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PRESERVATION OF THE SUBAK CONCEPT THROUGH LANGUAGE EDUCATION USING EDUCATIONAL MEDIA AT SUBAK TEBA MAJALANGU, DENPASAR

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A B S T R A K

Penelitian ini bertujuan untuk mengembangkan komik edukasi mengenai sistem irigasi Subak dengan menggunakan model desain pembelajaran ADDIE (Analisis, Desain, Pengembangan, Implementasi, dan Evaluasi). Studi ini dilakukan untuk meningkatkan pemahaman siswa sekolah dasar tentang Subak dan pentingnya bagi warisan budaya Bali. Partisipan dalam penelitian ini adalah 100 siswa sekolah dasar berusia 9–12 tahun yang mengikuti kegiatan edukatif di TeBa Majalangu, sebuah pusat pembelajaran yang didedikasikan untuk praktik pertanian tradisional Bali. Komik dikembangkan dengan masukan dari para ahli bahasa, ilustrasi, dan desain pembelajaran untuk memastikan keefektifan edukasi serta daya tarik visualnya. Umpan balik siswa dikumpulkan melalui kuesioner untuk menilai minat dan keterlibatan mereka terhadap sistem Subak setelah membaca komik tersebut. Hasilnya menunjukkan bahwa 85% siswa menunjukkan peningkatan antusiasme untuk mempelajari lebih lanjut tentang Subak. Tinjauan dari para ahli juga memvalidasi desain komik, memastikan bahwa komik ini memenuhi tujuan pedagogis dan kultural. Penelitian ini menekankan potensi media pembelajaran seperti komik edukasi dalam meningkatkan pembelajaran budaya serta meningkatkan keterlibatan siswa dengan cara yang lebih interaktif dan bermakna. Kolaborasi yang sukses antara pendidik dan para ahli menghasilkan alat edukasi yang efektif untuk memperdalam minat dan pemahaman siswa terhadap pengetahuan tradisional.

Kata Kunci: *Subak, Komik Edukasi, Pelestarian Budaya, ADDIE*

A B S T R A C T

This research focuses on the development of an educational comic about the Subak irrigation system, using the ADDIE instructional design model (Analysis, Design, Development, Implementation, and Evaluation). The study aims to enhance elementary students' understanding of Subak and its significance to Balinese cultural heritage. The participants in this study were 100 elementary school students aged 9–12, who attended educational sessions at TeBa Majalangu, a learning center dedicated to Balinese agricultural traditions. Throughout the process, the comic was developed with input from language, illustration, and instructional design experts to ensure its educational effectiveness and visual appeal. Student feedback was gathered through questionnaires designed to assess their interest in and engagement with the Subak system after reading the comic. Results showed that students demonstrated significantly increased enthusiasm for learning about Subak, with 85% of participants expressing a desire to know more about the topic. Expert reviews validated the comic's design, confirming that it met both pedagogical and cultural objectives. This research highlights the potential of multimedia tools, such as educational comics, in enhancing cultural learning and engaging students in a more interactive and meaningful way. The successful collaboration between educators and experts resulted in a tool that effectively fosters deeper interest and understanding of traditional knowledge.

Keywords: *Subak, Educational Comic, Cultural Preservation, ADDIE*

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INTRODUCTION

In the modern era, technological advancements have significantly impacted people's lives. Various conveniences are offered by these technological developments, ranging from information, communication, entertainment, and even personal matters (Danuri, 2019). These advancements in technology undeniably help in daily activities, from sophisticated tools, easy access to information, and fast services, making people from all walks of life and ages appreciate this progress. Technology has entered various sectors, including agriculture, where tools that were once traditional are now being modernized. Farmers have shifted from using plows operated with the help of animals to more advanced machines, such as tractors operated by engines (Welianto, 2021). However, despite the technological advancements where tools have been replaced by machines, there is still a need for human resources—farmers—to operate them. This presents a challenge in today's era, especially since the younger generation not only lacks knowledge of traditional tools but also shows little interest in pursuing farming as a career, as it is considered an unpromising profession.

The educational system, which plays a pivotal role in imparting cultural knowledge, often fails to address this issue adequately. Traditional methods of teaching cultural subjects tend to rely heavily on rote learning and textual descriptions, which are less engaging for today's learners. As students become more accustomed to digital and visual media, conventional instructional methods can struggle to capture their attention and sustain their interest. Consequently, students are not only less likely to engage with the subject matter but also fail to develop a deeper appreciation for their cultural heritage (Mayer, 2024; Patesan et al., 2018; Wang, 2022).

