Developing Interactive Learning Media for Teaching Writing Descriptive Text in Senior High School

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Abstrak

Kemajuan teknologi tidak dapat dihindari untuk digunakan sebagai media pengajaran dalam pendidikan. Dengan demikian, penelitian ini bertujuan untuk mengembangkan media pembelajaran interaktif berupa aplikasi berbasis android sebagai media pembelajaran menulis teks deskriptif di SMA dan untuk mengetahui kevalidan media tersebut. Peneliti menerapkan Research and Development (R&D) dengan mengaplikasikan Model 4D yang dikembangkan oleh Thiagarajan et al. (1974). Instrumen yang digunakan adalah wawancara, lembar validasi dari ahli materi, ahli media, dan ahli pembelajaran (guru bahasa Inggris), dan angket respon siswa. Hasil penelitian menunjukkan bahwa rata-rata hasil penilaian para ahli adalah 3,75 yang tergolong 'Sangat Valid', kemudian dari hasil angket respon siswa diperoleh skor persentase sebesar 81,19%, dikategorikan 'Sangat Layak'. Oleh karena itu, media pembelajaran interaktif dinyatakan valid dan layak digunakan sebagai media pembelajaran menulis teks deskriptif untuk siswa kelas X SMA. Penggunaan media pembelajaran interaktif dapat menjadi salah satu alternatif untuk menarik minat siswa dalam proses pembelajaran khususnya dalam menulis teks deskriptif dengan cara yang menyenangkan.

Kata Kunci: media pembelajaran interaktif, aplikasi berbasis android, menulis, teks deskriptif

Abstract

The advancements in technology make it unavoidable to be used as a teaching medium in education. Thus, this research aims to develop an interactive learning media in the form of an Android-based application as a teaching medium for writing descriptive texts in senior high school and to determine the validity of the media. The researchers applied the Research and Development (R&D) by employing the 4D Model developed by Thiagarajan et al. (1974). The instruments used were an interview, the validation sheets from a material expert, a media expert, and a learning expert (an English teacher), and a students' response questionnaire. The research findings showed that the average result of the experts' assessment was 3.75 which was classified as 'Very Valid', then from the result of the students' response questionnaire a percentage score of 81.19%, categorized as 'Very Decent'. Therefore, interactive learning media indicates valid and suitable to be utilized as teaching and learning media for writing descriptive texts for tenth-grade students in high school. The use of interactive learning media can be an alternative to attract students' interest in the learning process, especially in writing descriptive texts in a fun way.

Keywords: interactive learning media, android-based application, writing, descriptive text

INTRODUCTION

ICT (information and communication technology) advancements assist attempts for reforming how technology is used in education. ICT is a term used to describe technology that offers telecommunications-based information access (Ratheeswari, 2018). The use of technology in education is crucial. This is because education is an important component of cultural operations when it comes to generating creative and innovative things (Widiyono & Millati, 2021). Thus, as a vital education component, teachers have a significant strategic function and position in national development. Nowadays, ICT use in education mainly applies to support students' learning processes. According to Purwanti et al., (2023), ICT advancements have transformed classroom interaction into a portable, learner-centered, multi-environment learning platform and the use of ICT by teachers in the teaching and learning process determines the quality of education nowadays. Furthermore, it has a fairly significant function for teachers, particularly in the utilization of facilities to enhance their teaching skills. The quality of education implementation might be improved by using appropriate media in line with the characteristics of the subject matter combined with the application of relevant instructional techniques (Yanto, 2019). The utilization of learning media can affect students' motivation, communication, and learning interactions to be more responsive and interactive in learning activities in class (Lestari, 2018).

The Head of the Education Curriculum Standards and Assessment Agency of the Ministry of Education, Culture, Research, and Technology has issued Decree No. 044/H/KR/2022 regarding educational units implementing the Merdeka Curriculum (Kurikulum Merdeka) implementation in the 2022/2023 academic year on July 12, 2022. One of the goals of this curriculum is the step of digitizing schools through the use of technology platforms which are expected to reduce complexity and increase efficiency. The goal of educational technology is to improve learning for students by making it more effective, efficient, widespread, quick, and meaningful (Widiyono & Millati, 2021). Thus, technological advances are expected to allow teachers to be able to apply various technologies in the realm of education. Teachers who encourage independent learning are encouraged to accelerate information and communication development. Advancements in information technology have expanded each individual's flexibility in gaining knowledge; both teachers and students, including the learning that can be done online (Mulyasa, 2021).

