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DEVELOPMENT OF INTERACTIVE LEARNING MEDIA ARTICULATE STORYLINE OF INDONESIAN LANGUAGE LEARNING IN FOURTH GRADE ELEMENTARY SCHOOL

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Abstract. The problems at National Elementary School Tugurejo 01 regarding the lack of utilization of technology learning media and learning outcomes that could be more optimal in learning Indonesian. The problem formulation in research examines how to develop, test the feasibility, and test the effectiveness of interactive learning media articulate storyline. The research procedure uses the Borg and Gall model. Development is carried out using the Adobe Illustrator application, which is then converted into an Articulate Storyline. This development research aims to develop learning media and determine the feasibility and effectiveness of interactive learning media based on articulate storylines. The results of the study show that interactive learning is very feasible, with a percentage of eligibility for presentation by media experts of 89% and eligibility for content by material experts of 92%. This media is effective with normality test results. Based on calculations, a sig value of 0.192 was obtained, assuming that the data is usually distributed if the sig value is > 0.05 . Based on the results of the n-gain test, the cognitive n-gain score was 0.712, with an average difference of 39.07. So that the n-gain value on cognitive pretest and posttest learning outcomes in large group use trials has a high category, with an effectiveness level of 71,237 Very Effective. The increase in average indicates that interactive learning articulate storylines effectively used as teaching materials and learning media. Suggestions for further research are to apply the media into a more straightforward device so the media can be used in various classroom situations and support character development according to the new curriculum.

Keywords: Articulate Storyline; Indonesian Language Learning; Main Idea.

I. INTRODUCTION

Education in Indonesia in the 21st century as a solution to the industrial revolution 4.0 demands a lot of skills that students must master. The development of technological advances makes it easier for humans to get the information they want by using the internet (Aeni, et al, 2022; Mulyaningrum, et al. 2023). One of them is process-oriented knowledge and technology skills. This is because technology, information, and communication play an important role and have a significant impact on education, especially in learning activities, both in the learning and teaching processes. (Huda, 2020; Lestari, 2018; Nuryana, 2018). According to the 2013 Curriculum, which emphasizes competency and character in its application. That way, the existence of a curriculum based on competence and personality has an orientation to prioritize the learning process rather than learning outcomes. In the 2013 curriculum at the elementary school level, subjects are integrated into a theme, commonly referred to as an integrated thematic approach. In integrated thematic

learning, Indonesian language subjects or content are included in elementary schools.

Learning at school is required to facilitate students learning by using relevant learning resources or media. Currently, the teacher is necessary as a facilitator for students. (Hidayati, Andayani, & Junaidi, 2021; Sulistyono, 2019). Learning Indonesian in Elementary Schools (SD) is important because it is the basis for students to master Indonesian language learning material. Bahasa Indonesian is a subject that can be learned directly in everyday life (Febrianto, Maureen, & Bachri, 2023; Maryanto & Wulanata, 2018). Indonesian language learning is directed at increasing students' ability to communicate using Indonesian properly and correctly, which includes four aspects of skills, namely listening, speaking, reading, and writing skills, so learning Indonesian in elementary school is expected to help students get to know themselves, their culture and other people's culture, express ideas and feelings, participate in society and discover and use the imaginative abilities that exist within him. (Astuti, 2016; Septiani, 2019; Suria Oktaviani, Suwatra,

& Murda, 2019). Therefore, it is necessary to make efforts so that students can understand this subject by increasing their learning interest. To increase students' interest in and results in learning Bahasa Indonesian, it is necessary to find effective and fun learning media solutions to implement Indonesian language learning for students.

