

Analysis of Interactive Media Needs Based on Scratch in the Subject “Traditions and Culture of Society” for Fourth Grade Students in Kragan District

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ABSTRACT. This study aims to analyze the needs of interactive media based on Scratch for teaching the "Traditions and Cultures of Society" material to fourth-grade students in the Kragan District. Using a qualitative research approach, this study gathers data through direct observations, interviews with teachers, and questionnaires distributed to students. The findings show that students exhibited significant interest and engagement during the learning process, especially when they were given the opportunity to create interactive projects based on their local traditions and cultures using Scratch. Furthermore, students demonstrated increased creativity, problem-solving abilities, and collaborative skills during the activities. The study concludes that Scratch, as an interactive, game-based learning tool, provides an effective medium for teaching cultural and traditional content in a way that is engaging and relevant to students' lives. The use of Scratch enhances students' understanding of local culture, encourages creativity, and fosters critical thinking skills. This research highlights the potential of Scratch as an educational platform in the elementary school context and encourages further exploration of its use in cultural education, particularly in areas rich in local traditions.

Keywords: *Scratch-based Interactive Media, Cultural and Traditional Education, Game-Based Learning Elementary School, Elementary School Students*

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INTRODUCTION

Science and Social Studies (IPAS) learning in elementary schools continues to face significant challenges in providing learning experiences that are meaningful, contextual, and relevant to students' real lives (Kusumaningpuri, 2024; Prasetyo, 2024). At the elementary level, students are in a critical developmental stage where learning should not only emphasize cognitive mastery but also support the formation of social awareness and cultural identity. Therefore, instructional practices must be designed to help students connect academic content with the social and cultural realities surrounding them.

This need becomes particularly important in the Grade IV topic “Traditions and Culture of Society,” which plays a strategic role in helping students understand their socio-cultural environment. Through this material, students are expected to recognize, appreciate, and preserve local traditions and cultural values that shape their daily lives (Suparno et al., 2018). When

learning is disconnected from students' lived experiences, it risks becoming abstract and less meaningful, reducing students' motivation and comprehension.

To address this issue, learning approaches that integrate local elements and the surrounding environment are urgently needed. Contextual learning rooted in local wisdom enables students to construct knowledge more actively and meaningfully. Such approaches allow students to view culture not merely as theoretical content but as a living reality that influences social interactions, norms, and community practices. Consequently, learning becomes more authentic and relevant to students' identities.

Numerous studies have emphasized the importance of integrating local wisdom into educational practices. Research indicates that incorporating local culture into science and social studies learning can enhance students' cultural awareness, strengthen character education, and foster respect for cultural diversity (Jannah et al., 2024; Yonanda et al., 2023). However, despite these theoretical and empirical findings, teachers still encounter substantial challenges in implementing contextual learning effectively in classroom settings.

One major challenge lies in the continued reliance on conventional teaching methods. In many elementary schools, learning remains heavily centered on textbooks and teacher explanations, limiting students' opportunities to explore content actively and relate it to their social lives (Hernández et al., 2019).. Such approaches often position students as passive recipients of knowledge rather than active participants, resulting in superficial understanding and reduced engagement (Sahra et al., 2025).

In response to these challenges, the integration of technology-based interactive learning media has emerged as a promising alternative. The objectives of IPAS learning, which emphasize understanding, inquiry, and contextual knowledge construction, align well with the use of digital learning tools. One such tool is Scratch, a visual programming platform that allows students to learn through interactive, creative, and exploratory activities (Metasari & Amalia, 2024; Ulmanen & Bergek, 2021).

Scratch offers unique potential as an instructional medium for teaching "Traditions and Culture of Society." Through animations, storytelling, simulations, and interactive games, Scratch can help transform abstract cultural concepts into concrete learning experiences. This study focuses on analyzing the need for Scratch-based interactive learning media that can stimulate student engagement, encourage active participation, and support deeper understanding of the meanings and values embedded in local traditions.