In senior high schools, a variety of text forms are taught, including descriptive, recount, procedure, narrative, report, analytical exposition, discussion, review, news item, satire, and anecdote. According to the Merdeka curriculum, one of the materials studied by the tenth-grade students in senior high school in the E phase is the descriptive text. A descriptive text describes people, places, and objects by their physical appearance (Ismayanti & Kholiq, 2020).

According to an interview with one of the English teachers at SMAN 1 Tempuling, most students still struggle to write descriptive texts. According to the English teacher, some students still struggle to communicate and develop ideas in descriptive texts based on general structure, which consists of identification and description, besides that some students still have difficulty using pronouns and tenses correctly. On the other hand, the teacher said that still teach with conventional methods. Teacher finds it difficult to innovate in learning activities, particularly when it comes to creating instructional media, due to a lack of time and knowledge. The inability of teachers to employ media as technology in learning is due to unequal strengthening and development in the field of education (Anggraeni & Maryanti, 2021). Finally, the teacher relies only on existing textbooks and pictures to teach which is causing students to feel bored and need new interesting learning media. For this reason, the teacher must be innovative in delivering subject materials so that the students enjoy the learning. The use of technological advancements in learning material is necessary to keep students' attention and prevent boredom.

Currently, students are very familiar with technology, especially smartphones, which can be used as a learning resource. Therefore, teachers must be able to keep up with the technological advancements of the era and guide students to use smartphones wisely and responsibly. In this context, it is important that in any situation

and condition teachers and students can still learn, be free to learn, and learn without limits anytime and anywhere.

Based on observations during the introduction to the school field at SMAN 1 Tempuling, almost every student owns an Android-based smartphone that they use as a learning tool during the online learning period. Therefore, they use smartphones as friends in their daily lives. The advancement of technology encourages teachers to seek renewal of learning outcomes through the use of technology. Teachers must think creatively to stimulate students' interest in the process of learning. Moreover, the usage of learning media is required to ensure that learning is delivered as effectively as possible. Many different forms of learning media may be used in the process, and Android-based learning media is one of them. According to Arsyad, (2016), teachers should not only focus on textbooks, but they must develop materials according to the information needed by students using interactive multimedia. Interactive learning media is multimedia that may be utilized in education.

According to Kustyarini et al., (2020), interactive multimedia is any form of media that includes a controller that the user can control and select the next actions that wants to take. Moreover, Nugraha, (2017) added that interactive multimedia is a method of delivering lessons with visual, audio, and video material that allows students to not only hear sounds and see images but also respond actively. Material delivery in interactive learning media may be accessible almost everywhere and at any time (Wibawa et al., 2019). In other words, multimedia is an interactive tool since it has a controller that the user may use to select the next step, and material delivery is available at any time and from anywhere.

Related to the previous research interactive learning media can help make the teaching and learning process more enjoyable, especially when it comes to writing in English. The level of validity of the interactive learning media utilizing interactive PowerPoint was 87%, while the level of practicality of the student response questionnaire was 76% (Dewi & Izzati, 2020). Then, the findings of research by Nadzifah, (2020) show that interactive learning media in the form of an Android-based application was appropriate for use in social studies learning and can enhance students' ability for independent learning at home. Additionally, interactive learning media can make it easier for students and teachers to learn and increase their enthusiasm for learning to achieve learning objectives (Santoso & Ramadhani, 2019). Thus, interactive learning media can be inferred to be an appropriate and practical medium for teaching and learning. The researchers chose to develop interactive learning media in the form of an Android-based application that can be accessed offline for descriptive text with a focus on writing skills, considering that there has been no research that has made interactive media that can be accessed offline for writing skills on material describing the place of descriptive text for tenth grade, so this is an innovation to create interactive learning media that has never been used before.

Therefore, researchers are motivated to develop appropriate interactive learning media in the form of Android-based applications as a teaching medium since there is still rarely development of interactive learning media for English subjects in senior high school, especially in writing descriptive text material. The results of this research are expected to help students overcome difficulties with producing descriptive texts and improve the teaching and learning process. This research concentrated on tenth-grade students in the odd semester 2022/2023 academic year at SMAN 1 Tempuling. Additionally, by including an overview of the subject, a glossary, and exercises, this media aims to help students recognize and comprehend the general structures and tenses employed in the descriptive text. Moreover, this research is expected to be an innovation of teaching medium in the form of interactive learning media, especially for writing descriptive text. Furthermore, the product developed is interactive learning media in the form of an Android-based application that can be accessed offline, making it easier for students to study independently.

