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## **DEVELOPING ENGLISH INTERACTIVE LEARNING MEDIA BASED ON ANDROID BY USING ARTICULATE STORYLINE 3 APPS**

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### **ABSTRACT**

*This study was conducted in response to the challenges encountered by students in learning English within an academic context. The identified issues included a lack of interactive learning resources, difficulties in comprehending English materials, limited opportunities for practice, and time constraints within the classroom. Consequently, the aim of this research was to develop an Android-based English interactive learning app using the Articulate Storyline 3 application, specifically tailored to support students in an academic setting. The research employed the Research and Development (R&D) methodology, utilizing the 4-D (four-D) version and following the Luther-Sutopo model for system development. The target population consisted of seventh-grade students at SMPIT Al-Fityah Pekanbaru, with a sample size of thirty students. Data were collected through questionnaires and a pretest-posttest procedure. Statistical analysis involved the utilization of Aiken's V formula, the Moment Kappa formula, and the t-test formula. The study yielded three key results. Firstly, the validity test demonstrated a high validity score of 0.88, indicating the reliability and appropriateness of the developed learning app for its intended academic purposes. Secondly, the practicality test produced a score of 0.98, indicating that the learning app was practical and feasible to be used within the academic teaching and learning process. Lastly, the effectiveness test revealed a significant improvement, with a two-tailed significance score of 0.00, which was smaller than the significance level of 0.005. This indicates that the learning app was highly effective in facilitating the academic teaching and learning process. Based on the results of the three tests, it can be concluded that the developed app provides a valuable tool for both teachers and students in the academic English learning process.*

Keyword: *Development, Interactive learning media, Articulate storyline 3*

### **INTRODUCTION**

English, despite not being an official language in Indonesia, is a mandatory subject in the country's school curriculum. Students are expected to acquire proficiency in listening, reading, writing, and speaking skills in English. However, attaining competence in these four

language skills poses significant difficulties for learners. Given that Indonesian serves as the primary language for daily communication, it becomes crucial for educators to develop effective and captivating approaches to teaching English.

Teachers can effectively utilize technology to expedite knowledge dissemination and achieve learning objectives. According to Padmini & Tyagita (2015), educational technology refers to the use of appropriate media that facilitate learning and enhance learning outcomes. Tafonao (2018) defines media as various forms employed in the dissemination of information. Similarly, Tekege (2017) states that media encompass any tools utilized to transmit messages from senders to recipients, stimulating students' minds, emotions, attention, and interests, thereby facilitating the learning process. Furthermore, Gagne and Briggs, as cited in Ratminingsih (2016), describe media as physical instruments employed to convey subject matter content, including books, modules, programmed texts, tape recorders, cassettes, video cameras, video recorders, films, slides, photos, pictures, graphics, television, computers, and more. By incorporating media into the learning process, teachers can generate newfound student interests and foster interactive learning environments.

Interactive multimedia refers to media that incorporates user-operated controllers, allowing users to select their desired pathways or actions (Kustyarini et al., 2020). This type of media promotes interaction between users and the media itself. Interactivity can be classified into four levels: at level one, students passively receive information; at level two, students provide simple responses based on instructions; at level three, students engage in various or complex responses; and at level four, students actively participate in a series of learning activities and demonstrate comprehension of the material (Suwarno & Rahmatullah, 2020). Interactive media exhibits certain characteristics, such as avoiding monotony, presenting concepts realistically within learners' experiences, applying principles of enjoyable and constructive learning, and delivering material in an interactive manner (Tambunan, 2013).

Good interactive media incorporates various elements such as texts, graphics or pictures, audio, video, and animation, with the aim of making the media engaging and captivating (Surjono, 2017). When assessing interactive learning media, several aspects should be considered. These include the software aspect, communicative visual aspect, content aspect, and language aspect (Supriadi, 2012). Each aspect has criteria, such as aspects of software being maintainable, usability, reliable, reusable, troubleshooting, and program design. Then, the criteria of the communicative visual aspect are communicative, creative, visual, and interactive layout. Furthermore, the criteria of aspect content are the suitability of the subject, the suitability of the material with KD, example, and exercise. Last, the criteria of

aspect language are suitability of use of Indonesian and English, use of punctuation, and that the language is simple and easy to understand.