Technology development in the digital field has impacted the world of education. Technology media can be used as learning media, making it easier for teachers to convey messages and students to receive notifications. Various learning media are applied to improve student learning outcomes. One learning media that can be used in the learning process by utilizing technology is interactive learning media based on Articulate Storyline 3. Articulate Storyline 3 is an application that can be used in the learning process to create interactive learning. The emergence of Articulate storylines that can articulate stories in learning media can engage in exciting learning. The articulate storyline application can be developed in several models. Unlimited development: Not only does it look attractive, but the sound or music that is displayed can also vary; learning videos can also be integrated into an articulate storyline (Ghofur & Raharjo, 2018; Riyanto, Jamaluddin, & Pamungkas, 2019; Wahyudin, 2013). Articulate Storyline 3 can convey learning material with scenes and slides, which will be combined with audio and video to make learning more interesting. This software is available in .exe format so that it can be used directly on a PC / Laptop (Amiroh, 2019). To make it easier for educators to convey material, this media is expected to be one of its solutions and alternatives. The product that will be produced from this media is in the form of a combination of slides, images, video, audio, and animation to display the desired material. Besides that, it can also be a means of conducting tests or questions interactively.

Research conducted by Annisa Aulia & Masniladevi (2021) shows that interactive multimedia based on Articulate Storyline 3 to increase students' learning interest in integrated thematic learning in 3rd grade is practically used in the learning process based on the results of the material validity test of 94%, language validity test of 96.66%, media validity test of 95.55%, the practicality test was 92.22%, the teacher's response was 93.41%. In the development of interactive multimedia based on Articulate Storyline 3 consisting of learning materials and quizzes containing 10 questions with a processing time limit of 10 minutes. In line with the research above, research conducted by Salwani & Ariani (2021) Shows that the learning media for theme 3 sub-theme 3 based on Articulate Storyline 3 5th grade is practical and valid used in the learning process based on the results of the validity of the material test by 82%, the language validity test by 93%, the media validity test by 100%, the teacher's response practicality test by 81 %, the practicality test of the student's response was 66%. In developing learning media for theme 3, sub-theme 3 based on Articulate Storyline 3 consists of learning materials and quizzes. That way, the Articulate Storyline 3-based learning media that has been developed is only limited to materials

and examination problems of interactive learning media based on Articulate Storyline 3 without games.

In learning Indonesian, there is still a tendency for students to be passive. Most students are still afraid to ask questions or express their opinions to the teacher even though they still don't understand the material presented by the teacher. When the teacher asked if there was anyone who didn't understand the material, the student's response was just silence. After being tasked with working on the questions, the teacher knows that many students still need help understanding the material being taught. It's not only a problem for the students, but in the Indonesian language learning process, the teacher still dominates the class. There needs to be a better interaction relationship between teachers and students. This is one of the factors why students tend to be passive when learning the Indonesian language.

Problems in the Indonesian language learning process were found in Grade 4 at SDN Tugurejo 01 Semarang. Based on pre-research conducted by researchers with class IV teachers at SDN Tugurejo 01 Semarang, namely through observation data, interviews and documents, there are several problems in learning activities, including the use of learning media by teachers who are simple and have not optimized the use of Information technology (IT), learning which is carried out in the form of assignments via WhatsApp Group or Google Classroom, or ZOOM meetings which makes it difficult for students to understand the concept of material in the Indonesian language lesson content, especially primary idea material because the primary idea material is very complex. In contrast, students' interest in reading is low when only given assignments. In Indonesian Language Learning, students have difficulty when asked to determine the main idea. This shows that the level of students' understanding ability in determining the main idea is still low.

Less optimal use of learning media makes students less enthusiastic about participating in learning, especially in Indonesian language lessons. To understand a material, Indonesian requires a very high understanding and interest in reading. The teacher also feels that the media used is still ineffective because the material is quite a lot, and students still need to determine the content of a reading. Besides that, face-to-face learning is also limited, and it is also difficult to use the discussion model because you have to keep your distance so you don't crowd.

The lack of variety of learning media, learning models, and methods impacts the ability to determine the main ideas of students, especially in the context of Indonesian lessons. Based on data on the learning outcomes of fourth-grade students at SDN Tugurejo 01, many of them have been unable to reach the Standard of Minimum Completeness. Grade IV A, with a total of 28 students, consisted of 12 male students and 16 female students; 16 students (57%) had not fulfilled the Standard of Minimum Completeness, and 12 students (43%) had fulfilled the Standard of Minimum Completeness.