METHOD

This research used Research and Development (R&D), which is a research method used to make a product and assess its effectiveness (Sugiyono, 2016). In this research, the researchers developed interactive learning

media for teaching writing descriptive text in senior high school by applying the 4D Model developed by Thiagarajan et al., (1974) which consists of four stages; 1) define, 2) design, 3) develop and 4) disseminate. In more detail, the procedure for developing interactive learning media is explained in Figure 1.
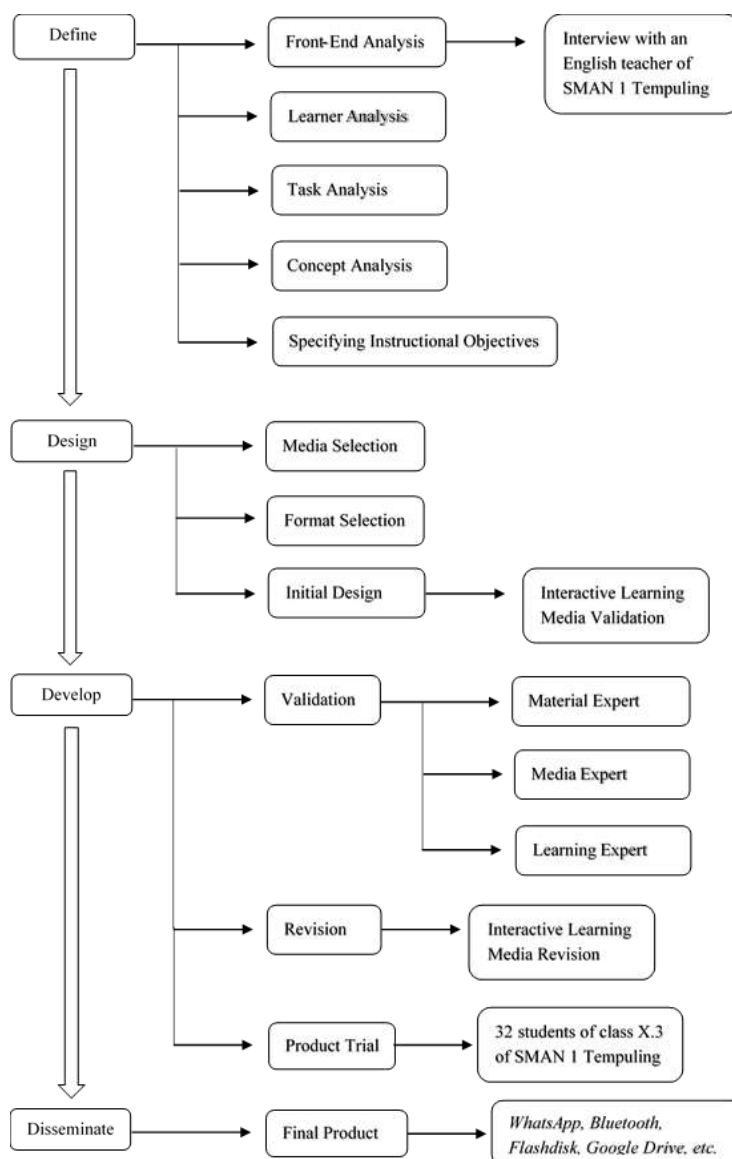

Figure 1. Research Process Steps

In order to develop the media, the researcher's first step is to define and identify the fundamental problems that English teachers at SMAN 1 Tempuling have with teaching writing descriptive texts and learning concerns associated with the Merdeka curriculum. The researchers then designed the interactive learning media following the findings at the define step. Afterward, the product should be validated by the validators before being used. The product was assessed by three validators: a material expert, a media expert, and a learning expert (an English teacher). Then, the researchers revise the product based on the suggestions from validators. Afterward, the product that has been revised goes through a limited trial phase on 32 students from class X.3 of SMAN 1 Tempuling. Finally, the final product is disseminated through several platforms.

The instruments that were used to collect the data in this research were an interview sheet and questionnaires. The purpose of the interview is to find out more about the difficulties and requirements the teacher faces when teaching English. The experts' validation questionnaire is intended to determine the level of

media quality and suitability of the material, whereas the students' response questionnaire is intended to determine the eligibility of the developed media.