The use of interactive learning media can improve the quality of the learning process and enhance learning outcomes. According to Celce M.M, (2021), interactive media can be an important motivator for students in language teaching, audiovisual media provide interesting content and materials, and media is the way to address the needs of visual, kinaesthetic and auditory learners. In addition, the advantages of the use interactive media, among others be more interesting learning that can motivate students to learn, the learning material will be clearer it means that students easily achieve learning goals, teacher easily to combine multiple methods of learning, students more actively in learning activities (Baroroh Ma et al., 2021).

One of the software that can be used to create the interactive media application is articulate storyline apps. The software is continually updated with new features, including Articulate Storyline version 3. According to Juniantari & Santyadiputra (2021) stated, Articulate Storyline 3 is the software that can be used as a learning media for presentations and information delivery. Articulate Storyline is software that can be used to create presentations similar to Microsoft Power Points. Furthermore, According to Husna & Fajar (2022) state, Articulate Storyline 3 is a platform/software for creating interactive presentations similar to those created with Microsoft PowerPoint, but with more advanced capabilities that are simple to use, such as timeline, movie, picture, character, animation, and others. It's easy for teachers to create interactive learning. It is conducive for learning designers from expert to beginner (Sugihartini et al., 2022).

Based on the observation and interviews conducted by the researchers in class VII at SMPIT Al-Fityah Pekanbaru, it was found that the current learning media used in English classes are limited to PowerPoint slides containing brief information, internet videos, and printed book materials. It was also observed that students face difficulties in understanding English materials and require a significant amount of time to comprehend them. Consequently, students lack motivation to further develop their English skills both at school and at home.

In response to these challenges, the researchers made the decision to design and develop interactive learning media for the English subject. The aim of this initiative is to assist students in reading and comprehending a wide range of vocabulary within paragraphs or texts, thereby enhancing their reading and writing skills. Additionally, the interactive media allows students to replay audio recordings of the lessons, aiding in the development of their listening

skills. Moreover, students have the opportunity to revisit relevant videos pertaining to the material, which can assist them in improving all four language skills.

By introducing interactive learning media, the researchers intend to address the existing limitations and engage students in a more dynamic and interactive learning experience. This approach seeks to provide students with additional support in mastering English vocabulary, as well as enhancing their overall language proficiency.

Based on previous research that has been applied by Fatikhah & Anggaryani (2021), the development of Dynamic Fluid media based on Articulate Storyline proves to be a valuable learning tool for students. The learning media's validity was assessed and achieved a high rating of 90.70%, indicating its strong validity. Additionally, students responded positively to the Articulate Storyline-based Dynamic Fluids learning media, with an impressive satisfaction rate of 99.16%. These results suggest that the learning media is highly regarded by students.

In another study by Sugihartini et al. (2022), the use of interactive media for assessment and evaluation courses received overwhelmingly positive feedback from students. Specifically, 87% of the students categorized their response as very positive, while 13% rated it as positive. Importantly, there were no student responses in the moderately positive, less positive, or very less positive categories. These results highlight the success of developing interactive media for assessment and evaluation courses, emphasizing its potential to be effectively employed in an online class setting.

All previous research was about developing interactive learning media that would be more interactive and effective for use in the learning process. The results of previous research on interactive learning media are very decent, valid, and positive for their use in learning. Not only that, based on the comprehension test that has been conducted at the end of the learning activities, using interactive learning media can increase the students understanding of the English material and motivate them to learn more skills in the language.

