JURNAL SYNTAX ADMIRATION

Volume 4, No. 8, August 2023
p-ISSN 2722-7782 | e-ISSN 2722-5356
doi: https://doi.org/10.46799/jsa.v4i7.671

DEVELOPMENT OF APPLICATIONS MEDIA INTERACTIVE BASED ON ARTICULATE STORYLINE 3 FOR EARLY READING

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Abstract:
The rapid development of technology can have a positive influence on the learning process. Technology support in learning can be a means in the learning process. The existence of technology can be an instructional scaffold, namely as a form of teacher support to students during the learning process. The purpose of this research is to develop a product in the form of an interactive media application based on articulate storyline for initial reading. This developed product is used by students at the stage of learning to read. The research method used in this study is using 4D research methods. Starting from the define (discovery), design (design), develop (development), and dessiminate (deployment) stages. This product that has been developed has gone through the validation stage, namely validation by media experts and validation by learning content experts (material). The results of validation by media experts of 91% and the results of validation by learning content experts (material) of 93% which shows that this interactive media application is very feasible to use.

Keywords : interactive media, articulate storyline, reading beginnings.

INTRODUCTION

The ability to read is one of the language skills that must be possessed by every individual. Reading is the process of understanding, interpreting, interpreting and reflecting on a reading that contains information. Winarsih & Sarris (2018) It also mentions that reading is a complex activity that involves thinking skills, visual activity, metagoknition, and psycholinguistics. Reading has the purpose of developing attitudes, knowledge, skills and individual potential (Handaka &; Maulana, 2017). Reading skills are important to be possessed by individuals because they are initial abilities and become gateways for the entry of knowledge and information useful to the individual (Fahyuni &; Istikomah, 2016).

Learning to read is included in language skills. Reading is a receptive language skill (Pertiwi, 2016). When students want to learn to read, students must also have good listening and speaking skills. Language skills have a relationship with each other, so when learning to read students also need listening skills, being able to listen to the information provided and students must also have the ability to speak the ability to speak the learning obtained.

In the independent curriculum, it is stated that the achievement of learning Indonesian language to read in phase A is that students are able to read words they know fluently. In order for individuals to read, there are several skills that must be possessed. The main skills to have are the skills of recognizing letters, groups of letters, and punctuation marks (Nurhadi, 2009).

To foster students' reading motivation, a stimulus or stimulation is needed. The stimulus given can be in the form of an invitation, giving gifts, or by facilitating students by providing interesting media. The expected stimulus is more active and fun learning for students in order to elicit a good response from . Learning media is a communication aid between teachers and students. Learning media is something used to convey information from information providers and recipients of information that has the aim of stimulating student motivation so that the learning process can be meaningful (Batubara, 2020).

Learning media can be real objects, text, images, audio, video, and multimedia. Multimedia is the result of computer technology that is able to combine text, moving images, audio and video into a product, such as learning applications, animation, web, virtual classroom and others. Multimedia technology is a technology that overall combines computer technology, audio systems and video systems to obtain better results to improve interaction between users and computers (Manurung, 2020)

The rapid development of technology can have a positive influence on the learning process. Technology support in learning can be a means in the learning process. The existence of technology can be an instructional scaffold, namely as a form of teacher

support to students during the learning process. The results of the research conducted by Muis, et al (2015) explaining the form of support for the use of applications in schools during learning in kindergarten have an impact on improving learning outcomes, motivation, and involvement of students in the learning process.

When researchers made observations on children aged 6 years who will enter elementary school, on average they still have difficulty learning to read. The observation was made by researchers at TK Insan Karim. This is because the transfer of school periods in kindergarten and elementary school has quite a difference. Students while in kindergarten are still dominated by play activities while elementary school-age children enter the stage of constructing their knowledge, so that learning to read is still small, therefore it is often found in grade 1 elementary school students who are still not many who can read.

To overcome existing problems, innovation in learning is needed that can make it easier for students to learn to read. Because learning to read is essential and needed by every individual as a provision to be able to follow learning in class, the use of media for initial reading can be used as a solution to overcome early reading problems by considering the efficiency of the time needed to learn to read.