Furthermore, this development's data analysis technique employed both qualitative and quantitative analysis. The researcher analyzed the findings of the interview with an English teacher at SMAN 1 Tempuling by using a descriptive qualitative method. Quantitative data was obtained from the experts' validation questionnaire and the students' response questionnaire. *Likert scales* are used to create the rating scales for the experts' validation questionnaire and the students' response questionnaire. The media is classified as valid if the average score of experts' validation is >2.50 and the percentage of students' response questionnaire is greater than 61% (Arikunto & Jabar, 2004; Widoyoko, 2015).

RESULTS AND DISCUSSION

Result

Define

The data in this research were obtained at this stage through five steps; 1) front-end analysis, 2) learner analysis, 3) concept analysis, 4) task analysis, and 5) instructional objectives analysis. First, the researcher conducted an interview at SMAN 1 Tempuling with an English teacher as part of the front-end analysis. The interview's findings led researchers to the conclusion that teachers have used ICT-based learning media to give lessons using images, videos, graphics, and other formats. In this case, the use of media to teach can also help students learn more effectively, especially the use of audio-visual media helped students understand the material better. However, until now there has been no learning media in the form of an Android-based interactive learning media application utilized at SMAN 1 Tempuling.

In order to find out about the use of technology in learning that fits the characteristics of high school students, the researchers carried out a literature review by looking at governmental rules and the components of the Merdeka curriculum. Based on the Regulation of the Minister of Education, Culture, Research and Technology No. 262/M/2022 concerning the implementation of the Merdeka curriculum which contains the Merdeka curriculum structure, learning assessment rules, and others (Kemendikbudristek, n.d.). In connection with the Regulation of the Minister of Education, Culture, Research and Technology No. 262/M/2022 which states that in the Merdeka curriculum, teachers must be more creative in using technology to make teaching materials and learning media interesting and easy for students to understand. According to Lestari, (2018), the usage of digital technology can help learners' cognitive processes and reasoning abilities. The importance of technology in learning can also improve students' learning abilities and interests. This is in line with Anggraeny et al., (2020) which states that learning using technology serves to make it easy for students to understand and deepen learning concepts and can increase enthusiasm for learning because the material presented attracts students' attention.

The development of learning media through the use of technology is one of the alternatives for a more effective learning process in light of the Merdeka curriculum's regulations that specify that one of this curriculum's aims is the digitalization of technology-based learning. Interactive learning media is one of the technology-based learning media that integrates audio-visual learning material that can attract students' interest and make learning more enjoyable.

Then, the researcher examined the Learning Achievement (CP) of the Merdeka curriculum as part of the task analysis process. Referring to the Decree of the Head of the Education Standards, Curriculum, and Assessment Agency from the Ministry of Education, Culture, Research and Technology No. 008/H/KR/2022 regarding Learning Achievements in the Merdeka curriculum. Learning Achievement (CP) is learning competencies to be achieved by students at each phase. Based on Decree No. 008/H/KR/2022, learning achievement for the tenth grade is in phase E.

The concept analysis step was used to find the main concept in teaching the descriptive text for the senior high school students in tenth grade following the Merdeka curriculum. The learning material of descriptive text is in the Learning Objectives Flow (ATP) which has been described from Learning Achievement (CP) in phase E. Learning is concentrated on social function, general structure, and linguistic features of descriptive texts. Furthermore, to fulfill the focus on knowledge, researchers integrated descriptive text material about describing places. The researchers used a variety of quizzes and assessment exams to track the students' development in their ability to write descriptive texts while concentrating on their abilities and creative development. Lastly, by classifying learning objectives in interactive learning media developed based on task and idea analysis, the researchers were able to specify instructional objectives at the final step of the define stage.

Design

The design stage is divided into three steps; 1) media selection, 2) format selection, and 3) an initial design. First, interactive learning media was selected for the media selection because it can deliver learning material in an audio-visual format, making it more enjoyable for teachers and students to learn from, especially when it comes to descriptive text. Then at the format selection stage, the researchers selected interactive learning media in the form of an Android-based application that can be accessed offline. Furthermore, interactive learning is designed using some software; Microsoft PowerPoint, Spring Suite 10, Java 8, and Website 2 APK Builder Pro.