Based on these data, problems are created because the learning process could be more attractive. Hence, students' motivation and interest in learning decreases in understanding and paying attention to the material taught by the teacher, which impacts assessing student knowledge. Therefore, it is necessary to use exciting and innovative learning media so that students will be interested and active in learning. This is adapted to the development of students at elementary school age who are in the concrete operational stage, namely the stage where they will better understand something in a concrete or actual form so that the use of media becomes an essential factor in learning, namely as a message distributor.

Sri Anita (2006) Learning media is a physical means of delivering learning content/material such as books, films, videos, slides, etc. Using learning media in education will help the effectiveness of the process and delivery of learning content. Learning media is essential in motivating students to participate in teaching and learning activities. The selection of suitable media is crucial. With the development of technology, learning media is growing. One of them is using interactive learning media.

According to Suryani, et al. (2018) Interactive media is a media that can interact with its users and can provide feedback on the material displayed. There are many software that can be used to create interactive learning media. One of them uses Articulate Storyline. Articulate Storyline is software for creating interactive learning media that provides experiences to students both visually and audio. (Yunita Setyo Utami & Wahyudi, 2021). Articulate Storyline also has game-like features. Game-shaped media can be used for essential learning because it is designed with the basic characteristics of students who like to play (Miaz et al., 2019).

Based on the problems described, the researchers analyzed that the development of interactive and exciting learning media is needed as a problem-solving in the Indonesian language learning process in 4th grade SDN Tugurejo 01 using media based on Articulate Storyline. The development of this media is expected to provide positive results such as more exciting learning, motivating students, and increasing student understanding. Considering the importance of using media in education, the researcher conducted development research entitled "Development of Articulate Storyline Media to Improve Understanding of Main Ideas in Indonesian Language Lesson Content grade IV SDN Tugurejo 01"

II. METHODS

The type of research used is Research and Development (R&D) development research. Research and development Research and Development is an analysis used to produce a particular product and test the effectiveness of the product (Sugiyono, 2016: 297). The development model used is the Borg & Gall development model, which consists of several stages, namely: 1) potentials and problems; 2) data collection; 3) product design; 4) design validation; 5) design revisions; 6) product trials; 7) product revisions; 8) trial use.

This study used a pre-experimental research design with the form of one group before-after design. A pre-action test (pretest) and a posttest (Sugiyono, 2016: 415) Testing was carried out on a small scale with the aim of determining the readability and fluency of media use, then continued with large-scale testing to evaluate the effectiveness of media use. This research was carried out in the even semester of the 2022/2023 academic year at National Elementary School Tugurejo 01.

The subjects in this study were students, teachers, experts, and researchers. The variables in this study: 1) The independent variable in this study is the interactive media Articulate Storyline; 2) The dependent variable is the result of learning Indonesian. In this development research, media validation was carried out by experts. Data collection techniques in this study were: 1) test techniques in the form of pretest and posttest; 2) non-test techniques in the form of interviews, questionnaires, and documentation. Data analysis techniques in this study consisted of initial and final data analysis. Initial data analysis by carrying out normality and homogeneity tests on pretest and posttest learning outcomes. Meanwhile, the final data analysis was conducted out by conducting a t-test and n-gain test.

III. RESULT AND DISCUSSION

The results of research and development of interactive learning media Articulate Storyline to increase elementary school students' understanding of poetry for grade IV SD include; the development of interactive media Articulate Storyline which is applied in learning Indonesian for grade IV material Main ideas; 2) the feasibility of Articulate Storyline interactive learning media in Indonesian language learning for grade IV subject matter; 3) learning outcomes in grade IV Indonesian content learning material Main ideas using interactive learning media Articulate Storyline.

A. Articulate Storyline Interactive Learning Media Development Design

Articulate Storyline interactive learning media utilizes electronic devices (such as computers and gadgets). Articulate Storyline interactive learning media was created using Adobe Illustrator as the initial design. The process of preparing the media in the early stages carried out character designs, menu displays, backgrounds, colors, and other small objects using the Adobe Illustrator program. The initial setup results are in the form of high-resolution images, which are then included in the Articulate Storyline to be compiled into media. Initially, the preparation of the press in the Articulate Storyline is to have a background image, which will later serve as the initial template for the media. The next step is the preparation of login pages, menus, and pre-prepared content. After everything is finished, the results of making the media are exported into an HTML file, which will later be uploaded to the website. Websites that already contain html files will be tested by researchers to see if all menus can be used and also to see the final results of the media. Preparation of interactive learning media components Articulate Storyline design to make it easier to create

material and images that will be applied in the Articulate Storyline Application. There are several menus and navigation in the initial appearance of the Articulate Storyline interactive learning media that can assist users in using the Articulate Storyline interactive learning media. The following are the results of the development of Articulate Storyline interactive learning media:



Figure 1. Cover



Figure 2. Login Page



Figure 3. Menu



Figure 4. Menu Materi



Figure 5. Learning Video



Figure 6. Tips and Trick



Figure 7. Exercises



Figure 8. Creator Profile



Figure 9. Instructions for Use

To access Articulate Storyline interactive learning media, you can use laptops, cellphones, and tablets by opening an existing browser, for example, Safari, Google Chrome, Firefox, etc. Accessing the media using a computer is

recommended to make it easier. Still, users who use cellphones and tablets are advised to use landscape mode to make the menus and views presented more precise and more comfortable to read. Users can then enter the address <https://bit.ly/mediaklas4> at the top of the browser. After that, the user is asked to enter the name and school origin as an identity when accessing the media. Later, the user will be presented with the main page, which contains menus and information related to the Articulate Storyline interactive media.

Feasibility Assessment of Articulate Storyline Interactive Learning Media Assessment of the feasibility of interactive learning media Articulate Storyline helps validate whether the products created by researchers are feasible or not suitable for use in learning activities in schools. The feasibility assessment is carried out by a team of expert validators consisting of material and media experts. In addition to feasibility testing, the validator team also provided input so that the products developed by researchers were getting better. The quality of the material in the developed Articulate Storyline interactive learning media is known through testing and validation by material experts. The validation carried out aims to determine the feasibility of ecosystem materials and food webs that suit the needs of students. The material expert assessment instrument consists of 3 assessment indicators, namely:

1. The material follows KI, KD, indicators, and learning objectives.
2. The material follows the child's level of thinking.
3. Compatibility of the image with the material.

The feasibility of the developed Articulate Storyline interactive learning media can be identified through testing and validation by media experts. The confirmation aims to determine the feasibility of the media needed for students. The media expert's assessment instrument consists of 4 assessment indicators, namely:

1. The presentation of layout, writing, picture illustrations, videos, and so on must be clear.
2. The balance between the place, the position of the elements, the mix between the elements, the size of the details, and the presence of the ingredients in the media.
3. The media has a cohesive, consistent, and singular design regarding content composition, such as writing, color palette, use of space, and so on.
4. The size of the media according to the learning environment of students.

TABLE 1
 RESULTS OF THE VALIDATION TEST OF MATERIAL EXPERTS AND MEDIA EXPERTS

Validation	Score Percentage	Category
Material Expert Validation	92%	Very Worth it
Media Expert Validation	89%	Very Worth it
Average score	90.5%	Very Worth it

Based on Table 1. The results of the material validation get a percentage of 92% in the "very feasible" category and the results of the media validation get a percentage of 89% in the "very feasible" category. From the validation results of material experts and media experts, it was shown that the Articulate Storyline interactive learning media developed by the researcher was stated to be very feasible to try out.

B. The Effectiveness of Articulate Storyline Interactive Learning Media

The Effectiveness Test uses the One Group Pretest-Posttest design to determine the increase in the average results of learning Indonesian. The effectiveness of using Articulate Storyline media can be seen from the significant average difference between the pretest and posttest scores. Table 2. is a table of students' Indonesian learning outcomes that will be tested.

TABLE 2
 STUDENT LEARNING OUTCOMES

No	Information	Grade IV	
		Pretest	Posttest
1	The number of students	28	28
2	Average	44.79	83.86
3	The highest score	54	94
4	Lowest score	34	72
5	Passed Students	0	28
6	Passing Grade (%)	0%	100%

C. Results of Data Processing

From the initial data obtained, the researcher conducted an analysis of the normality test of pretest and posttest values. The normality test is useful for detecting whether the data obtained in the population is normally distributed or not so that the data is in a normal distribution. The normality test in this study used the liliefors test with the help of SPSS 25.