Based on existing conditions, it is necessary to develop learning media solutions for early reading with the integration of fun technology that can foster motivation to learn to read in early elementary school students. The development of interactive media applications for reading beginning is important to do with the consideration that students when learning to read can be done independently and with more flexible time. The Synthetic Analytical Structural (SAS) reading method used can also make it easier for learners to learn. Which starts from the introduction of simple sentences that students have often heard. Silfiyah (Silfiyah et al., 2021) In his research on the influence of the SAS (Synthetic Analytical Structural) method, it is stated that learning to read for beginners with the SAS method has a significant influence.

The use of the SAS method is widely used by teachers when teaching students to learn to read, but the application of the method is only limited to classroom learning with limited time (Khofsoh, 2020). The absence of reading learning subjects and no special hours for reading learning in elementary schools are also one of the researchers' considerations to develop an interactive initial reading media application designed for students to learn independently at home with parental supervision. Technological advances are also very influential on the media to be developed. The development of technology produces a variety of software and *tools* that can be used to design attractive and colorful media that suits the characteristics of children. One of the software I chose to develop this media is *Articulate Storyline. Articulate Storyline* is one of the *multimedia authoring tools* used to

design interactive media containing a combination of text, images, graphics, sound, animation and video (Amiroh, 2019).

Media development using *Articulate Storyline* has been widely done. *Articulate Storyline* is easy to access and use. One of the studies that discusses the development of interactive media for reading beginnings with the help of *Articulate Storyline software.* Yati Yati et al. (2022) explained that the results of the product developed in the form of an application called ABC (Learning to Read Application) are suitable for early stage reading learning for grade 1 elementary school students. The differences between products that have been developed and products to be developed are (1) reading techniques used, in previous studies using global reading techniques, while for the media that researchers developed using SAS (*Synthetic Analytical Structural)* techniques. (2) the learning theme used, in previous studies using the theme of limbs while in this development research using the theme of the home environment. (3) The products developed by researchers have several games or games including sound puzzle games, word puzzles, and word stacking. The existence of games presented when using learning media applications adds enthusiasm and motivation to learn students.

In the study, Yati dkk. (2022) it was explained that there were limitations of researchers in developing products such as the lack of material presented and less varied practice questions. By looking at the limitations of the products developed, the researcher wants to develop an interactive media application based on *Articulate Storyline* to read the beginning with wider material, more practice questions, and games that can attract the attention and motivation of learning to read students.

The development of this interactive media application is expected to have a positive impact on students who are just learning to read. By learning to read using this interactive media application, it is hoped that students' reading skills will increase, students can learn independently without any limitations of space and time. It is also expected that by using this interactive media application, learning to read will be more fun.

MEETODE RESEARCH

The type of research used in this study is R&D (*Research and Development.* The development model used to develop the interactive media used is the 4D development model developed by Thiagarajan et al (1974). This 4D development research consists of four steps, namely *define*, *design*, *develop*, and *diessiminate* These steps can be seen in detail in the image below (Sani et al., 2018).

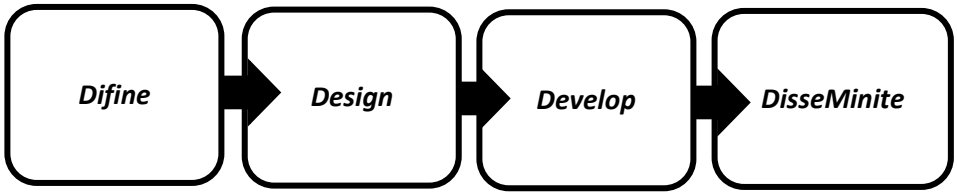

Figure 1 4D R&D Research Design

At this *stage of define*, the determination and definition of the conditions needed to develop interactive learning media application products for initial reading. Defining the requirements is done by paying attention to and adjusting to the needs of the media to read the beginning. The determination of conditions is carried out by field surveys and conducting interviews.

In the *design* stage (design) the design of interactive learning media reading begins based on *articulate storyline*. From creating interactive media application *story boards* to reading beginnings, determining themes, and searching for materials, as well as collecting media creation materials. Activities at this stage are compiling interactive learning media designs for initial reading based *on articulate storylines* and making product assessment questionnaires by experts (material experts and media experts), users (teachers), and learning outcomes (students) to measure reading skills in students.