This disconnect highlights the need for innovative approaches in the educational process that can bridge the gap between traditional knowledge and modern learning preferences. Incorporating interactive and visually stimulating materials into the classroom, such as educational comics, could offer a viable solution. Research shows that multimedia learning, particularly through the use of visual aids and storytelling, can enhance engagement and understanding by catering to various learning styles (Abdulrahaman et al., 2020; Bechtold, 2017).

Comics, as a form of instructional media, combine narrative and visual elements, making complex concepts more accessible and engaging for students (Fitriyanti et al., 2023; Topkaya et al., 2023; Wallner, 2019). This approach can be particularly effective in teaching about *Subak*, which involves intricate and abstract cultural and environmental concepts that are often difficult to convey through text alone. By developing a comic-based learning tool focused on the *Subak* system, educators can address both the lack of student engagement and the knowledge gap concerning traditional cultural practices. To address this phenomenon, educational tourism packages have emerged, one of which offers hands-on experience in farming activities, from plowing and planting to harvesting, aimed at students of all educational levels and the general public.

Several tourist destinations now offer various educational tourism packages, such as conservation education tourism (Khairunnisa et al., 2019), which discusses nature tourism at the Mangkunegoro I Grand Forest Park; environmental education tourism (Novianti et al., 2021), focusing on educational tourism at Padjadjaran University, a green campus; Subak

education tourism, which discusses the agricultural lexicon of Subak (Ekasani et al., 2022), and specifically focuses on the sustainability of agricultural and cultural tourism potential through Subak in Bali (Purnawan & Sardiana, 2017). The offer of educational tourism at tourist destinations not only benefits the tourism sector but also other sectors, including, in this research, the agricultural sector. Moreover, the importance of education-based tourist destinations lies in introducing cultural, historical, and natural diversity to tourists (Prasetyo & Nararais, 2023). The table below shows the findings and focus of previous studies, which form the basis for the novelty of this current research.

Table 1. Focus of Previous Research

Title and Researcher Names	Title and Researcher Names	Title and Researcher Names	Title and Researcher Names
Study on the Development of Conservation-Based Educational Tourism at K.G.P.A.A Mangkunegoro I Grand Forest Park, Karanganyar. Khairunnisa H, Prasetyo JS, Jehane PT, Asyianita RA (2019)	Conservation-based Educational Tourism	Development of conservation-based educational tourism, including jungle school packages for students, university students, or general tourists. Trekking tours, photography packages, birdwatching attractions, establishment of a data center for research and learning.	Focuses only on conservation-based educational tourism.
Planning an Environmental Education Tourism Program at Padjadjaran University, Jatinangor. Novianti E, Putra RR, Wulung SRP. (2021)	Environment-based Educational Tourism	Potential educational tourism attractions that support UNPAD's management as a green campus, such as the integrated waste management office area that can be packaged as a guided tour.	Focuses only on UNPAD environmental education tourism.
The Subak Lexicon Based on Local Wisdom as the Development of Educational Tourism Promotion in Subak Teba Majalangu, Kesiman Kertalangu Village, Bali. Ekasani KA, Lestari D, Sudarsana CISA, Mirayanti NLD. (2022)	Subak Educational Tourism	Lexicon of agricultural tools used from the planting to harvesting process in the fields.	Focuses only on the Subak lexicon.
Subak Educational Tourism Package as an Effort to Maintain the Sustainability of Agriculture and Culture-Based Tourism Potential in Bali. Purnawan NLR, Sardiana IK. (2017)	Subak Educational Tourism	Subak educational tourism is a step that can be taken to achieve sustainability, as it involves environmental, social, cultural, and economic conservation for the local community.	Focuses on educational tourism as a step towards sustainability in agriculture and tourism potential.

The novelty of this research is the creation of educational media to preserve the Subak concept, which is indeed the urgency of this research and will be applied at the destination where the research takes place. The educational media used in the research is comic media, which is favored by all age groups

The supporting theories in this research include language theory in learning, media in learning, and visualization and multimodal learning. In educational media, such as comics, an approach that fits the target audience is essential. According to recent research, personalized and communicative language is more effective in multimedia learning. This aligns with the Cognitive Theory of Multimedia Learning (CTML), which suggests that the use of everyday language and conversational style can enhance learners' understanding (Bechtold, 2017; Mayer, 2024). In the context of Subak, the comic's narrative must be adapted to language that is both culturally relevant to Bali and easily understood by the general audience.