While the previous research highlights the positive outcomes and effectiveness of interactive learning media in various educational settings, there is still a research gap that needs to be addressed. Although the studies emphasize the benefits and positive student responses to interactive learning media, there is limited research exploring the specific impact of media based on Articulate Storyline in the context of English language learning. Considering the issue stated above, it is reasonable to develop interactive learning media that will be used by teachers and students during the learning process and to achieve the main goal.

## METHOD

The study employed the Research and Development (R&D) methodology, which is commonly used to develop and evaluate products or interventions. According to Sugiyono (2013), R&D is a method used to create and test the effectiveness of a product. In this study, the 4-D model was utilized, which stands for Define, Design, Develop, and Disseminate, as proposed by Thiagarajan (1976). The researchers also adopted the Multimedia Development Life Cycle method, specifically the Luther Sutopo version. This method consists of several stages, including concept development, design, material gathering, assembly, testing, and distribution (Ardiansyah et al., 2021). By following this systematic approach, the researchers aimed to ensure a well-structured and comprehensive development process for the interactive learning media. These methodologies and models were chosen to guide the researchers in designing and developing an effective learning tool. They provided a systematic framework to ensure that all necessary steps and considerations were taken into account.

The population and sample of this research consists of thirty students in the 7<sup>th</sup> grade at SMPIT Al-Fityah Pekanbaru. Then, as stated by Arikunto in Erliana (2014), if the population or subject is less than one hundred people, it is preferable to use all members of the population as the sample. Instruments for collecting the data were questionnaires and tests. Two types of questionnaires existed: the needs analysis questionnaire and the expert judgment questionnaire. Aside from that, there were two types of tests: pre-test and post-test. To analyze the data from the result of the first questionnaire (need analysis), the second questionnaire (expert judgement), and the score of each student will be calculated with the formula:

1. First questionnaire (Need analysis)

$$\text{Percentage (\%)} = \frac{F}{N} (100)$$

Each question was considered as what was most related to the student's condition and will be presented with the highest score.

2. Testing Media (Validation test in Expert Judgement questionnaire)

The validity test was based on the Aiken's V statistical formula which was as follows (Zikra et al., 2022):

$$V = \sum s / [n(c-1)] \dots \dots \dots [\text{Aiken's V}]$$

### 3. Practicality test

The practicality test is referring to the Moment Kappa, formula as follows (Sagita et al., 2017):

$$K = \frac{\rho - \rho e}{1 - \rho e}$$

### 4. Effectiveness Test

The score of pre-test and post-test have been counted by SPSS because used the pre-experimental design. To find the normality of the score, next find out the score for significance of the scores. If the sig. > 0.05 it means the application effectively to use in the classroom and can help to get goal of learning.

## FINDINGS AND DISCUSSION

### Findings

#### *Define*

The researcher developed the interactive learning media in English according to the data from the needs analysis. There are twenty-one questions, consisting of one question about students' motivation, one question about whether the targeted objective study is necessary to learn English, two questions about the students' lacks of desire to learn English, and sixteen questions about the students' wants in terms of criteria for interactive learning media.

The students' motivation to learn English is that they had expected to communicate in English. Then, the students' view of English usage is that they want to be able to communicate using simple English in their daily lives. The students' limitation in learning English is that it is difficult to write text in English, and most of the students have English language skills at the intermediate level. The students' views about what media they want for learning come from applications that contain interesting material, exercises, games, and learning videos. The students want the material to have interesting content, be easy to understand, and have a clear presentation and explanation.

The type or the criteria of interactive media that students want are audio of monologues, dialogues and pronunciation to make the media interesting. The layout that should be used in English learning media should be interesting, motivating students to learn and having good color combination. The size of letters and the font that should be used in English learning media should be simple, legible and clear. The color combination between background and letters that should be used in English learning media should be appropriate.. The existence of decorative illustration is needed to make the media interesting. The back sound and music in

the English interactive learning media is needed to make the media interesting. The navigation that should be used in English interactive learning media should appropriate navigational icons (next, pervious, exit, etc).

