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The Importance of Developing Infographic Media Relics of The Hindu Buddha Kingdom at The Bumiayu Temple Site History Subject in SMK

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ABSTRACT

This research emphasizes the importance of developing infographic media to improve the teaching of Hindu-Buddhist heritage at Bumiayu Temple site in history subjects for vocational high schools (SMK). This research was conducted to address the lack of interesting and effective learning media in the conventional teaching method, which was deemed insufficient to increase students' understanding and interest in the subject. Using a needs analysis approach, data was collected through questionnaires distributed to teachers and students, focusing on competencies, learning styles, and student characteristics. Findings showed that 66.66% of students preferred a visual learning style, with most students showing moderate learning competence (60.77%). The infographic media proved to be a relevant solution, offering a visually appealing and accessible way to integrate historical content such as temple structures, cultural values, and related narratives. It also supports project-based learning by encouraging students' active participation and critical thinking. This study concludes that infographic media is a potential and strategic tool to improve the quality of history education in SMK. Future research could evaluate its implementation in classrooms to assess its direct impact on learning outcomes and its potential applicability to other history topics.

1. Introduction

Education is one of the manifestations of human culture that is dynamic and constantly evolving. In this context, education functions as an effort to provide knowledge, skills, and insights to individuals, while developing their potential to become faithful, pious, creative, and responsible human beings (Malik, 2018; Prayoga et al., 2024). To achieve these goals, the education process needs to adapt to changes in society and technological developments, including the development of relevant and innovative learning media (Afriani et al., 2022). The use of technology in learning not only enriches teaching methods, but also contributes to

the effectiveness and attractiveness of the teaching-learning process (Claudia Wang et al., 2023; Gunadi et al., 2022).

However, learning history often faces challenges because it is considered boring by students. Complex material and traditional teaching methods such as lectures tend to make learners lose interest. This is contrary to the spirit of Merdeka Curriculum, which emphasizes critical and creative learning (Farhan et al., 2023; Sari, 2022). At the upper secondary education level, especially SMK, the characteristics of Generation Z learners who are more responsive to information visualization require a more interesting and interactive learning approach. In this context, technology-based learning media innovation is an urgent need, especially to increase students' interest and understanding of historical material (Baharsyah et al., 2023; Ismaeel & Al Mulhim, 2021; Mambu et al., 2023).

Infographics as a visual learning medium offers an effective solution in bridging this gap. They present information in a concise, compact and engaging manner through a combination of text, images and other visual elements. Previous research has shown the effectiveness of infographics in improving learners' understanding and motivation to learn. For example, Kristiana (2024) found that Android-based infographic media is very practical to use in learning history with a practicality level reaching 88.67%. Similar results were also found by Ardiansyah et al. (2021), which showed that infographics were able to increase student interest in learning with an average feasibility percentage of 83.68%. Another study by (Permatasari et al. (2022) showed that infographics make it easier for teachers to convey material while increasing students' understanding of historical material.

Although research on infographics has been conducted, there is still a gap in the use of this media for specific materials, such as the cultural heritage of the Hindu-Buddhist Kingdom at Bumi Ayu Temple Site. This site is one of the important relics of the Hindu-Buddhist era in Indonesia that has significant historical and cultural value. However, this material is often considered difficult to understand by students due to the complexity of the information and the lack of attractive visual approaches (Afriani et al., 2022; Dziuban et al., 2018; Ismaeel & Al Mulhim, 2021). Based on observations and interviews with students at SMKN 1 Prabumulih, the majority of students stated that they find it easier to understand the material if it is accompanied by visualizations in the form of images and infographics. This shows the need for the development of learning media that suits the needs and learning styles of students in SMK.

This research aims to develop infographic media focusing on the relics of the Hindu-Buddhist Kingdom at Bumi Ayu Temple Site as part of the history subject. This media is expected to not only help students understand the material more easily, but also increase their appreciation of Indonesia's cultural heritage. By filling the gap of previous research, this media development becomes a strategic step in strengthening interactive, relevant, and contextualized history learning in the modern era.

2. Methodology

This research is to see how important the development of infographic media is. The research process began with the needs analysis stage which was carried out in February 2024. The research subjects consisted of 18 students and 2 history teachers at SMKN 1 Prabumulih. Data collection was conducted through a questionnaire designed to analyze three main aspects: learners' competencies, learners' learning styles, and learners' characteristics. This data will be the basis in designing learning media that is relevant and in accordance with the needs of the target users (Ayu et al., 2019; Barus & Wati, 2025).

The second stage, learning style analysis, is conducted to find out students' learning preferences, whether visual, auditory, or kinesthetic. This information is used to adjust the learning media design to be more effective in meeting individual and group needs. The third stage, learner characteristics analysis, aims to understand the psychological, social, and cultural aspects of students, such as motivation level, interest in history lessons, and attitude towards cultural diversity. This analysis helps to create an inclusive and conducive learning environment that supports the holistic development of learners' potential (Darwin et al., 2020; Grasia et al., 2023; Kaharuddin, 2020). By understanding student characteristics, the infographic media developed is expected to facilitate a more relevant and interesting learning process. The lattice of the needs analysis questionnaire conducted in this study can be seen in table 1, table 2, and table 3.

