

Development of Interactive Learning Media "SITAYA" (*Sistem Tata Surya*) on Articulate Storyline-Based 3 in VI Grade Students at SD Negeri Kalirejo 01 Ungaran

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Abstract

The technology development has influenced the field of education, one of which is the emergence of diverse and interactive learning media that can enhance the effectiveness of ongoing learning. Articulate Storyline 3 is one of the learning media that can be utilized in the learning process. However, the learning process conducted in the VI grade of SD Negeri Kalirejo 01 Ungaran still uses a conservative teaching method due to a lack of knowledge on how to use technology to maximize the learning process, especially in the material of the solar system/Sitaya. The researchers employed the research and development method using the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) research model to assess whether Articulate Storyline 3 learning media can make learning more effective. The VI grade at SD Negeri Kalirejo 01 Ungaran was selected as the research sample. Based on the analysis, it was found that students felt comfortable and more active in learning process, and teachers assessed that the use of Articulate Storyline 3 complied with the established learning standards and could assist students in understanding the taught material.

Keywords: Articulate storyline 3, Solar system material, Interactive learning media

1. Introduction

Nowadays, human life cannot be separated from information and communication technology. Various aspects of human life, such as work, consumption, and education are influenced by the existence of technology. The technologies that have developed can help individuals to do all activities carried out by humans more easily and efficiently. In the world of education, successful education has revolutionized the implementation of education in this modern era. The existence of technology makes it easier for both educators and students to obtain information and knowledge easily with unlimited access by space and time. The existence of the internet, which provides unlimited resources, indirectly provides opportunities for teachers as educators to develop learning methods that is more interesting. Based on Purba, et al. (2020), the existence of technology has increased various positive benefits for education, such as online learning and various learning media that can make learning more interesting for students. As stated by Agustian & Salsabila (2021), media provide opportunities for every educator and education expert to develop new learning methods. Quoting from a statement given by Ajizah (2021); Kartini & Putra (2020), implementing technology in teaching and learning activities can make students experience increased motivation and learning outcomes.

Interactive learning media can be an option for the learning process to make teaching and learning activities more interesting for students and can provide positive results. Doni Tri Putra Yanto (2019) explains that interactive learning media is a tool, facility, or media that can be used in teaching and learning activities to provide opportunities for students to be actively involved in learning activities. Interactive learning media will provide space for students to be able to interact, participate, and be directly involved by utilizing the technology available at school, such as gadgets, laptops, computers, or other electronic media. The interactions built by interactive learning media include those stated by Dwiqi et al. (2020); Muthoharoh & Sakti (2021), namely question and answer activities, discussions between students, and collaboration of all class members to solve problems in learning together. With interactive

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learning media, students' understanding and knowledge as well as students' resistance to concentrating will increase due to more dynamic learning process (Anggraeni et al., 2021).

One of the interactive learning media that is currently developing in the digital era is Articulate Storyline 3. Based on the explanation by Husna (2022), Articulate Storyline 3 is a media that functions to create an interactive learning media with a web base and also a web application that can be operated by teachers and students with available gadgets, whether laptops or gadgets. Articulate Storyline in learning will make the transfer of information more interesting and can encourage active student involvement in the implementation of learning and gain maximum knowledge and understanding rather than using conventional learning (Geni et al., 2020).

However, even though the use of interactive learning media has been proven in research to improve learning outcomes and motivation for students and help teachers convey the information or material being taught, it is still common to find schools that still do not use interactive learning media and still using conventional learning methods as proposed by Gulo & Harefa (2022). One of the schools that still applies conventional learning methods is SD Negeri Kalirejo 01 Ungaran, specifically in VI grade. The researchers found that when studying Sitaya or the Solar System, educators or teachers still used conventional teacher-centered learning methods. Based on the learning results, the researchers found that the scores obtained by the students were still below the minimum criteria of completeness. Therefore, the researchers considered that with these results in Sitaya learning, interactive learning media is necessary to boost the students' learning outcomes in the classroom during the teaching and learning process.

2. Research Methods

Implementation of research carried out by research and development researchers used the analysis, design, development, implementation and evaluation (ADDIE) model to assess the impact produced by Articulate Storyline 3 in the learning process on students in VI grade at SD Negeri Kalirejo 01 Ungaran.

Albet Maydiantoro (2019) explains that RnD research is a research method that utilized an investigative process with the aim of developing or manufacturing a product. It can be a method or technology that is used to improve the activities as the theme of the research. RnD research involves various steps conducted systematically and has the aim of understanding, designing, and implementing the results of innovative products created previously (Zakariah et al., 2020).