### Design

At the design stage, researchers have prepared a concept the learning media, design navigation structure, storyboard design, and interface design. The concept or idea that will be created is in the form of an interactive learning media application.

### Develop

This stage the researcher followed the stages of Luther Sutopo's version of the Multimedia Development Life Cycle development model which consisted of 6 stages, follow:

#### a. Concept

This learning media is designed for English teachers to be able to teach and also be used by students in grade 7 to help the learning process in the classroom and as learning materials at home. The final result of the design learning media is a file in the form of an *apk*, and can be installed on android smartphone. The presentation of this learning media uses sound, video and interesting pictures as well as a combination of several colors. This interactive learning media is also equipped with several quizzes, to see how students understand the material. So, that it can attract the attention of students.

#### b. Design

At this stage, the researcher design the navigation structure, and user interface.

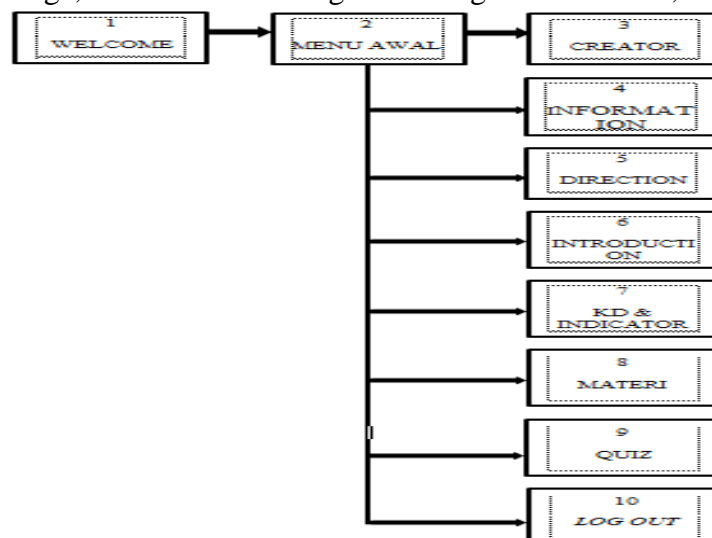


Figure 1: Navigation Structure in Main Menu

Based on Figure 1, main menu navigation structure describes location welcome pages, menus contained in the application and the relationship between each in the menu.

#### c. Material Collecting

At this stage the materials collected are supporting images, videos, and backgrounds. In practice, this stage can be carried out simultaneously with the assembly stage. Some of the data and information that must be collected to start making this application are; 1) the data text used is the text about English subjects, 2) the video data used is a video about learning English. 3) the pictures data used are background images and vectors.

#### d. Assembly

This stage is the creation of all multimedia objects based on the design that has been done. The background creation process in this application is designed using the Canva application, after the background is created, it can be directly imported into the articulate storyline 3 application. Meanwhile, the navigation buttons in this application are made by utilizing vectors that have been published on the website. Generally, the layout of the English interactive learning media is divided into some pages. Those pages are welcome page, main menu, materi, creator, information about apps, direction, introduction, KD and indikator, material, and quiz.



**Figure 2: Menu Login/ Welcome Page**

Based on Figure 2, this is the welcome page, to enter the main menu page we should write our name and school then, we should click the Save and Next button.



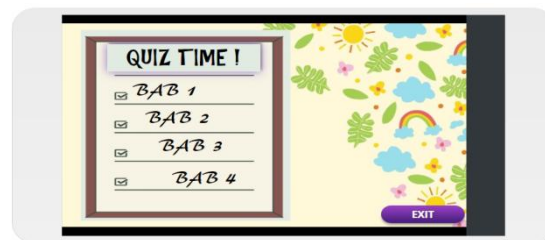
**Figure 3: Menu Page**

Based on Figure 3, after we click the start button we will enter the main menu page as shown above.



**Figure 4: Material Page**

Based on Figure 4, it is the material button. The material page there are material from English subjects which consists of four chapters, and there are also an explanation video about the material from each chapter.