The use of visual media, such as comics, can strengthen the understanding of complex concepts. Visualization plays a key role in capturing attention and facilitating the learning process in a more interactive manner. It not only helps learners understand the material but also aids in retaining the information for a longer period (Patesan et al., 2018). This is particularly applicable in conveying cultural information like the Subak irrigation system, which involves distinctive and complex visual elements.

Visualization in comics as an educational tool supports the Multimedia Learning Theory, which states that information is easier to process when presented multimodally, combining text and images. Presenting information through multiple channels—both visual and verbal—can enhance comprehension and retention (Liang et al., 2015). In developing the Subak comic, the visualization must complement the narrative and clarify concepts related to irrigation, agriculture, and Balinese local wisdom.

METHOD

The research was conducted at Subak TeBA Majalangu Educational Tourism, Kesiman Kertalangu Village, Denpasar-Bali. Subak TeBA Majalangu Educational Tourism is located at Jalan Bypass Ngurah Rai No. 113 Tohpati, Kesiman Kertalangu Village, East Denpasar District, Bali Province. TeBA Majalangu Educational Tourism was established with the aim of bringing children closer to nature, animals, plants, and Balinese culture, as well as preventing them from becoming addicted to gadgets, a trend among the current generation. The name TeBA Majalangu is an acronym for Tempat Belajar Alam, while Majalangu is the name of a former kingdom in the Kesiman Kertalangu village area. This site offers various tourist packages, with the most popular being the agricultural education package, visited by students from PAUD (early childhood education), kindergarten, elementary, middle, and high school levels, and even by foreign tourists interested in learning about agriculture, especially rice farming and traditional farming tools that are now rare.

The participants in this study were elementary school students (grades 4–6, ages 9–12) who visited TeBa Majalangu. A purposive sampling method was used to select 100 students who had been exposed to the Subak system through their visits to the educational center. This sample was chosen because these students already had some interaction with Subak during their educational programs, allowing for a more accurate assessment of the comic's impact on their understanding and retention of knowledge.

This research follows the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The ADDIE method is widely used in similar research, particularly in multimedia-related studies (Wijanarko & Solikhin, 2022). The stages of the ADDIE method can be explained as follows:

1. Needs Analysis

A needs analysis was conducted to determine the students' pre-existing knowledge of Subak and their learning challenges. This was done through interviews with teachers and educators at TeBa Majalangu and student surveys. The analysis revealed that while many students had basic awareness of the system, they lacked deeper understanding of its cultural and environmental importance.

2. Design

The design stage involves the development of the basic concept for the educational comic to be used. At this stage, educational material about Subak is organized into engaging narrative and visual formats. The content is adapted to the needs and understanding level of the target audience. The design includes:

a. Narrative: Developing an engaging and relevant story with characters that represent the values within the Subak system. For example, characters could include farmers, water gods, and young people interested in learning about Subak.

b. Visuals: Designing characters and backgrounds that depict the daily lives of Balinese people who still use the Subak system, along with natural elements like rice fields, water, and temples, which have symbolic significance.

c. Educational Message: Material on the history of Subak, its role in the ecosystem, and the importance of preserving this culture is conveyed through character dialogue and action within the comic.

3. Development

After the basic concept of the comic is designed, the next step is development. This stage involves using the Canva application, a user-friendly graphic design platform that offers various templates and design elements suitable for creating comics. Canva was chosen for its ease of use, accessibility, and features that support the creation of visual media such as comics (Sihombing et al., 2024).

4. Implementation

The comic was introduced into educational activities at TeBa Majalangu. Students were provided with the comic as part of their lesson on the Subak system, followed by hands-on experience at the center.

5. Evaluation

The evaluation stage involves distributing questionnaires to students. The result will be feedback to refine the comic. Additional validation came from language, illustration, and instructional technology experts who reviewed the final product.

RESULTS AND DISCUSSION

1. Analysis

The needs analysis revealed that most students had minimal prior knowledge of the Subak system. This finding was consistent across the pre-test questionnaire, where the majority of students could not explain the purpose or cultural significance of Subak. Teachers and educators at TeBa Majalangu also confirmed that traditional teaching methods had not been effective in engaging students with local cultural heritage topics like Subak. The gap in knowledge indicated a clear need for a more engaging, student-centered approach to cultural education.

2. Design

The design stage highlighted the importance of simplifying complex cultural concepts. By breaking down the Subak system into visually appealing narratives, the comic

effectively captured students' attention. Research supports the use of visual storytelling as a means of improving student engagement and comprehension, particularly for younger learnersroach aligns with findings that multimedia elements can make abstract concepts more tangible and easier to understand.

