p-ISSN 2407-4489
e-ISSN 2528-7303

Development of Articulate Storyline-Based Interactive Learning Multimedia for Grade VII Informatics Subjects at SMP Negeri 46 OKU

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Abstract

This study aimed to develop interactive learning multimedia based on Articulate Storyline for seventh-grade Informatics subjects at SMP Negeri 46 OKU and to determine the feasibility of the developed media. The research employed the Research and Development (R&D) method using the ADDIE model, which consists of analysis, design, development, implementation, and evaluation stages. The research subjects included material experts, instructional design experts, media experts, and seventh-grade students. Data collection techniques were conducted through observation, interviews, and questionnaires. The results showed that the developed learning multimedia obtained validation scores of 86% from material experts, 84% from instructional design experts, and 84% from media experts, all categorized as good. In addition, the student trial results obtained percentages of 80% in the one-to-one evaluation, 80% in the small group evaluation, and 83% in the field test, indicating that the developed multimedia was feasible for use in the learning process. Therefore, the interactive learning multimedia based on Articulate Storyline can be used as an effective and innovative learning medium to improve students' interest, motivation, and understanding in Informatics learning.

Keywords: Articulate Storyline, development research, informatics, interactive media, learning media.

p-ISSN 2407-4489
e-ISSN 2528-7303

INTRODUCTION

The development of information and communication technology has significantly influenced the field of education, particularly in the learning process. The integration of technology in education enables teachers to deliver learning materials in a more engaging, effective, and interactive manner, thereby improving students' motivation and understanding. One of the most widely used forms of educational technology is interactive learning multimedia, which combines text, images, audio, animation, video, and interactive evaluation to support meaningful learning experiences.

Interactive learning media play an important role in improving the quality of learning, especially in subjects that involve abstract concepts and problem-solving skills. Informatics is one of the subjects that requires appropriate learning media because students are expected to understand computational thinking concepts such as decomposition, pattern recognition, abstraction, and algorithms. These concepts are considered difficult by many students because they require logical and systematic thinking skills. Therefore, learning media that provide clear visualization and interactive activities are needed to help students understand the material more effectively.

Previous studies have shown that interactive multimedia can positively affect students' motivation and learning outcomes. Winarti et al. (2024) stated that interactive multimedia based on Articulate Storyline could increase students' motivation because the learning materials were presented in a more attractive and less monotonous way. Similarly, Maharani et al. (2024) found that Articulate Storyline-based learning media had a positive effect on students' learning outcomes in Informatics subjects. In addition, Muslim et al. (2022) explained that interactive multimedia supports independent learning because it can be accessed flexibly through computers and smartphones.

Although several studies have discussed the use of Articulate Storyline in education, research focusing specifically on computational thinking material for seventh-grade Informatics subjects is still limited. Most previous studies mainly focused on general learning outcomes and did not specifically address the integration of computational thinking concepts into interactive multimedia design. Therefore, this study provides novelty by developing interactive learning multimedia specifically designed for computational thinking material in junior high school Informatics learning.

Based on observations conducted at SMP Negeri 46 OKU, the learning process is still dominated by conventional teaching methods, such as lectures and textbooks, causing students to become less active and easily bored during lessons. In addition, technology-based learning media have not been optimally utilized even though the school already provides facilities such as computers and LCD projectors. As a result, students experience difficulties in understanding computational thinking material because it is considered complex and abstract. Students also show greater interest in learning activities involving visual elements, animations, and interactive features.

One application that can be used to develop interactive learning multimedia is Articulate Storyline. This application allows educators to create learning media that integrate text, images, audio, animations, videos, quizzes, and interactive evaluations into one platform. Furthermore, Articulate Storyline is easy to use and produces learning media that can be accessed through both computers and smartphones. Based on these problems, this study aims to develop interactive learning multimedia based on Articulate Storyline for seventh-grade Informatics subjects at SMP Negeri 46 OKU in order to improve students' interest, motivation, and understanding in the learning process.