In this step, the researchers begin by making a flowchart and storyboard first, then collecting all supporting components such as the explanation of descriptive text material, pictures of background and material, learning video, sound effects, layout, creating quizzes, and others. Then, the researchers start to design interactive learning media on Microsoft PowerPoint, then the PowerPoint files will be converted into HTML formatted files via the Publish menu in Ispring Suite 10. Then, to convert HTML files into application files that can be installed on Android, the files are converted using Website 2 APK Builder Pro. After the conversion is complete, the application file is ready to be installed on Android. The result of the media design stage is depicted in Figure 2 below:

Figure 2. Display of Media Main Menu

Develop

The development stage consists of 2 steps; expert appraisal and trial phase. The product that has been designed by the researcher, namely interactive learning media for teaching writing descriptive text in senior high school, is validated by the validators and then carried out in the trial phase to students. In this research, there are three validators 1) a material expert, 2) a media expert, and 3) a learning expert (an English teacher). The selection of the experts was based on their backgrounds and expertise. The interactive learning media was validated by a material expert based on material criteria such as content, presentation, and language. Meanwhile, a media expert validated the media based on media features, including visual communication, usage, and presentation. Then, the learning expert (an English teacher) validated the media based on material and media

aspects; content, presentation, language, visual communication, and usage and presentation. Table 1 below presents a summary of the validation results.

Table 1. The Result of Validation by Experts

No.	Validator	Total Score	Category
1.	Material Expert	3,91	Very valid
2.	Media Expert	3,41	Very valid
3.	Learning Expert (English teacher)	3,95	Very valid
	Mean	3,75	Very valid

Based on the calculation data in Table 1, it is known that the overall mean score obtained from the product validation results is 3.75. From the acquisition of these scores, the developed interactive learning media product is categorized as Very valid.

Regarding the validation suggestions provided by validators during the development stage, certain adjustments were made to improve the interactive learning media. The material expert suggested that it is better to make a teacher's guide menu so that teachers get an overview of teaching simulations using the application, while the media expert suggested that to use English thoroughly, use an English learning video, add a preface after opening the application, add background music to the preface section and instructions for use, and add instructions for completing the quiz before going to the evaluation test. However, the material expert suggested to double check for some language issues in the evaluation test.

After revising the product based on suggestions from experts, the researchers then conducted a limited trial of developed interactive learning media. A user trial was carried out to determine the eligibility of Android-based interactive learning media products. In this research, the researchers used Google Forms to conduct a trial. This trial phase was carried out on 32 students from class X.3 of SMAN 1 Tempuling. Data analysis from the acquisition of scores from the trial results can be seen in Table 2 below:

Table 2. The Analysis of Students' Response Questionnaire

No.	Assessment Aspect	Score Acquisition	Maximum Score	Eligibility Percentage
1.	Ease of use and navigation	646	800	80.75%
2.	Clarity of presentation	908	1120	81.07%
3.	Aesthetic	516	640	80.62%
4.	Instructional quality	527	640	82.34%
	Average			81.19%

According to the table above, an average value of 81.19% was obtained. Based on the table of media eligibility criteria, indicates that interactive learning media is 'Very Decent' to be used as an interactive learning medium.

Disseminate

In this stage, the researchers conduct dissemination by disseminating the final product that has been developed. Product distribution can be transferred via file or Flashdisk, Bluetooth, Google Drive, or WhatsApp. Following the dissemination, a trial should be conducted again at this stage. However, this was not done because the valid and eligible conditions had been fulfilled during the first trial.

Discussions

The discussion section is used to answer research problems after developing interactive learning media and analyzing research data. There are two parts to discuss, 1) the process of developing the media, and 2) the conclusion regarding the validity level of the media as a tool for teaching high school students how to write descriptive texts.

First, the development of interactive learning media has applied the 4D model by Thiagarajan et al., (1974) which comprises four stages: 1) define, 2) design, 3) develop, and 4) disseminate.

Then, the validity of developed media is the topic of the second discussion. The material expert's validation judgment gave the score of 3,91, placing it in the "Very valid" category. Then, the validation judgment from the media expert obtained a score of 3,41 which is included in the 'Very valid' category. Lastly is the validation judgment from the learning expert (English teacher) with a score of 3.95 which is included in the 'Very valid' category. Based on the overall mean score obtained from the product validation results of interactive learning media is 3.75. It means the developed media is very adequate as a teaching medium. Thereafter, according to the result of the students' response questionnaire, an average value of 81.19% was obtained. Thus, it can be inferred that interactive learning media is "Very decent" category since it is in the eligibility percentage of 81-100%. To sum up, this interactive learning media is valid and suitable to be utilized as a teaching tool for senior high school students in the tenth grade to write descriptive texts. Students' ability to write descriptive text is intended to improve with the use of this media.