At the *develop* stage, which is the stage of developing and producing products. After the product is produced, the next step is to conduct validation tests by experts and product trials. Expert validation tests will be conducted by material experts and media experts. The trial was conducted on early elementary school students who entered the stage of learning to read. Media expert tests are carried out to get suggestions and input related to media that have been developed. Material validation is carried out to determine the accuracy and suitability of the material presented in interactive media applications.

In the d*isseminate* stage (deployment), deployment will be carried out after the product has gone through the revision stage and is valid. The deployment was carried out at the test site.

Data Analysis

The data from filling out the questionnaire by validators will produce quantitative and quantitative data. Quantitative data is obtained from the results of filling in statement items on the questionnaire, while qualitative data is obtained from validation results in the form of comments, criticisms and suggestions. The quantitative and qualitative data obtained will be used as a basis for revising the product and to determine the feasibility of the product for use in the field.

The quantitative data obtained will be processed with the following formula.

$$P = \frac{\sum x}{\sum xi}\ x\ 100\%$$

Information:

P = Percentage

∑× = Total number of validator answers

∑×i = Total score

100% = Constant

The results of calculating the validation questionnaire score using the formula will then be used as a reference to determine product eligibility criteria. Product eligibility will be assessed based on the following categorization of validation results.

Table 1 Criteria for Categorization of Validation Results

Achievement Rate (%)	Category	Test Decision / Meaning
86,00 – 100,00	Very valid	Can be used without revision
71,00 – 85,00	Valid	Can be used, but needs minor revision
56,00 – 70,00	Quite valid	May be used with major revisions
41,00 – 55,00	Less valid	Must not be used
25,00 – 40,00	Invalid	Must not be used

RESULTS AND DISCUSSION

The results of this study were presented based on the objectives of the study, namely (1) development of interactive media applications based on ariculate storyline to read the beginning of the home environment material, and (2) validation of the interactive media application *ariculate storyline* to read the beginning of the home environment material .

Product Description *Ariculate Storyline-Based* Interactive Media Application **for Beginning Reading**

The interactive media product developed is in the form of an android application with a file size of 55 mb. This android application media contains material about the home environment. The media can be operated by the learners themselves with the help of parents. The reading technique used in the application is a reading technique using the SAS (*synthetic analytic stricttural*) method. In the application, simple sentences are presented which are then decomposed into syllables, and deciphered again into letters / phonemes. Students read by recognizing simple sentences which are then decomposed again into syllables and reduced again into letters / phonemes.

On the initial screen of the application there is a start page of the application let's read. before logging in on the login page. To proceed to the login page, students can directly click the play button. Before starting learning, students fill in their names and classes first. On the login page there are also hint and warning buttons. To start learning to read, students can directly click the play button.

Figure 2 Application Cover Screens

Figure 3 Login Page

Figure 4 Learning Options Menu Page

On the menu page, learning options consist of parts of the room in the house. Starting from the front of the house, namely the terrace, garage, living room, bedroom, study, kitchen and bathroom. Students can choose the learning menu according to the interests of their respective students. This will not affect errors in understanding the material.

Figure 5 Learn, Practice and Play Menu Page

On the learning, practicing, and playing menu page, students first select the learning menu. After the students learn, the learners continue to practice and after the learners learn and practice continue with playing. Students learn to read based on the theme that has been chosen after students complete one theme, students continue on the next theme. Here are the study pages, play pages, and practice pages.