ADDIE is a model or research approach for designing a program or development in the field of teaching, whether formal teaching at school or non-formal (Netty Nababan, 2020). The implementation of the ADDIE model includes several aspects as quoted from Setiawan et al. (2021) as follows:

a. Analysis

During the analysis stage, the researchers conducted research and collect data to find out what was needed for learning, which included learning objectives, learning targets, surrounding conditions or environmental conditions, and obstacles that may occur in the future.

b. Design

In the second stage, researchers carried out instructional design to create the structure of the program or product based on previously obtained data.

c. Development

The researchers developed the program or product created, including modules, teaching materials, and also the learning media used.

d. Implementation

At this stage, the researchers implemented the product or program that has been previously prepared in the classroom to provide teaching for the research audience or target.

e. Evaluation

After implementing the product, the researchers evaluated whether its product development has met the objectives of creating the material in question.

The researchers used a sample of VI grade students at SD Negeri Kalirejo 01 Ungaran for research. The data collected by researchers was in the form of validation from material and media experts, students and teachers, who served as teachers in VI grade. Data analysis used in this research utilized Likert scale analysis techniques for 1-4 as shown in Table 1 and a questionnaire for the students and teachers to assess the effectiveness of the learning media use that has been created.

Table 1. Likert Scale Classification

Score	Likert Scale
4	Very Worthy
3	Worthy
2	Unworthy
1	Very Unworthy

3. Results and Discussion

The discussions carried out in this research applied ADDIE model procedures, including analysis, design, development, implementation, and evaluation. The discussion in accordance with the standards used by the ADDIE model outlined the learning media using Articulate Storyline 3 created by the researchers.

3.1. Analysis

In carrying out the analysis on the ADDIE model, the researchers employed two models to analyze the learning model data applied by educators or teachers in the learning process. This data collection process was carried out by conducting interviews with the subject teachers concerned and collecting documentation of the values obtained by students in Sitaya learning.

Based on the results of the data collection carried out, the researchers found that the educators concerned still used conventional learning methods. This methods are learning methods that still focused on teachers without using any learning media (Andi Ferawati Jafar, 2021). The Researchers found that the teacher in question still used conventional learning methods due to a lack of understanding of technology, including the teacher in question not understanding how to use or utilize technology in learning that can increase motivation and learning outcomes of students. The teacher stated that these obstacles could make students were not interested in the teaching and learning process.

In accordance with this explanation, based on documentation findings regarding student grades, researchers found that there were still more than 50% of students who scored below the maximum criteria of completeness. This shows that the conventional methods used by teachers in the classroom were numerically less capable of increasing students' understanding in the Sitaya material. Moreover, the data obtained from students found that students preferred to use their devices rather than pay attention to the teacher in class, causing the learning often did not run effectively. The researchers also found that students preferred interacting with their friends compared to paying attention to explanations made by educators or teachers in front of the class.

Therefore, the researchers conclude that it is important to create a learning media that is based on technology. This learning media must be able to attract students' attention to focus on learning. The researchers found that interactive learning media using Articulate Storyline 3 could be a solution because it has advantages as stated by Hadza et al. (2020) that it can encourage learning outcomes, student motivation, and students' focus on learning.

3.2. Design

After analyzing the problems experienced in learning process, the researchers designed interactive learning media based on Articulate Storyline 3 according to the material needs in the class. Articulate storyline 3 is designed in accordance with the explanation made by Harsiwi & Arini (2020) regarding interesting and interactive learning media for students, namely having attractive graphics. It can be accessed by students independently on their respective devices and can also trigger responses from students who are studying. Meanwhile, in the content of the material, the researchers involved the following components to form a research framework, such as (1) material title, (2) competencies and indicators, (3) learning objectives, (4) material content, and (5) evaluation of learning in the form of a quiz in Articulate Storyline 3.

The basics that have been prepared above were continued by carrying out the stages of creating an Articulate Storyline using the Articulate.com page. In this stage, the researchers attached the components that have been determined previously and then finalized them.

3.3. Development

Next, the researchers conducted developments in the learning media by including supporting ornaments in the media that have been previously designed. At this stage, the researchers also evaluated the media that has been created previously. Evaluation at this stage was carried out by asking for assessments from learning media experts using a Likert scale, namely Ervan Kusumajaya, S.So., and also Dyah Ayu Permatasari, S.Pd., as the experts in the material being taught of Sitaya.

In the first assessment, namely the validation given by Ervan Kusumajaya, S.So., the researchers found that the value had been declared feasible without the need for revision with detailed data, from the sixteen (16) assessment items given to the person concerned, a score of 4 was obtained for eleven (11) items. Meanwhile, the remaining assessment, five (5) items, received a score of 3. At this stage, the researchers asked for an assessment of the appearance or layout, coloring, images or photos used, fonts, and menus in the Articulate Storyline that had been formed. For each of these criteria, it was found that the display criteria got a total score of 15 out of 16. Meanwhile, the coloring criteria got a total score of 14 out of 16, the image criteria got a score of 7 out of 8, the letters or fonts got a score of 11 out of 12, and the menu section got a score of 11 out of 16. the 13 points out of a total of 13 points that can be given by experts. A table regarding the assessment results from media experts can be seen in Table 2.