TABLE 3
 NORMALITY TEST

Std Dev	Test statistic	Sig 2 tailed
2.20135744	0.137	0.192

Based on Table 3. it is shown that the significance value of the pretest and posttest results is 0.192, the significance value is more than 0.05. This means that the results of the large-scale pretest and posttest values are normally distributed with sig values, $0.192 > 0.05$ so that the assumption of normality is met, then the value of H_0 is accepted and H_1 is rejected. So it can be concluded that the posttest learning outcomes are normally distributed.

The data that has been tested for normality is then carried out by the t-test. The t-test used is the paired sample t test or paired sample t test. The t-test was used to find out the difference in the average pretest and posttest scores and was used to test the differences in pretest and posttest learning

outcomes on the use of interactive media Articulate Storyline.

TABEL 5
 T TEST

T-Test	Mean	N	Std. Deviation	Sig.
Pre-test	44.79	28	5.370	0.00
Pos-test	83.86	28	4.927	0.00

Based on Table 5. The results of the t test on the pretest and posttest values are 0.00. It shows that H_0 is rejected because $0.00 < 0.05$. So that the results of the t test after using e-module teaching materials based on Articulate Storyline show that there is a difference in the average pretest and posttest scores. With an increase in student learning outcomes by 39%. and it can be concluded that the data obtained there are differences in pretest and posttest values less than zero so that the pretest value is less than the posttest value.

The n-gain test is a statistical method test that is useful for knowing the increase in pretest and posttest scores so that there are criteria for low, medium, or high pretest and posttest scores.

TABLE 6
 N-GAIN TEST

N	Minimum	Maximum	Mean	Std. Deviation
28	.61	.88	.7124	.06539
28	60.61	88.00	71.2377	6.53937

Based on Table 6, the gain test for the pretest and posttest values is 0.7124 which is in the medium category. Meanwhile, in the estimated effectiveness, a score of 71.2377 is obtained from the value of student learning outcomes in the cognitive aspect, which has a high average increase in the criteria for Very Effective

Discussion

Interactive learning media articulate storyline has been developed to determine: (1) Product Development. (2) Feasibility of interactive learning media articulate storyline. (3) Media effectiveness Interactive learning articulates the storyline.

The development of interactive learning media for articulate storylines was designed using Adobe Illustrator; at the design stage, character designs, menu displays, backgrounds, colors, and other small objects were created using the Adobe Illustrator program. The initial setup results are in the form of high-resolution images, which are then included in the Articulate Storyline to be compiled into media. Initially, the preparation of the media in the Articulate Storyline is to include a background image, which will later serve as the initial template for the media. The next step is preparing login pages, menus, and pre-prepared content. After everything is finished, the results of making the press are exported into an HTML file, which will later be uploaded to the website. Websites that already contain html files will be tested by researchers to see if all menus can be

used and also to see the final results of the media. Research conducted (Ketut Sinta, Gede Astawan, & Made Suarjana, 2021) Revealing the development of interactive learning media in learning can also improve the process and improve student learning outcomes. The ease of using articulate storyline media is presented so that students are assisted when using the media in the learning process.

The eligibility of interactive learning media for articulate storylines is determined based on the validator team's expert validation results. The feasibility test conducted by the validator team aims to measure the feasibility of developing interactive articulate storyline learning media on grade IV primary idea material as Indonesian language learning media and provide input or suggestions for media development. Based on the validation results obtained by the expert validator team, the accumulation of ratings used as a percentage in the material expert test was 92%, while media experts were 89%, showing that interactive learning media articulate storyline is very feasible to be used as a learning medium in the context of Indonesian Language subject matter main ideas. In line with the research conducted (Nugroho & Arrosyad, 2020) Shows the results of the feasibility study. The average rating in the percentage by the media expert validator is 82.5% in the "Very Good" category. The material expert's assessment was 71%, with the "Very Good" category. Responses 6 students got an average final score in the percentage of 71.33% in the very good category.