METHOD

This study employed the Research and Development (R&D) method using the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The research was conducted at SMP Negeri 46 OKU involving seventh-grade students in the Informatics subject, particularly on computational thinking material.

p-ISSN 2407-4489
e-ISSN 2528-7303

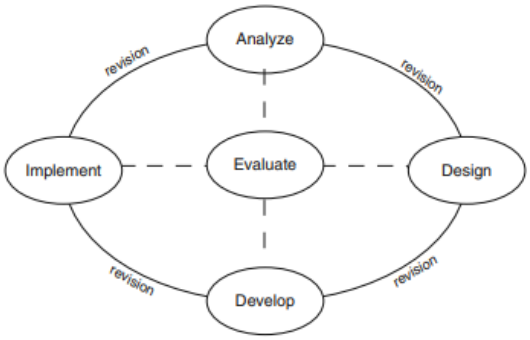


Figure 1. ADDIE design model

The analysis stage was carried out to identify students' needs and learning problems through classroom observations and interviews with the Informatics teacher. The design stage involved preparing flowcharts, learning materials, media layouts, exercises, and interactive evaluations. In the development stage, the interactive learning multimedia was created using Articulate Storyline. The developed product was then validated by one material expert, one instructional design expert, and one media expert to determine its feasibility before being implemented in the classroom.

The implementation stage was conducted through three levels of trials involving seventh-grade students, namely one-to-one evaluation involving 3 students, small group evaluation involving 8 students, and field testing involving 23 students. These stages were conducted to evaluate students' responses, learning interest, and the usability of the developed multimedia. The evaluation stage aimed to determine the feasibility and effectiveness of the developed learning media based on expert validation and students' trial results.

Data were collected through observations, interviews, and questionnaires. The research instruments consisted of expert validation questionnaires and students' response questionnaires using a five-point Likert scale. Before being used, the instruments were validated by experts to ensure the validity and appropriateness of the questionnaire items in measuring the quality of the learning media.

Data analysis was conducted using descriptive quantitative analysis by calculating the percentage scores obtained from expert validation and students' responses. The percentage calculation used the following formula:

$$P = \frac{\sum X}{\sum X_{maks}} \times 100\%$$

Information :

P= Percentage score

$\sum X$= Total score obtained

$\sum X_{maxs}$= Maximum total score

The results of the percentage calculations were then interpreted into feasibility categories to determine whether the developed interactive learning multimedia was appropriate for use in the Informatics learning process.

RESULTS AND DISCUSSION

This study produced interactive learning multimedia based on Articulate Storyline for seventh-grade Informatics subjects, particularly on computational thinking material at SMP Negeri 46 OKU.

p-ISSN 2407-4489
e-ISSN 2528-7303

The development process was carried out using the ADDIE model, consisting of analysis, design, development, implementation, and evaluation stages.

In the analysis stage, the findings showed that the learning process was still dominated by conventional teaching methods, such as lectures and textbooks, which caused students to become less active and easily bored during classroom activities. Students also experienced difficulties in understanding computational thinking concepts because the material was considered abstract and complex. In addition, although the school already provided facilities such as computers and LCD projectors, technology-based learning media had not been optimally utilized. These findings indicate the need for interactive learning media that can support students' understanding and engagement during the learning process.

In the design stage, flowcharts, media layouts, learning materials, exercises, and interactive evaluations were systematically prepared. The development stage involved creating interactive multimedia using Articulate Storyline by integrating text, images, audio, animations, videos, and quizzes into one learning platform. The developed product was then validated by material experts, instructional design experts, and media experts to determine its feasibility.



Figure 2. Initial login screen

In figure 2 is the initial login display. On this page, users are asked to fill in their personal data before continuing to the next slide because if the user does not fill in their personal data, the start button will not function.