**Figure 5: Quiz Page**

Based on Figure 5, it is the Quiz button. The quiz page there are quiz from English subjects which consists of four chapters with different type.

e. Testing

At the testing stage, the application is tested using the blackbox method. Testing using the blackbox method is a test carried out by the software interface. A result test shows that this product has been made to run well in the sense that the input is received correctly and the output produced is really right, so the integration can run well.

f. Distribution

In this process, the completed application is copied to the user's Android Device, and installed the application. The following are the specifications for user's smartphone based-Android to run this English learning media application; 1) Processor: Quad-core 1.2 GHz Cortex-A53, 2) RAM: 512 MB (Minimal), 3) Memory Internal 1 GB (Minimal), 4) Detail Operation System (OS): Android ver 5.1 or Android Lollipop (Minimal).

## Disserminate

The application of learning media was found to be effective for 30 grade 7 students of SMPIT Al-Fityah. The results of product tests that have been carried out are as follows:

### a. The Results of Product Validity Test

The results of the validity of the interactive learning media application were carried out by 2 expert lecturers from IT and 1 expert from English. It can be concluded interactive learning media English subject was very valid.

**Table 1: The Results of Validity test**

No	Validator						Nilai / V
	Dr. Supratman Zakir M.Pd. M.Kom		Riri Okra, M.Kom		Merry Prima Dewi, M.Pd		
	Skor / r	S	Skor / r	S	Skor / r	S	
Item 1	4	3	4	3	5	4	0.83
Item 2	4	3	4	3	5	4	0.83
Item 3	4	3	5	4	5	4	0.92
Item 4	4	3	4	3	5	4	0.83
Item 5	4	3	4	3	5	4	0.83
Item 6	4	3	5	4	5	4	0.92
Item 7	4	3	5	4	5	4	0.92
Item 8	4	3	4	3	4	3	0.75
Item 9	4	3	4	3	5	4	0.83
Item 10	4	3	5	4	5	4	0.92
Item 11	4	3	5	4	5	4	0.92
Item 12	4	3	5	4	5	4	0.92
Item 13	4	3	5	4	5	4	0.92
Item 14	4	3	5	4	5	4	0.92
Item 15	4	3	5	4	5	4	0.92
Item 16	4	3	4	3	5	4	0.83
Item 17	4	3	5	4	5	4	0.92
<b>Jumlah</b>							14.93
<b>Rata-rata</b>							0,88

Based on table 1, Total score from 3 expert lecturers was 0.88, It can be concluded interactive learning media English subject was very valid.

### b. The Results of Product Practicality Test

The results of the product practicality test to 2 English subject teachers. The practicality this learning media application can be seen in the following table:

**Table 2: The Results of practicality test**

No	Nama Penguji Praktikalitas	Skor					Skor Maks	$\rho$	$\rho_e$	K
		Item 1	Item 2	Item 3	Item 4	Item 5				
1	Rahmanil Fitri S.Pd	5	4	5	5	5	5	0,96	0,04	0,96
2	Zumri S.Pd	5	5	5	5	5	5	1	0	1
<b>Jumlah</b>										1,96
<b>Rata-rata</b>										0,98

Based on table 2, total score was 0.98 and this score was in the interval 0.81 – 1.00 with a very practical category. It means, the learning media is very practical to be used by students and teachers in the process of learning English.

c. Effectiveness test

The researcher found out the descriptive of the scores for pretest and posttest. Using SPSS, the researcher found that:

**Table 3: Result Tests of Normality**

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre_test	.099	30	.200*	.949	30	.163
Post_test	.154	30	.069	.935	30	.068

Based on Table 3, it is the normality score from Kolmogrov-Sminorv and Shapiro wilk. The pretest and posttest from Kolmogrov-Sminorv sig scores were 0.200 and 0.069 > 0.05, respectively. Furthermore, the score sig. of the pre-test and post-test Shapiro wilk 0,163 and 0.068 > 0,05. So it can be said that the application effectively to use in the classroom and can help to get goal of learning.