The effectiveness of articulate storyline interactive learning media is known based on the results of the pretest and posttest scores in a large-scale trial conducted at SDN Tugurejo 01 in grade IV students with 28 students. In the test using large groups, the pretest average score was 44.79 with students who completed the Standard of Minimum Completeness 0 students, while the average posttest score was 83.86 with 28 students. The normality test used in the pretest and posttest learning outcomes data in large group trials is the Kolmogorof-Smirnov test. Based on the calculation, a sig value of 0.192 is obtained with the assuming that if the sig value is > 0.05 , the data is normally distributed. The Sig value obtained is $0.192 > 0.05$, so it can be concluded that the posttest student learning outcomes are normally distributed.

In the next step, after the data were normally distributed, the researcher tested the differences in the pretest and posttest means through a paired t-test. Based on the calculations, the mean pretest and posttest values were 44.79 and 83.86 with a significant deal of $0.00 < 0.05$, indicating a relationship to the increase in learning outcomes with an average increase of 39%, so there is a difference in the pretest and posttest values in the large group use trials.

Next, the researcher calculated the n-gain test, which received a cognitive n-gain score of 0.712 with an average difference of 39.07. So, the n-gain value on cognitive pretest and posttest learning outcomes in large group use trials has a high category, with an effectiveness level of 71,237 Very Effective. Based on the paired t-test and n-gain tests, the articulate storyline interactive learning media is effectively used as a learning medium. Improving student learning

outcomes through the use of articulate storyline interactive learning media is reinforced by several previous studies, which state that there is an increase in learning outcomes after using articulate storyline interactive learning media. Research by Alkurnia Rohmatul Fatimah in a journal entitled *The Influence of Digital Learning Media on Students' Cognitive Achievements in History Class XI IPS 2 National Senior High School 1 Menganti Gresik*. With the validity test, the media made in the research conducted was included in the very effective category, namely the percentage of 94.853%. Meanwhile, the results of the feasibility test of the media made and through development in this study obtained a very effective and feasible category with a percentage of 83.833%. Supported research conducted (Darmayanti & Surya Abadi, 2021) The results of this study indicate that the development of instructional media based on the results of subject content experts' reviews obtained a percentage of 90.00%, learning design experts received a percentage of 92.00%, learning media experts obtained a rate of 95.00%, and the results of individual trials obtained a ratio of 92.35%. This study concludes that the online learning media for Virtual Comics as a whole is included in the very good category and is suitable for learning Indonesian content material for main ideas and supporting ideas. The implication of conducting this research is that teachers can use it as a learning resource to increase students' interest in learning.

The limitations encountered by researchers are that there are still many devices that cannot be used to install media due to low specifications, limited development of the primary idea material, and user interfaces that still make it difficult for students and require direction. The improvement needed is to improve the user interface so that students are able to use the media independently.

So, based on this research, the use of articulate storyline interactive learning media in supporting the learning outcomes of grade IV Indonesian language subject matter both classically and independently can be said to be appropriate and able to overcome existing problems, especially in terms of increasing learning independence and students' understanding of idea material. The subject matter that is packaged in interactive learning media articulates storyline.

IV. CONCLUSIONS

This research uses interactive learning media to develop an articulate storyline using the Adobe Illustrator application, which can be converted into an articulate storyline. Media can be used on Android or laptop. A team of expert validators tested the feasibility level of interactive learning media with an articulated storyline, the assessment results of material experts were 92%, and media experts were 89%. Based on the assessment by the validator team, the interactive learning media that articulates the storyline is in the very feasible category and can be tested on students. Analysis normality test results Based on the pretest and posttest data, a sig value of 0.192 was obtained, assuming that if the sig value was > 0.05 , then the data was normally

distributed. Based on the results of the n-gain test, the cognitive n-gain score was 0.712, with an average difference of 39.07. So, the n-gain value on the cognitive pretest and posttest learning outcomes in large group use trials is in the high category, with an effectiveness level of 71.237 in the Very Effective criteria. Supported by research (Darmayanti, 2021), development media that is considered appropriate by experts can improve students' cognitive learning outcomes. The increase in average shows that interactive learning articulates the storyline effectively when used as open material and learning media. Future research is expected to be able to apply media to simpler devices so that they can be used in a variety of classroom situations, presenting an easy and attractive appearance so that they can support character development in accordance with the new curriculum.

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