Figure 3. Main menu display

After the user clicks the "start" button the user will enter the main menu page. On this page there are music navigation buttons, developer profile and instructions, and there are several menus that users can choose from, namely the learning menu button, competency, evaluation and usage instructions.

p-ISSN 2407-4489
e-ISSN 2528-7303



Figure 4. Competency display

The competency page displays the learning achievements and learning objectives that will be achieved in learning activities that are in accordance with the independent curriculum in class VII SMP/MTS material on computational thinking.

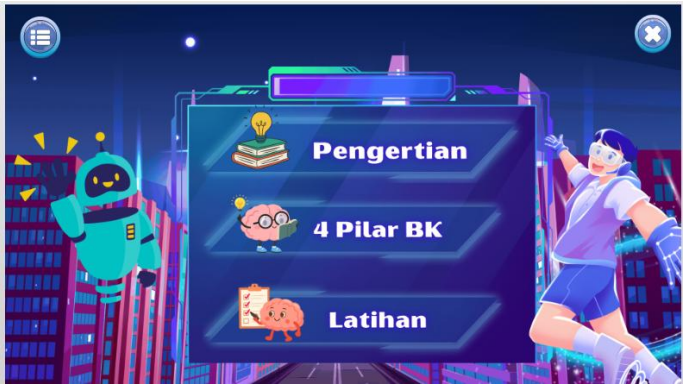


Figure 5. Study menu

This page displays several menu options that can be selected, namely the understanding button, the 4 BK pillars and the practice button.



Figure 6. Evaluation

The evaluation page is opened after the user has studied and understood the material contained in the material menu. The validation results showed that the developed multimedia obtained a score of 86% from material experts, 84% from instructional design experts, and 84% from media experts, all categorized as good. These results indicate that the multimedia met the criteria of content appropriateness, instructional design quality, and media presentation feasibility. The following is a validation table from experts:

p-ISSN 2407-4489
e-ISSN 2528-7303

Table 1. Expert validation results

	Material Experts	Learning Design Experts	Media Expert
	86	82	83
	86	82	83
	85	83	84
	85	84	84
	86	83	86
	86	82	84
	86	84	84
	85	84	86
	86	86	83
	87	86	86
	87		86
	84		82
	84		82
Total	1113	837	1093
Percentage	86%	84%	84%
Category	Good	Good	Good

The implementation stage was conducted through one-to-one evaluation, small group evaluation, and field testing involving seventh-grade students. The results showed percentages of 80% in the one-to-one evaluation (Table 2), 80% in the small group evaluation (Table 3), and 83% in the field test (Table 4), indicating that the developed multimedia was feasible and positively accepted by students.

Table 2. Results of One to One Evaluation

No	Rated aspect	Value	
		Count	Percentage
1.	Attractive interactive learning multimedia display	243	81%
2.	The size of the text on interactive learning multimedia is easy to read	261	87%
3.	The images on interactive learning multimedia are clear	250	83%
4.	The material in interactive learning multimedia is easy to understand.	232	77%
5.	The language in interactive learning multimedia is easy to understand.	247	82%
6.	I understand how to use interactive learning multimedia	233	78%
7.	Instructions for using interactive learning multimedia are clear	238	79%
8.	I can use interactive learning multimedia without help	225	75%
9.	Interactive learning multimedia helps me understand the lesson material.	238	79%
10	Interactive learning multimedia makes me interested in learning	247	82%
11.	I can follow the learning steps in interactive learning multimedia	235	78%
12.	The order of presentation of material in interactive learning multimedia is easy to follow.	238	79%
Total score		2.887	
Percentage		80 %	
Category		Good	

p-ISSN 2407-4489
e-ISSN 2528-7303

Table 3. Small group evaluation

No	Rated aspect	Value	
		Count	Percentage
1	Attractive interactive learning multimedia display	694	87%
2	The colors in interactive learning multimedia are comfortable to look at.	656	82%
3	The images on interactive learning multimedia are clear	668	84%
4	The writing on interactive learning multimedia is easy to read	675	84%
5	The material in interactive learning multimedia is easy to understand.	607	76%
6	The material in interactive learning multimedia is in accordance with the lesson	543	68%
7	I understand how to use interactive learning multimedia	644	80%
8	I can use interactive learning multimedia without help	599	75%
9	interactive learning multimedia helps me understand the material	658	82%
10	Interactive learning multimedia makes me more enthusiastic about learning	634	79%
11.	I am active when using interactive learning multimedia.	643	80%
12.	I feel happy when learning with interactive learning multimedia.	688	86%
Total score		7709	
Percentage		80%	
Category		Good	