An interactive learning media developed by researchers presents simple and easy-to-use material equipped with pictures, videos, and sound effects to make students interested in learning by using interactive media. Interactive learning media are digital-based media products in information technology systems that present audio, visual, and audio-visual content by responding to user actions (Pratama et al., 2020). This statement is in line with research by Anggraini, (2014) which states that interactive media is set with a simple navigation system, and displays colorful ones, games, videos, and sound effects that make learning more interesting and effective. In addition, the research results are also supported by Surya & Kumala, (2015) who claimed that learning which uses the application of interactive learning media in the form makes students interested in using it as a learning medium. Moreover, the interactive learning media developed by researchers are categorized as very valid as can be seen in the results of the recapitulation of expert validation scores in Table 1 and the media is classified as very decent to use as can be seen in the results of the students' response questionnaire analysis in Table 2. This finding was reinforced by the research of Ramansyah, (2014) which stated that interactive media has an effective value to use in learning. In line with it, Rosita, (2015) also stated that by using interactive media, learning in the classroom becomes more effective.

The development of the media conducted by researchers provides good benefits for students. This is in line with (Suryani et al., 2019) which states that the benefits of learning media for students are that it makes it easier to understand learning material that is presented systematically through the media. In addition to the lack of ability in text production skills, the lack of interest in learning English is a factor causing students' difficulties in writing descriptive texts (Ismayanti & Kholiq, 2020). As a result, another learning alternative is required to increase students' interest in learning. One option is to use technology as a medium in the learning process (Puspitarini & Hanif, 2019). In connection with the use of technology in the world of education, the current trend is the use of various media (multimedia), namely a combination of various audio, visual, and graphic media (Anggraini, 2014). Therefore, the researchers have developed interactive learning media which is one of the audio-visual media that comprises pictures, videos, animations, and sounds to help students comprehend complicated descriptive text writing content more readily. This is consistent with research by Pratama et al., (2020) which states that interactive learning media is one of a variety of learning media that can assist to visualize and explain abstract material to students due to the mutual influence of giving action and reaction between one another. Furthermore, this research was strengthened by the results study by Kim & Lee, (2016) which stated that using visuals, videos, animations, and music can aid students in learning complicated content, which supports how easily students understand the subject matter. Moreover, besides being able to be used in the direct learning process, Android-based interactive learning media can support students to study independently at home (Nadzifah, 2020).

This research supports other research that has implemented Android-based interactive learning media in schools. Additionally, interactive learning tools developed by researchers may be utilized by students as alternative learning resources, allowing learning to take place in a variety of contexts. For this reason, it is

needed to apply interactive learning media as a solution for the advancement of technology-based learning media which is in line with one of the objectives of the Merdeka curriculum.

Furthermore, the implication of this research is the creation of interactive learning media that utilizes Android-based smartphone technology that can be accessed offline. Additionally, the result of the product in this research still has some limitations. First, there is a limited function of the back sound on/off button that can be turned on, but there is a delay in turning it off. The same issue is with the navigation button sound, which is occasionally delayed for a few seconds after the user clicks it. Thus, future researchers should be able to correct the errors that have occurred and pay more attention to media technical issues. Second, because this media can only be used on Android-based smartphones, it is suggested that future researchers be able to create the media for other software platforms such as iOS. Last, the developed media only covers writing skills, it is hoped that future research can deepen the scope of research related to the use of Android-based applications for learning other skills in English.

CONCLUSION

Following the findings of the research, the development of interactive learning media in the form of an Android-based application used the 4D Model by Thiagarajan et al., (1974) which consists of 4 stages of development, including 1) define, 2) design, 3) develop, and 4) disseminate. The level of validity of the interactive learning media is determined by experts' judgment from a material expert, a media expert, and a learning expert (English teacher) which covers aspects of content, usage, presentation, language, and visual communication. According to the validation data of the experts, interactive learning media as a teaching medium is rated as 'Very valid'. Thereafter, the result of the students' response questionnaire indicates that the media is 'Very decent'. Consequently, the developed interactive learning media is suitable for teaching and learning media for senior high school students to write descriptive texts. For future researchers, it is expected that the results of this study can be used as a reference. Furthermore, it is hoped that the deficiencies in this research can be corrected to get even better results.

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