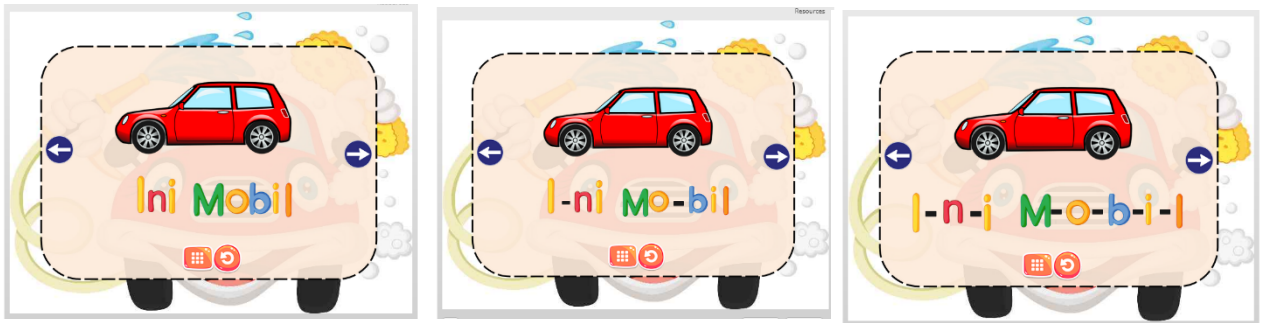

Figure 6 Study Page View

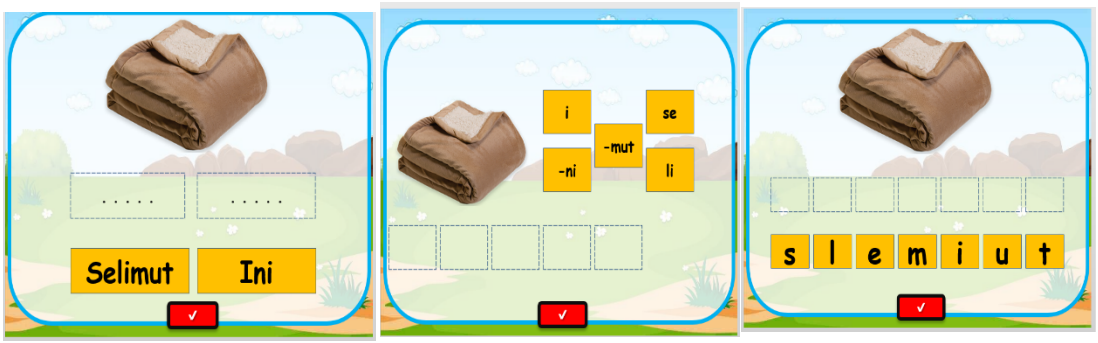

Figure 7 Workout Page view

Figure 8 Play Page Display

On the practice page there are problems to arrange words into sentences, arrange syllables into sentences, and letters into words. If students answer either incorrectly or correctly, an emoji will appear according to the selected answer. If the answer is correct, a happy emoji will appear with a clapping backsound and if it is wrong, a sad emoji will appear with the wrong backsound. If students can answer each question correctly, students will get a score of 100.

On the playing page there are three *games*, namely sound puzzles, word *puzzles*, and word stacking. In the puzzle, students will pair the voice they listen to with the right word. *Word puzzle games* where students pair pieces of pictures correctly to arrange the right words. When students play word stacking, students will arrange words from the letters according to the picture precisely.

Product Validation Results Articulate *Storyline* Interactive Media Application **for Beginning Reading**

The validation carried out is the validation of media experts and material experts. Validation activities are carried out by providing questionnaires in the form of question items. The learning media expert validation questionnaire consists of 14 questions, while the learning material validation questionnaire (learning content) consists of 15 questions. The following is the result of the validation performed by the validator.

Table 2 Interactive Media Application Validation Results

No	Assessed aspects	Result
1	Ease of preparation before using interactive media	100%
2	Ease of operation of interactive media	100%
3	Ease of utilizing interactive media as a whole	100%
4	Interesting interactive media cover design	100%
5	The attraction of music accompaniment material on interactive media	100%
6	Interesting animation effects on interactive media	75%
7	Interesting visualization (use of fonts, font size, color composition, and images) on interactive mediaf.	100%
8	The accuracy of using buttons used on interactive media	100%
9	Flow accuracy/interactive multimedia systematics	50%
10	Accuracy of using interactive media for independent learning	100%
11	Accuracy of images with sentences presented	100%
12	Interactive media design according to the characteristics of low-grade students	100%
13	Accuracy in how to present the material	75%
14	The order of use of interactive media according to the level of content of the initial reading learning	75%
Average		91%

Based on the results of expert validation of learning media, which is 91%, it can be concluded that application media products for initial reading are feasible to use.

