E-BIPA that is used for learning Indonesian language has been given some suggestions for improving not only its design but also the content. It is also important for giving the learners of the tutorial before it is used to improve their digital literacy. It is in line with what one of the experts of ICT stated that given the importance of language learners' digital literacy skills in digital environments, there is a need for learner training in the use of digital technologies for language learning (Joe, 2019).

Figure 2. Home

Figure 3. Material

Figure 4. Content

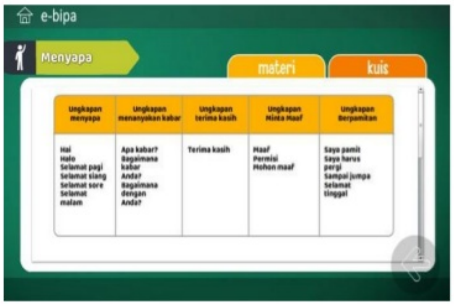


Figure 5. Quiz

Content of Material and the Presentation of E-BIPA Teaching Media by the Experts

The experts of content materials scored the content on the media on the criteria of "Very Feasible" with the score of 81 and the percentage of 90%. The scoring aspect of the materials on this media teaching is in the aspect of content, language and writing, as well as the aspect for the evaluation tools. Meanwhile the media expert scored this teaching media in the classification of feasible with the score of 68 and the percentage of 84%. The scoring aspect from the E-BIPA based teaching media here is in the aspect of the appearance of the media, practicality, attractiveness media, and the interactivity.

E-BIPA based e-learning teaching media has gone through the evaluation process of feasibility analysis and the validation from the experts of content and the experts of media. The result of the scoring for the E-BIPA teaching media for both content and media validators are presented on Table 1.

Table 1: The Score of Feasibility Analysis for the Content and Media for the E-BIPA

Scorers	Components	Total Score	Percentage	Criteria
Validator	Content Material	81	90%	Very Feasible
	Media Presentation	68	84%	Feasible

The Learning Result for E_BIPA Content

The influence of the E-BIP teaching media gained from the cognitive learning result through the formative test in the form of pre-test and post-test before and after using the media. The researcher did the effectiveness test upon the E-BIPA teaching media through the big group testing. The activity done by the students on the big group testing is the same as the small group testing. Here are the differences of the learning results for Bahasa Indonesia before and after the E-BIPA teaching media on the big group testing.

E-BIPA teaching media is effective in improving the learning results with the average margin from the t test with the score of 14.224 and the n-gain score of 0.65 with the criteria scoring of medium. The response of the big group testing gained the percentage of 95 and the response of the teachers with the score of 90%. The result of response from the teachers and students indicated that the E-BIPA teaching media got a very good response.

Table 2: Learning Result for E-BIPA on the Big Group Testing

Note	Big Group Testing	
	Pretest	*Posttest*
Number of Students	20	20
Average Score	60,2	83,8
Lowest Score	50	70
Highest Score	90	95
Margin of Average	30,9	
Improvement Percentage	75 %	

Conclusion

The process of development in this study is only limited to the Analysis, Design, and Development stages up until testing by the experts for validation and review the product based on the experts' suggestion. Yet, it is not up to the experts to conduct an experiment using the product. The design result that were revised include: 1) Removing the Competences Menu and Apperception Menu and adding the logo of UNNES in the upper panel, 2) adding

icon in every sub-chapter A1 and A2, 3) adding icon in every sub-chapter title, 4) adding a shape in the names of family member in order to ease the process of *drag and drop*, 5) changing the exercise items no. 1-10 according to the material in the source of reference, 6) adding the feature to save score, 7) adding the logo of UNNES in the page 'about'. The design of E-BIPA apps is figure 1 Home, figure 2 Material, figure 3 Content and figure 4 Quiz. The content material is very feasible, the media is feasible and E-BIPA teaching media is effective in improving the learning result and got a very good response from the teachers and students.

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