Table 1. Learner Competency Analysis Questionnaire Grid

No.	Aspect	Indicator	Item Numbers
1	Critical Thinking Skills	Analyzing local historical information	1, 2, 3
		Evaluating local historical sources	4, 5, 6
2	Creativity Skills	Presenting local historical information	7, 8, 9
3	Communication Skills	Communicating information clearly	10, 11
		Asking relevant questions	12, 13, 14
4	Collaboration Skills	Working collaboratively in a group	15, 16, 17, 18

Table 2. Learner Learning Style Analysis Questionnaire Grid

No.	Aspect	Indicator	Item Numbers
1	Visual	Ability to understand material through visuals	1, 2, 3, 4, 5, 6, 7
2	Auditory	Ability to understand material through listening	8, 9, 10, 11, 12, 13
3	Kinesthetic	Ability to understand material through movement and doing	14, 15, 16, 17, 18, 19, 20

Table 3. Questionnaire Grid for Analyzing the Characteristics of Learners

No.	Aspect	Indicator	Item Numbers
1	Learning Motivation	Level of learning motivation	1, 2, 3, 4, 5, 6, 7
2	Interest in Local History	Level of interest in local history	8, 9, 10, 11, 12, 13, 14
3	Openness to Local Culture	Attitude towards local cultural diversity	15, 16, 17, 18, 19, 20

3. Result and Discussion

The results of this study indicate that the development of infographic media about the relics of the Hindu-Buddhist Kingdom at Bumiayu Temple Site in learning history at SMK is needed. Based on the needs analysis, teachers and students feel that the use of conventional learning media is less effective in attracting students' interest and helping them understand the material in depth. Infographic media is considered capable of integrating historical information, such as temple structures, reliefs, and cultural values contained, in an attractive and accessible format (Agustina, 2020). This is relevant to the needs of SMK students who tend to have visual and kinesthetic learning styles (Ambarwati et al., 2021). The use of infographics also supports the project-based learning approach, where students can be actively involved in the exploration of historical materials through observation and discussion. The results of the learner competency analysis can be seen in table 4 below.

Table 4. Results of Learner Competency Analysis

Respondent	Total Score	Ideal Score	Percentage	Category
1	58	90	64.44%	Moderate
2	52	90	57.78%	Moderate
3	47	90	52.22%	Low
4	52	90	57.78%	Moderate
5	56	90	62.22%	Moderate
6	60	90	66.67%	Moderate
7	56	90	62.22%	Moderate
8	53	90	58.89%	Moderate
9	53	90	58.89%	Moderate
10	55	90	61.11%	Moderate
11	52	90	57.78%	Moderate
12	55	90	61.11%	Moderate
13	54	90	60.00%	Moderate
Average	54.69		60.77%	

The results of the analysis of learner competence displayed in Table 4 show that the average score obtained is 54.69 out of an ideal score of 90, with an average percentage of 60.77%. Based on the category, most respondents were at the "Moderate" competency level. No learners reached a high level of competence, and there was one respondent with competence in the low category.

The average percentage of competence that only reaches 60.77% indicates that students' understanding of historical learning materials, especially related to the relics of the Hindu-Buddhist Kingdom, is still at a moderate level and not optimal. This indicates that the learning methods or media used at this time are less effective in helping students understand the material in depth.

This condition emphasizes the importance of developing more interesting and relevant learning media, such as infographic media, to support the improvement of student competence. Infographic media can present information in a concise and interesting visual form, making it easier for learners to understand and remember (Ikhsani, 2023; Martin & Yusri, 2024). In addition, this media can help explain complex historical concepts in a simpler and more contextualized way, so that learners can improve their understanding of the material. With the average competency still moderate, the development of infographic media can be one of the solutions to improve the effectiveness of history learning, encourage learners' active involvement, and help them achieve higher competency levels.

This is also supported by the results of the analysis of learners' learning styles showing that the majority of students, 66.66%, have a visual learning style, while 22.22% of students have an auditory learning style, and 11.11% have a kinesthetic learning style. This finding reinforces the need to develop visual-based learning media, such as infographics, that can fulfill the preferences of the majority of learners. Students with visual learning styles tend to understand material presented through visual elements, such as pictures, graphs and diagrams, more easily than conventional learning methods that rely solely on text or verbal explanations. The results of the learning style analysis can be seen in Figure 1 below.