Table 2. Assessment Results from Material Experts

Criteria	Number of Indicators/Assessment Items	Total Score Obtained
Display (Layout)	4	15
Coloring	4	14
Image (Photo)	2	7
Letters (Fonts)	3	11
Menu (Icons)	3	12
Total		59

Based on the assessment obtained, it can be concluded that the media prepared is in accordance with the media standards held by media experts, namely Evan Kusumawijaya, S. Sos. This research helps researchers to determine whether the media being prepared can be used or still needs further development. this consideration is taken based on the opinion of the media expert on the media prepared by the researcher. Therefore, based on the assessment given by the expert, the researchers is able to carry out or continue research using the Articulate Storyline 3 media as a teaching medium for VI grade students at SD Negeri Kalirejo 01 Ungaran.

The second assessment in providing validation of the learning media shows the similar results that the learning media was declared to be appropriate or feasible and did not need to be revised. Based on the assessment results obtained, the researchers found that out of a total of seventeen (17) assessment items, six (6) items received a score of 3 and the remaining eleven (11) items received a score of 4. The assessment concerned six important criteria in learning media, namely the application display, the application menu, the content of the application, ease of use, usefulness, and its implementation. In the first criterion, it was found that out of a total of two assessment items, the entire item got a score of 4. Meanwhile, in the second criterion, the researchers found that of the three indicator items, two items got a score of 4, while the remaining one got a score of 3. Furthermore, in the third criterion, the researchers found that overall the assessment item received a score of 4. In the fourth criterion, namely ease of use, the researchers found that the material expert gave two (2) items with a score of 3 and the remaining two (2) items received a score of 4. In the usefulness criterion, the researchers found that from one (1) assessment item, a score of 4 was obtained. Finally, in the implementation criterion, the researchers found that of the three (3) indicators given, two (2) items received a value of 3, while the remaining one (1) item received a value of 4. Based on this value, the assessment results of a total of seventeen (17) indicators or assessment items given, six (6) items received a value of 3, and eleven (11) items received a value of 4. Table regarding the assessments results obtained can be seen in the table 3.

This assessment means that the media that has been prepared is in accordance with the standards provided by the material expert, namely Dyah Ayu Permatasari, S.Pd., both in terms of the content, the attractive appearance, the menus, user-friendly, ease of use of media, useful value, and its implementation. The research provided by selected

material experts makes it easier for researchers to get an overview and conclusions regarding the learning media according to the components that have been determined. Therefore, based on the assessment given, the researchers concluded that this media could be continued to the implementation stage in teaching and learning activities in class.

Table 3. Assessment Results by Material Experts

Criteria	Number of Indicators/Assessment Items	Total Score Obtained
Application View/Display	2	8
Application Menu	3	10
Content or Application Content	4	16
Ease of Use	4	14
Expediency	1	4
Implementability	3	10
Total		62

3.4. Implementation

At this stage, the researchers implemented the interactive learning media that had been formed, namely Articulate Storyline 3 in classroom. This implementation was carried out by conducting trials on several aspects that will be assessed. These aspects are in accordance with the explanation carried out by Nadzif et al. (2022); Yolanda et al. (2022) regarding the assessment of interactive learning media with the ADDIE model, namely ease of using Articulate Storyline 3 interactive learning media, ease of understanding the material, comfort in using this learning media, accuracy and ease of use of Articulate Storyline 3, understand the material and accuracy with the language structure, questions, and lesson plans that have been prepared.

From the results of observation at the implementation stage, the researchers found that there were differences when students receiving instruction using conventional methods and interactive learning media of Articulate Storyline 3. When implementing the learning process using an Articulate Storyline 3, the students were more active in learning, such as having discussions with friends and teachers, as well as answering questions asked by educators.

3.5. Evaluation

At the evaluation stage, the researchers gave questionnaires to teachers as educators and students to assess how effective the Articulate Storyline 3 learning media was used in teaching and learning activities. Based on the results of assessments, the researchers found that 94.66% of students felt the Articulate Storyline 3 interactive learning media was appropriate and made it easier for them to learn the material. Therefore, they wanted the same interactive learning media implementing in other material. Meanwhile, from the teacher's point of view, Bayu Kurniawan S.Pd as the homeroom teacher of VI grade, stated that the Articulate Storyline 3 interactive learning media was suitable in the learning process. The results of the questionnaire filled out by Bayu Kurniawan, S.Pd showed a score of 4 to 8 out of ten aspects of safety and two of them got a score of 3.

4. Conclusion

Articulate Storyline 3 is an interactive learning media that emerged due to technological developments, which ultimately had an influence on the education world. In its implementation, the researchers found that the Articulate Storyline 3 learning media, both empirically in class and based on questionnaires, is able to have a positive influence on learning process. From the students' point of view, students were empirically more interested in participating in learning process. In addition, questionnaires showed a similar result that students were more comfortable in using its media. Meanwhile, based on the teacher's point of view, namely Bayu Kurniawan, S.Pd, it shows the same thing that the use of Articulate Storyline 3 is able to make it easier to deliver the material and can run effectively in accordance with the lesson plan and students in understanding the material about Sitaya.

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