3. Development

The development phase demonstrated the importance of feedback loops in instructional material creation. Incorporating expert input ensured that the comic was culturally accurate and pedagogically sound. The use of Canva also proved effective, as it provided a flexible platform for combining text and visuals. The ability to quickly revise and improve the comic based on real-time feedback was critical in refining the final product.

Figure 1. Comic

This figure showcases the completed comic developed as educational media to promote the preservation of the Subak concept. It features illustrated characters, engaging narratives, and visually appealing elements that effectively communicate cultural values and the significance of the Subak irrigation system to younger audiences.

4. Implementation

The implementation of the educational comic at TeBa Majalangu provided insightful results regarding student enthusiasm and understanding of the *Subak* system. After reading the comic, 85% of students reported being more enthusiastic about *Subak*, with many of them expressing a desire to know more about how the system functions and its role in Balinese culture. The increase in enthusiasm was reflected in the result of questionnaire, where students rated their interest on a scale of 1 to 5.

5. Evaluation

The final evaluation involved feedback from both students and educators. Teachers at TeBa Majalangu reported that the comic significantly improved student engagement, with many students showing a higher level of interest in Subak compared to previous lessons.

Additionally, feedback from language, illustration, and instructional technology experts confirmed that the comic was both educational and culturally respectful. Minor revisions were made based on expert recommendations, particularly to clarify certain sections and enhance the comic's visual appeal. The evaluation phase underscored the comic's success in bridging the gap between traditional knowledge and modern educational practices. The feedback from experts validated the use of comics as an instructional medium, particularly for subjects that involve complex cultural and environmental concepts. Studies have shown that culturally responsive teaching materials can improve students' connection to their heritage, fostering both academic and personal development as shown in table 2 below.

Table 2. Results of Educational Media Validation by Experts

Validator	Average Score	Category	Feedback
Language Expert	3.33	Good	Several parts of the dialogue were adjusted to be more natural and easier for children to understand. Additionally, brief explanations for local terms were added to assist students' comprehension. This ensures the story not only contains educational value but is also communicative and engaging for readers.
Illustration Expert	3.22	Good	Some components were refined, particularly the background details to make them more authentic, including depictions of tools used in Subak irrigation. The comic's color scheme was adjusted to a more natural and bright palette, ensuring it remains visually appealing to the children's audience.
IT Expert	3.27	Good	The comic was saved in PDF format for the print version and PNG for digital distribution, which was recommended for the next stage of development.

The feedback from experts further validated the effectiveness of the comic as an educational tool. By ensuring that the language was appropriate and that the visuals were both engaging and culturally accurate, the comic successfully bridged the gap between traditional knowledge and modern educational needs. The use of platforms like Canva for development also allowed for flexibility in design, facilitating real-time revisions based on expert input and student feedback..

CONCLUSION

The preservation of Subak through educational comics is a creative and innovative approach that can effectively reach younger generations. The educational comic in this study proved to be an effective tool for teaching elementary students about the Subak system. The use of the ADDIE model ensured a systematic and comprehensive approach to the comic's development, from initial needs analysis to final evaluation. The combination of visual and textual elements enhanced student engagement and understanding, as demonstrated by the significant improvement in the results of survey. This study highlights the potential of multimedia learning tools, such as educational comics, in preserving cultural heritage and making traditional knowledge more accessible to younger generations. It is hoped that through the comic, cultural values and the significance of the Subak irrigation system will be kept alive and maintained by

future generations. However, further improvements are still needed to ensure a deeper understanding of the technical aspects of Subak.

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REFERENCES

Abdulrahaman, M. D., Faruk, N., Oloyede, A. A., Surajudeen-bakinde, N. T., Olawoyin, L. A., Mejabi, O. V, Imam-Fulani, Y. O., Fahm, A. O., & Azeez, A. L. (2020). Multimedia tools in the teaching and learning processes : A systematic review. *Heliyon*, *6*(11), e05312. https://doi.org/10.1016/j.heliyon.2020.e05312

Bechtold, S. W. (2017). The Cognitive Theory of Multimedia Learning : The Impact of Social Cues. In: Spector, M., Lockee, B., Childress, M. (eds) Learning, Design, and Technology. *Springer, Cham.*, *60*(1).

Danuri, M. (2019). PERKEMBANGAN DAN TRANSFORMASI TEKNOLOGI DIGITAL. *Infokam*, *2*(15), 116–123.

Ekasani, K. A., Lestari, D., Sudarsana, C. I. S. A., & Mirayanti, N. L. D. (2022). *The subak lexicon based on local wisdom as the development of educational tourism promotion in the subak teba majalangu , Kesiman Kertalangu village , Bali*. *6*(2), 138–143.