This research differs from previous studies by emphasizing the role of Scratch not only as a technological tool but also as a medium for contextual and culturally responsive learning. It seeks to explore how Scratch-based media can assist teachers in presenting learning materials in ways that are more concrete, engaging, and accessible for elementary school students. The underlying hypothesis of this study is that Scratch-based interactive learning media can significantly improve students' understanding of traditional and cultural content while fostering a more meaningful learning experience.

Ultimately, this research is expected to contribute to the development of IPAS learning in elementary schools by demonstrating the effectiveness of integrating technology with local cultural content. The findings are anticipated to provide valuable insights for educators and curriculum developers in designing future learning media that prioritize student engagement, contextual relevance, and cultural understanding through the strategic use of digital technology.

METHOD

This study uses a qualitative descriptive research method. According to (Sugiyono, 2019), Qualitative research is based on inductive thinking that focuses on objective and participatory observation of social phenomena. Qualitative research aims to understand situations, human behavior, and social dynamics in depth, thereby providing a realistic picture of the phenomenon being studied. This approach is called naturalistic research because it is conducted in natural conditions without any manipulation of the learning context. In this study, the main focus is to analyze the need for Scratch-based interactive learning media on the subject of “Traditions and Culture of Society” for fourth-grade students in Kragan District, Rembang Regency. This study aims to provide an overview of the application of technology-based media in learning about traditions and culture of society and how this media can help increase student engagement and understanding of the material.

The purpose of this study is to describe and examine the need for more contextual and engaging learning media in teaching “Traditions and Culture of Society.” This study focuses on how Scratch-based learning media can be integrated with local cultural material, as well as how this platform influences the way students understand and appreciate the culture of the community around them. This study also aims to explore teachers' and students' perceptions of the use of interactive media in learning and to identify their needs for more visual and interactive media.

The subjects of this study included teachers who taught subjects related to IPAS and local culture, as well as fourth-grade students at elementary schools in Kragan District. The object of the study was the application of Scratch-based interactive learning media in teaching “Traditions and Culture of the Community” and its impact on student understanding and engagement. The research location was chosen because the school is located in an area rich in local traditions and culture, and has been trying to integrate technology into the learning process to improve the quality of education.

Data collection techniques were conducted through in-depth interviews with teachers and students, direct observation during the learning process, and documentation of classroom activities (Sugiyono, 2016). Interviews were conducted with teachers involved in teaching local cultural material using Scratch-based media, as well as several students who were purposively selected to obtain in-depth information about their experiences. Observations were conducted to observe student interactions with learning media, as well as the group dynamics that formed during learning. The documentation collected consisted of field notes, photos of classroom activities, and learning tools used by teachers.

Data analysis was conducted using the Miles & Huberman interactive model, which consists of three stages: (1) data reduction, which involves selecting and simplifying data relevant to the research focus; (2) data presentation, which involves organizing data into narratives or themes that are easy to understand; and (3) drawing conclusions, which involves systematically organizing research findings based on the relationships between data. (Sugiyono, 2019). The validity of the data was tested through source triangulation (teachers, students) and method triangulation (interviews, observation, documentation) to ensure the consistency and credibility of the research findings.

RESULT AND DISCUSSION

Result

Based on observations made during the learning process, the use of Scratch-based interactive learning media in the “Traditions and Culture of Society” material in the fourth grade of Kragan District Elementary School showed positive results. Most students appeared very enthusiastic and actively involved in each stage of learning. Students not only received

information, but also actively interacted with the media and applied what they learned in Scratch-based projects. This was evident from their success in creating simple animations depicting various local traditions, such as the sea offering ceremony and selamatan. In an interview with the principal, he stated,

"We see that the use of interactive media such as Scratch greatly helps students understand local culture in a more enjoyable and understandable way. They are more engaged and more creative in their learning."

One of the teachers involved in this learning process also shared his views on the use of Scratch. According to him,

"With Scratch, students can better understand and appreciate their local culture through creating animations and games. This gives them a more realistic experience than just learning from textbooks."

The teacher added that Scratch provides a platform that allows students to explore learning materials in greater depth, encouraging them to think more critically and creatively, as well as collaborate in groups.