Table 3 Content Validation Results of Learning Content of Interactive Media Applications

No	Assessed aspects	Result
1	Suitability of the material to the characteristics of elementary school-age students	75%
2	Interesting presentation of material for learning to read for early elementary school children	100%
3	The determination of hyphenating sentences into words, syllables and letters then from syllables into words and sentences in each material	75%
4	Suitability of the use of reading audio on each slide of learning material	100%
5	Learning content presented on interactive media can teach aspects of students' beginning reading skills with SAS matode	100%
6	Interactive media presents material with the pronunciation of sentences into words, syllables, and letters according to the theme of my house	100%
7	Interactive media helps teach students in sound and letter recognition through decoding sentences into words, syllables, and letters	100%
8	Interactive media learning content according to the student's environment	100%
9	The language used in interactive media does not contain elements of SARA	100%
10	The language used in interactive media is easily understood by early elementary school students	100%
11	Ease of understanding of material by children using interactive media	75%
12	Visualization of each display	100%
13	The effectiveness of media in arousing students' interest in reading	100%
14	The order of use of interactive media according to the level of content of the beginning reading teaching furniture	75%
15	The suitability of the use of images with the material studied (pictures of names, names of objects around my house).	100%
	Average	93%

The result of validation of learning content (material) is 93%, which means it is very feasible to use. The average percentage of validation results is 90% so that the media can be implied without revision and used by students to learn to read. However, when validating there are also some suggestions and comments for media improvement. From the aspect of learning media, there needs to be a systematic improvement in the presentation of the main menu, sub-menus based on the most important menu and for slides the value of practice questions directly presented the scores obtained by students not by including KKM (Minimum Completeness Criteria). For the content of learning content, there needs to be improvements to the presentation of exercises, practice questions must be in accordance with the material taught.

The development of technology shows that the existence of technology is very influential on the environment of students, both the home environment or the school environment. The results of the rapid development of technology have an impact on the ability of students to learn, interact, and play. With the presence of technology can have a

positive impact on learning. One example is the development of learning media packaged in the form of educational game-based applications, besides that the media is also easily obtained and accessed by all groups, both teachers, students and parents. The findings of research conducted by explained that the use of applications in learning is very suitable to be implemented in interactive learning models in the classroom, so that learning models become more varied and not boring Zakiah &; Bone (2019).

The effectiveness of using applications to learn to read has been found, one of the results of research that explains the use of media in learning to read is the results of research conducted Fauziah et al., (2022) by in his research explaining the comparison of student learning outcomes when using reading learning applications. The study compared the use between two learning to read applications entitled "Let's Learn to Read" and "Marbel Baca". The results of his research show that both applications are feasible to be used to hone reading skills and to improve students' reading skills.

The *articulate storyline-based* interactive media application product for reading the beginning developed in this study was declared valid, the average validity value obtained was 90%, which means it is very feasible to use. Beginning reading interactive media applications are easy to operate and can visually attract the attention of learners. In addition, the presentation of media and reading techniques with the SAS (*Synthetic Analytical Structure*) method is easy for students to follow. Learners learn to read from simple sentences which are then further decomposed into syllables, words, and letters. After being reduced into the simplest part, namely the word, it will be combined again into syllables and arranged again into simple sentences. The results of the study conducted by Silfiyah et al., (2021) also explained that the use of the SAS *Synthetic Analytical Structural*) method has an influence on improving reading skills in students. After the application of the method of reading intonation, the fluency and accuracy of voicing the pronunciation of letters to students is better than before the application of the method.

CONCLUSION

Articulate storyline-based interactive media applications are interactive learning media packaged in the form of applications so that students can easily learn to read anytime and anywhere. The articulate storyline-based interactive media application product for reading the beginning developed in this study was declared valid.

The results of validation by media experts are 91% and the results of validation by learning content experts are 93%. The validation results from learning media experts and learning material content show that learning media is very feasible to use. This interactive media application is in accordance with student characteristics, has interesting

visualization, so that it can attract students' interest and motivation to learn to read. Reading techniques use the SAS (*synthetic analytic structural)* method which is proven to make it easier for students to learn to read.

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