Fitriyanti, N., Bahri, B. S., & Kristanto, A. (2023). Comics As Instructional Media in Education Journals Across Indonesia : A Systematic Literature Review. *Jurnal Teknologi Pendidikan*, *8*(1), 84–93.

Khairunnisa, H., Prasetyo, J. S., Jehane, P. T., & Asyianita, R. A. (2019). KAJIAN PENGEMBANGAN WISATA EDUKASI BERBASIS KONSERVASI di TAMAN HUTAN RAYA K.G.P.A.A MANGKUNEGORO I KARANGANYAR. *Jurnal Bio Educatio*, *4*(2), 25–34.

Liang, S., Zhang, C. C., Liu, S. S., Zhou, Y., Zhang, J., Kurgan, L., Bloom, J. D., Maheshwari, S., Brylinski, M., Draft--, M., Rifaioglu, A. S., Atas, H., Martin, M. J., Cetin-Atalay, R., Atalay, V., Doğan, T., Ando, D., Zandi, R., Kim, Y. W., … Hoelz, A. (2015). No 主観的健康感を中心とした在宅高齢者における 健康関連指標に関する共分散構造分析Title. *Proceedings of the National Academy of Sciences*, *3*(1), 1–15. http://dx.doi.org/10.1016/j.bpj.2015.06.056%0Ahttps://academic.oup.com/bioinformatics/article-abstract/34/13/2201/4852827%0Ainternal-pdf://semisupervised-3254828305/semisupervised.ppt%0Ahttp://dx.doi.org/10.1016/j.str.2013.02.005%0Ahttp://dx.doi.org/10.10

Mayer, R. E. (2024). The Past , Present , and Future of the Cognitive Theory of Multimedia Learning. *Educational Psychology Review*, *36*(1), 1–25. https://doi.org/10.1007/s10648-023-09842-1

Novianti, E., Putra, R. R., & Wulung, S. R. P. (2021). Perencanaan Program Wisata Edukasi Berbasis Lingkungan di Universitas Padjadjaran Jatinangor. *Journal of Indonesia Tourism, Hospitality and Recreation*, *4*(2), 121–133. https://doi.org/10.17509/jithor.v4i2.32319

Patesan, M., Balagiu, A., & Alibec, C. (2018). Visual Aids in Language Education. *International Conference Knowledge-Based Organization*, *XXIV*(2), 356–361. https://doi.org/10.1515/kbo-2018-0115

Prasetyo, H., & Nararais, D. (2023). Urgensi destinasi wisata edukasi dalam mendukung pariwisata berkelanjutan di Indonesia. *Kepariwisataan: Jurnal Ilmiah*, *17*(2), 135–143.

Purnawan, N. L. R., & Sardiana, I. K. (2017). Paket Wisata Edukasi Subak Upaya Menjaga Keberlanjutan Potensi Pertanian dan Pariwisata Berbasis Budaya di Bali. *Kawistara*, *7*(3), 207–314. https://doi.org/10.22146/kawistara.27879

Sihombing, N., Halena, M., & Sofiyah, K. (2024). Penggunaan Aplikasi Canva Dalam Media Pembelajaran Matematika Khususnya di Sekolah SD/MI. *TEACHER: Jurnal Inovasi Karya Ilmiah Guru*, *4*(1).

Topkaya, Y., Batdi, V., Burak, D., & Ozkaya, A. (2023). The Effectiveness of Using Comics in Education : A Meta- analytic and Meta-thematic Analysis Study. *Ahmet Keleşoğlu Eğitim Fakültesi Dergisi (AKEF) Dergisi*, *5*(3), 922–940.

Wallner, L. (2019). Gutter Talk : Co-Constructing Narratives Using Comics in the Classroom. *Scandinavian Journal of Educational Research*, *63*(6), 819–838. https://doi.org/10.1080/00313831.2018.1452290

Wang, Y. (2022). A Comparative Study on the Effectiveness of Traditional and Modern Teaching Methods. *5th International Conference on Humanities Education and Social Sciences (ICHESS 2022)*, 270–277.

Welianto, A. (2021). Pengertian dan Perkembangan Teknologi. *Kompas*. https://www.kompas.com/skola/read/2021/01/08/120000169/pengertian-dan-perkembangan-teknologi?page=all#page2

Wijanarko, A., & Solikhin, F. (2022). Pembuatan prototype game edukasi berbasis role playing game (RPG) sebagai media pembelajaran kimia unsur. *RABIT: Jurnal Teknologi Dan Sistem Informasi Univrab*, *7*(1), 101–107.