"We design activities that allow students to work together in teams to create projects that reflect their traditions, which also brings them closer to the local culture," he added.

In addition, the results of the observation also show that students find it easier to understand the values contained in local traditions and culture through visual and interactive elements in Scratch. Students appear to be more motivated when they can see the results of their work firsthand, such as the animations of regional traditions that they have created.

"I am happy to be able to make an animation about selamatan. Usually we only hear about it in class, but now I can make it myself," said one of the fourth graders.

This shows that students not only acquire knowledge passively, but they can process and apply that knowledge in more creative ways. In this case, the use of Scratch as a learning medium plays an important role in increasing student engagement and motivation to learn. Based on an interview with another teacher,

"Scratch makes learning more interesting and gives students room to explore. With game-based learning, they don't feel pressured, but instead become more curious and want to learn more."

The teacher also emphasized that learning that integrates technology like this is very suitable for students who are now more accustomed to digital technology. In addition to observing an increase in students' interest and understanding of local culture, this study also shows a shift in the way students interact with one another. For example, in group activities, students discuss and help each other to complete Scratch-based projects.

"In my group, we helped each other to create animations. I am happy to be able to work together and learn about our traditions," said one of the students who participated in the project..

This shows that Scratch-based interactive learning media also encourages students to work together and collaborate, which is certainly important in developing their social skills.

The importance of this collaboration was also emphasized by the principal, who stated, "We realize that in addition to improving understanding of the material, the use of interactive media also facilitates the development of students' social skills. They learn to share ideas, listen to each other, and respect their friends' opinions in completing group assignments."

This confirms that Scratch is not only a tool for improving understanding of the material, but also a means of developing social skills that are essential in everyday life. Several challenges were also encountered in implementing this medium, particularly in relation to time and resource constraints. One teacher stated,

"Although Scratch is very effective, we sometimes find it difficult to provide enough time for students to explore all of its features. Sometimes we are also limited by the facilities available at the school."

This challenge shows that although Scratch has many benefits, its implementation requires more support in terms of time and adequate facilities to optimize learning. Overall, this study shows that the use of Scratch-based interactive learning media in "Traditions and Culture of Society" material is very effective in increasing engagement, creativity, and collaboration among students. In addition, this media also helps students understand and appreciate local culture in a more interesting and contextual way. By using Scratch, learning becomes more interactive and enjoyable, which is certainly very beneficial for improving the quality of education in elementary schools, especially in introducing local wisdom to students.

Discussion

Interactive media based learning, particularly through the use of Scratch in teaching the topic "Traditions and Culture of Society," demonstrates significant effectiveness in enhancing student engagement and learning quality. Scratch, as a visual programming platform, provides an interactive environment where students can actively construct knowledge rather than merely receive information. This approach aligns with contemporary constructivist learning theories, which emphasize active participation, exploration, and meaning-making in the learning process. By integrating cultural content with interactive technology, learning becomes more contextual and relevant to students' everyday experiences.

The integration of Scratch allows abstract cultural concepts to be transformed into concrete visual representations. As noted by Fadilah et al. (2023), technology-based learning media that combine visual and audio elements are highly effective in stimulating students' interest and increasing their active involvement. In this study, students demonstrated greater enthusiasm when learning about local traditions through animation and storytelling created with Scratch. The visual nature of Scratch enables students to better comprehend cultural values, rituals, and symbols that might otherwise be difficult to understand through text-based instruction alone.

Moreover, the success of students in creating animated projects related to local traditions indicates a shift from passive to active learning. Students were not only consumers of information but also producers of knowledge, expressing their understanding through creative digital artifacts. This finding supports the idea that project-based learning facilitated by digital tools can deepen conceptual understanding and retention. By designing animations, students internalized cultural content while simultaneously developing digital literacy skills essential for the 21st century.