**Discussion**

This research was conducted to find out whether the developing english interactive learning media based on android can make students easily understand English material and

foster students' motivation to master English skills. Based on research findings, researchers did the process of implementing interactive multimedia development was done in stages.

The first step in defining the needs of students was to begin planning interactive learning media products. At this stage activities are carried out: 1) define the criteria for interactive learning media needed by students, (2) define the theme or scope of the material, (3) define student knowledge or skills, and (4) evaluate the availability of Android types on mobile phones owned by students. The second stage of design is the visual thinking stage because the manufacturing process follows the guidelines for all interactive media products in the form of material outlines, display interfaces, flowcharts or storyboards, and navigation structures. The third stage of the development included the production of text media components such as graphics, animation, audio, and video. Media elements (graphics, animation, audio, and video) are key components of interactive learning media. Furthermore, the dissemination stage in the 4D model was an interactive learning media application that had been designed and developed to be tested. This stage included a validity test that was distributed to three experts, a practicality test that was distributed to two teachers and eighteen students, and an effectiveness test that was distributed to thirty students. The results of this product development received good reception from teachers and students. This can be seen from the results of the validity test, practicality test, and effectivity test, which stated that they needed interactive learning media as a tool to understand the material.

Previous studies have provided valuable insights into the effectiveness of developing interactive learning media using Articulate Storyline software. The findings from these studies demonstrate the positive impact of interactive media on student learning outcomes and engagement. Firstly, Farah Faridatul Fatikhah and Mita Anggaryani (2019) conducted a study titled "Development of Articulate Storyline-based Dynamic Fluid Learning Media for Grade XI High School Students." Their research showed that the developed media, based on Articulate Storyline, was highly suitable for use as a learning tool. In another study by Amanda Dinda Arum Nissa, Muhamad Toyib, et al. (2021), titled "Development of Learning Media Using Android-Based Articulate Storyline Software for Teaching Algebra in Junior High School," the effectiveness of learning media developed using Articulate Storyline software was examined. The validation process, involving material experts and learning practitioners, yielded high scores, indicating the suitability of the developed media. Furthermore, student responses to the use of the interactive media were categorized as very feasible, highlighting its positive reception among students.

Additionally, Nyoman Sugihartini, Putu Eka Dianita Marvilianti Dewi conducted a study focusing on "Developing Interactive Media for Assessment and Evaluation Course." The study revealed that students responded very positively to the use of interactive media in assessment and evaluation courses, with 87% of the students expressing a very positive perception of the media.

These studies collectively emphasize the effectiveness and potential benefits of developing interactive learning media using Articulate Storyline software. The positive outcomes and student responses indicate that interactive media has the ability to enhance the learning process and engage students more effectively. Overall, the findings from these studies underscore the importance of integrating interactive learning media into educational settings, as it can contribute to improved learning outcomes and increased student motivation. Interactive learning media that has been developed can run well and can be used in learning. Based on the validation by experts, interactive learning media were valid and practiced. Furthermore, based on the comprehension test that was conducted at the end of the learning activities, it was effective in helping students' understand the learning process.

## **CONCLUSION AND SUGGESTION**

In conclusion, the utilization of interactive learning media in the English classroom has shown positive effects on student learning outcomes. The implementation of interactive learning media has resulted in improved student comprehension and performance. The findings suggest that interactive learning media can be a valuable tool for English teachers to enhance the teaching and learning process. Based on the results of this study, it is recommended that English teachers incorporate interactive learning media into their teaching practices. This can be done by developing or utilizing existing interactive learning materials that align with the curriculum and meet the specific needs of their students. Teachers should also provide guidance and support to ensure that students effectively utilize the interactive learning media and actively engage with the materials. Furthermore, ongoing research and development efforts should be encouraged to continuously improve and expand the range of interactive learning media available for English language education. This can involve exploring different platforms, technologies, and approaches to design interactive learning materials that cater to diverse learning styles and preferences.

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