The findings suggest that interactive learning multimedia based on Articulate Storyline can create a more engaging and interactive learning environment. The integration of text, images, animations, audio, and interactive evaluations helped students understand computational thinking concepts more clearly. Students showed greater interest and participation during the learning process because the multimedia provided visual and interactive learning experiences that were not found in conventional classroom instruction.

These findings are consistent with the study conducted by Winarti et al. (2024), which stated that Articulate Storyline-based multimedia could improve students' learning motivation due to its attractive and interactive presentation. Similarly, Maharani et al. (2024) found that interactive multimedia positively affected students' learning outcomes in Informatics subjects. Furthermore, Muslim et al. (2022) explained that Articulate Storyline-based learning media support independent learning because they can be accessed flexibly through smartphones and computers.

However, this study not only confirms previous findings but also highlights the importance of integrating computational thinking concepts into interactive multimedia design. The developed media allowed students to learn abstract concepts gradually through visualization and interactive exercises, which may reduce students' cognitive difficulties in understanding algorithms and problem-solving processes. This indicates that interactive multimedia does not merely increase students' motivation, but also supports conceptual understanding through systematic and visual learning experiences.

p-ISSN 2407-4489
e-ISSN 2528-7303

Table 4. Field test evaluation

No	Rated aspect	Value	
		Count	Percentage
1	Attractive interactive learning multimedia display	1955	85%
2	Consistent interactive learning multimedia display	1928	84%
3	The writing on interactive learning multimedia is easy to read	1952	85%
4	The images on interactive learning multimedia are clear	1872	81%
5	The material in interactive learning multimedia is easy to understand.	1894	82%
6	The material in interactive learning multimedia is in accordance with learning objectives.	1895	82%
7	I understand how to use interactive learning multimedia	1858	81%
8	I can use interactive learning multimedia without help	1795	78%
9	interactive learning multimedia helps me understand the lesson material	1937	84%
10	Interactive learning multimedia increases my enthusiasm for learning	1906	83 %
11.	I become more active when studying	1866	81%
12.	Interactive learning multimedia makes me want to learn again	1872	81%
13.	Interactive learning multimedia helps me complete learning assignments	1925	84%
14.	Interactive learning multimedia makes study time feel more effective	1931	84%
Total score		26.586	
Percentage		83%	
Category		Good	

In addition, the immediate feedback feature provided in quizzes and evaluations encouraged students to identify and correct their mistakes independently. This finding demonstrates that the multimedia supports active and student-centered learning. Nevertheless, this study still has limitations because it mainly focused on feasibility and students' responses rather than measuring the effectiveness of the media through experimental comparison of learning outcomes. Therefore, future research is recommended to investigate the effectiveness of Articulate Storyline-based multimedia in improving students' academic achievement, critical thinking skills, and computational thinking abilities using more comprehensive research designs.

Overall, the developed interactive learning multimedia based on Articulate Storyline is considered feasible as an innovative learning medium for Informatics subjects, particularly in supporting students' understanding of computational thinking material in junior high school.