In addition to cognitive engagement, Scratch-based learning significantly supports the development of students' social skills. Pedroso et al. (2023) emphasize that collaborative learning environments enhance student engagement and promote interpersonal skill development. In this study, students worked collaboratively in groups to design and complete Scratch projects, encouraging teamwork, communication, and shared responsibility. These collaborative activities fostered a positive learning atmosphere where students learned to respect diverse ideas and perspectives.

Social interaction during collaborative project work also contributed to peer-assisted learning. Students frequently exchanged ideas, discussed creative strategies, and assisted peers in overcoming technical challenges related to coding and animation. According to Yuan (2024), such peer collaboration strengthens social bonds and enhances students' confidence in learning. These interactions demonstrate that Scratch functions not only as a digital learning tool but also as a medium for cultivating social competence and cooperative learning skills.

Furthermore, the use of Scratch was found to enhance students' critical and creative thinking abilities. Learning activities that involve problem-solving and exploration, as highlighted by Asmara and Ma (2024), play a crucial role in developing higher-order thinking skills. In this context, students were required to plan animations, debug errors, and make logical decisions in coding sequences. These tasks encouraged analytical thinking, creativity, and persistence in problem-solving.

The debugging process, in particular, became an important learning opportunity for students. When animations did not function as expected, students were challenged to identify errors, test alternative solutions, and refine their designs. This iterative process nurtured logical reasoning and creativity simultaneously. As a result, students developed not only technical coding skills but also transferable problem-solving competencies applicable across academic disciplines.

Despite the many benefits of Scratch-based learning, this study also identified several challenges, particularly related to time constraints and limited resources. Tri Febrian et al. (2024) argue that effective technology integration requires careful planning, adequate infrastructure, and sufficient instructional time. Teachers in this study reported difficulties in fully exploring Scratch's features due to limited class time and inadequate technological facilities in schools.

Resource limitations, including insufficient computer access and unstable internet connections, further constrained the optimal implementation of Scratch. As highlighted by Arbués and García (2014), technological innovation in education must be supported by institutional readiness and infrastructure development. These challenges underline the importance of providing professional development for teachers, improving school facilities, and allocating sufficient time for technology-based instruction.

Overall, the findings of this study indicate that Scratch-based interactive learning media are highly effective in improving students' understanding of *"Traditions and Culture of Society,"* while simultaneously fostering technical, cognitive, and social skills. Consistent with the findings of Melati et al. (2023) and Nasrullah et al. (2024), animation-based and technology-enhanced learning not only improves academic outcomes but also creates an enjoyable, interactive, and meaningful learning environment. Therefore, Scratch represents a powerful pedagogical alternative for teaching local culture based content, offering elementary school students a richer, more contextualized, and engaging learning experience.

CONCLUSION

Based on the findings of this study, it can be concluded that the integration of Scratch-based interactive learning media in teaching the topic of *"Traditions and Culture of Society"* has a significant and positive impact on the learning process at the elementary school level. The use of Scratch effectively enhances students' engagement by shifting learning from a passive, teacher-centered approach to a more active and student-centered experience. Through designing animations, stories, and simple interactive projects that reflect local cultural contexts, students become more motivated to explore the learning material and participate actively in classroom activities.

Furthermore, Scratch supports the development of students' creativity and higher-order thinking skills, as learners are encouraged to analyze cultural content, transform it into digital representations, and present their ideas in innovative ways. This process not only deepens students' conceptual understanding of traditions and cultural values but also fosters social interaction, collaboration, and critical thinking as they work individually and in groups. Although the implementation of Scratch-based learning faces certain challenges, such as limited instructional time and inadequate technological facilities, these constraints do not diminish its overall effectiveness. Instead, the results highlight the strong potential of technology-assisted learning to create meaningful, contextual, and enjoyable learning experiences. Ultimately, the use of Scratch as an interactive learning medium contributes to improving the overall quality of

instruction and supports the development of culturally aware, creative, and active learners in elementary education.

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It is the author's sincere hope that this article will serve as a meaningful contribution to the advancement of educational research, particularly in the area of technology-based learning. Furthermore, this study is expected to inspire future research and practical innovations that support the development of more effective, inclusive, and adaptive learning practices in the rapidly evolving educational landscape.

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