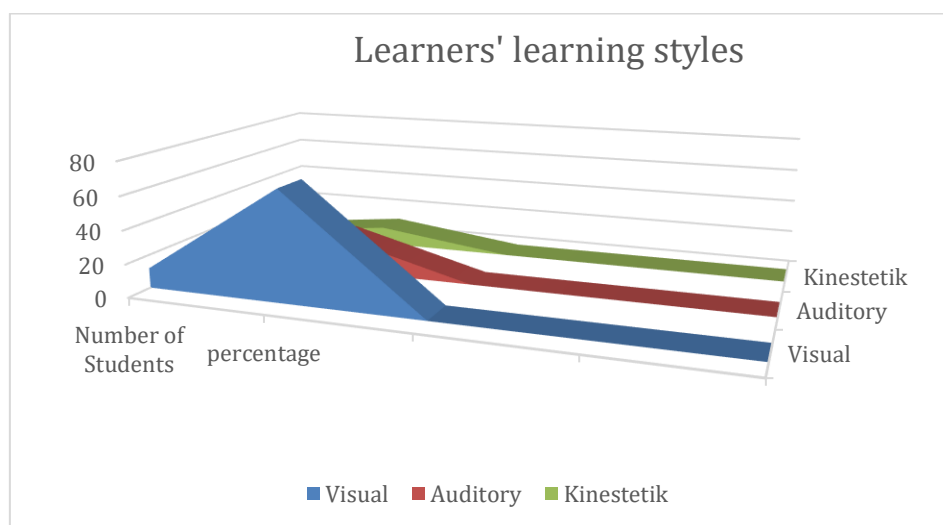


Figure 1. Results of the Analysis of Students' Learning Styles

The graph above shows that dominant students prefer to learn by using images. this further shows the importance of developing infographic media. This infographic media is not only relevant to visual learning styles, but can also support students with auditory and kinesthetic learning styles. Through the combination of interesting visuals with explanatory narratives, as well as interactive opportunities in its use, this media is able to accommodate the needs of various learning styles. Thus, the development of infographic media for history learning in SMK is a strategic step to create a learning experience that is more effective, interesting, and in accordance with the characteristics of students

(Ambarwati et al., 2021; Andari, 2019; Hidayati et al., 2019). All the results of this study are also supported by the results of the analysis of the characteristics of students in history subjects which mostly show moderate. The following results of the analysis of learner characteristics can be seen in table 5.

Table 5. Results of Analysis of Learner Characteristics

Category	Frequency	Percentage
High	4	22.22%
Moderate	13	72.22%
Low	1	5.56%

The results of the analysis of learner characteristics presented in Table 5 show that the majority of students are in the “Moderate” category with a percentage of 72.22%, while 22.22% of students are in the “High” category, and 5.56% of students are in the “Low” category. This data indicates that most students have adequate learning potential but need more effective media support to optimize their understanding of the material.

The importance of developing infographic media in history subjects, especially the material of Bumi Ayu Temple and relics of the Hindu-Buddhist Kingdom, is based on the need to bridge the characteristics of students who are mostly in the medium category. Infographic media can present complex historical material in a visual form that is concise, interesting, and easy to understand. This is very relevant to increase learning interest and help students with moderate levels of understanding to achieve more optimal learning outcomes.

In addition, for students in the “High” category, infographic media can serve as an exploration tool that allows them to explore the material further through detailed and informative visualizations. For students in the “Low” category, this media can be a stimulus to increase learning motivation through a more interesting and digestible presentation of the material. Thus, the development of infographic media is not only a necessity, but also an important strategy to improve the effectiveness of history learning in SMK.

The results of this study are in line with several studies in the last five years that have also highlighted the importance of developing visual-based learning media to improve student understanding, especially in history subjects. For example, research by Khatimah et al. (2024) shows that the use of infographic media in history learning can increase students' interest in complex material. This media is considered effective in integrating important information into a more concise and easy-to-understand format. Another study by (Ismaeel & Al Mulhim, 2021) found that interactive visual media such as infographics improved students' ability to understand abstract concepts, including the cultural values contained in historical relics.

The results of the student needs analysis in this study show that 66.66% of students have a visual learning style, supporting the findings of Afriani et al.

(2022), which states that students with visual learning styles find it easier to understand material when it is presented in the form of visual elements such as diagrams, pictures, and graphs. This confirms that the development of infographic media can meet the needs of the majority of students in SMK, especially in learning history. In addition, the analysis of student characteristics, most of which are in the “Moderate” category (72.22%), also shows harmony with research by (Nurhayati & Snjpsfisunp, 2019), which emphasizes that students with moderate levels of competence need learning media that can bridge the gap in understanding. Infographic media can simplify complex concepts, such as temple structures and Hindu-Buddhist cultural values, so that they are more easily understood by students with different levels of competence.

The use of infographic media in project-based learning, as proposed in this study, is also supported by the research results by Grasia et al. (2023), which showed that a project-based learning approach with visual media support can increase students' active involvement in the learning process. This media not only helps students understand the material, but also encourages 21st century skills, such as critical and creative thinking. Thus, the development of infographic media is not only relevant but also important to improve the quality of history learning in SMK. It not only provides solutions to existing learning challenges, but also opens up opportunities to improve overall learning outcomes, as supported by previous research findings.

4. Conclusion

This research emphasizes the importance of developing infographic media to teach the history of Hindu-Buddhist relics at Bumiayu Temple in SMK. Infographics address the need for more engaging tools, aligning with students' visual learning styles and integrating historical content in an appealing format. They also support project-based learning, fostering active participation and critical thinking. Future research should focus on developing, implementing and evaluating the media in classrooms to assess its impact on learning outcomes and adaptability to other topics. Infographic media is affirmed as a strategic method to enhance the quality of history education in vocational schools.

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