CONCLUSIONS

Based on the results of the research and development process, the interactive learning multimedia based on Articulate Storyline for seventh-grade Informatics subjects at SMP Negeri 46 OKU was successfully developed using the ADDIE model and was categorized as feasible for use in the learning process. The multimedia obtained good validation results from material experts, instructional design experts, and media experts, as well as positive responses from students during the implementation stage.

p-ISSN 2407-4489
e-ISSN 2528-7303

The findings indicate that the developed multimedia can improve students' interest, motivation, participation, and understanding of computational thinking material through interactive and visually supported learning experiences. The integration of text, images, animations, audio, and interactive evaluations helped students understand abstract Informatics concepts more effectively and encouraged independent learning through flexible access via computers and smartphones.

This study contributes to the development of innovative learning media in Informatics education, particularly in supporting the teaching of computational thinking concepts at the junior high school level. Practically, the developed multimedia can assist teachers in creating more engaging and student-centered learning environments in schools.

However, this study was limited to the development and feasibility testing stages and did not specifically measure the effectiveness of the multimedia on students' learning outcomes through experimental methods. Therefore, future research is recommended to conduct broader effectiveness testing and develop more advanced interactive multimedia features for various Informatics learning materials.

ACKNOWLEDGMENT

The researcher would like to express sincere gratitude to Allah SWT for His blessings and guidance so that this research could be completed successfully. The researcher also would like to thank all parties who have contributed and supported the completion of this study.

Special thanks are addressed to the principal, teachers, and students of SMP Negeri 46 OKU for their cooperation and participation during the research process. The researcher would also like to express appreciation to the supervisors, validators, family, and friends for their guidance, support, motivation, and valuable suggestions throughout the preparation of this research.

Hopefully, this research can provide benefits and contribute positively to the development of education, especially in the use of interactive learning multimedia in the learning process.

REFERENCES

Branch, R. M. (2009). Instructional Design: The ADDIE *Approach*. New York: Springer.

Hasni, M., Kusasi, M., & Putri, N. (2022). "The use of interactive learning media to improve student learning activities. *Journal of Educational Technology*, 5(2), 45–52.

Maharani, D., dkk. (2024). "The effect of Articulate Storyline-based learning media on students' Informatics learning outcomes. *Journal of Informatics Education*, 8(1), 12–20.

Mayer, R. E. (2021). *Multimedia Learning* (3rd ed.). Cambridge: Cambridge University Press.

Muslim, A., dkk. (2022). "Utilization of Articulate Storyline as an independent learning medium for students. *Journal of Educational Technology*, 14(1), 33–41.

Prasetyo, E., & Liana, D. (2021). The effectiveness of interactive multimedia in improving students' conceptual understanding. *Journal of Education and Multimedia*, 6(2), 78–86

Rahman, F., & Sari, M. (2023). Implementation of digital learning media to improve the quality of Informatics learning. *Journal of Information Technology Education*, 10(1), 44–53

Sari, R., & Harjono. (2021). "Pengembangan Multimedia Interaktif Berbasis *Articulate Storyline* untuk Meningkatkan Minat Belajar Siswa." Jurnal Pendidikan dan Multimedia, 6(2), 78–86.

Sugiyono. 2021. Metode Penelitian dan Pengembangan (*Research and Development*). Bandung: Alfabeta.

Suprihatin, S., dkk. (2023). "Pengembangan Media Interaktif untuk Meningkatkan Pemahaman Siswa." Jurnal Inovasi Pendidikan, 9(3), 55–63.

Sweller, J. (2020). Cognitive load theory and educational technology. *Educational Psychology Review*, 32(1), 1–16.

p-ISSN 2407-4489
e-ISSN 2528-7303

Wahyuni, D., Ridlo, S., & Rina, A. (2022). "Articulate Storyline-based interactive learning media in improving students' critical thinking skills. *Journal of Informatics and Science Education*, 11(2), 101–110.

Winarti, Karenina, & Syahmani. (2024). "Development of interactive multimedia based on Articulate Storyline in Informatics learning. *Journal of Technology and Education*, 7(1), 25–34.

Yuliana, S., & Kurniawan, H. (2021). Development of interactive multimedia-based learning media in digital learning. *Journal of Education and Technology*, 5(1), 67–75.