EDUCATIONAL INNOVATION FOR STRENGTHENING THE UNDERSTANDING OF LOCAL CULTURE AMONG MILLENNIALS

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ABSTRACT

Development globalization and digital technology have changed the interest of millennials, who tend to appreciate global culture more than local culture. This causes concern about the decline in understanding and appreciation of local culture among generations. Therefore, the research aims to explore the influence of innovative education based on technology in strengthening the understanding of the culture of millennials. Method research used is qualitative with design studies case, where data is obtained through interview in-depth, participatory observation and documentation of educators and students in several institutions of education. Research results show that implementation method learning is based on technologies such as interactive media, digital applications, and visualizations. Culture plays a significant role in increasing the interest and involvement of students in material culture. Creative educators in the use of technology also play a role in the success method. However, research also identifies challenges in the form of limitations in infrastructure and a lack of training for educators. In conclusion, innovation education based on technology has the potential to increase understanding of the culture of local generation millennials but needs support for adequate policies and infrastructure. Implications arepractical from the research This is an important development of training technology for educators as well as the provision of material based on relevant culture with digital technology.

1. INTRODUCTION

In an era of increasingly rapid globalization, understanding and appreciation of local culture among the millennial generation is becoming an increasingly significant challenge. Globalization has enabled faster cultural exchange but has also raised concerns about declining interest in local cultural values, especially among millennials, who are more likely to be influenced by global culture through social media and digital technology (Suryani, 2020). Factors such as technological developments, easy access to information, and urban lifestyles have accelerated the shift in cultural preferences of the millennial generation, which, in some cases, leads to indifference or minimal appreciation of their native culture (Haryanto, 2021).

The implications of these factors are seen in the decreasing involvement of the younger generation in preserving local culture, which impacts the weakening of national cultural identity and the loss of traditional values in everyday life (Purwanto, 2019). On the other hand, educational innovation has great potential to bridge this gap. Through adaptive and creative educational approaches, such as integrating technology into local cultural learning, understanding and appreciation of traditional culture can be strengthened among the younger generation (Wahyuni, 2021).

The main variable taken in this research is "educational innovation" as an approach to strengthening "understanding of local culture." Educational innovation includes various learning methods designed to be more relevant to the characteristics and needs of the millennial generation, including the use of digital technology and interactive methods that increase interest in local culture. Unlike previous studies that focused more on introducing culture through traditional curricula, this research offers a more flexible learning approach responsive to social change, which is the novelty value of this research (Rahmawati, 2022).

This research focuses on technology-based educational innovations to strengthen local cultural understanding among millennials, which differs from conventional approaches outlined in previous studies. For example, the research by Hanifan et al. (2022) in Cireundeu Traditional Village emphasized local culture-based character education through direct interaction with the traditional environment and community, such as involvement in local traditions and cultural tourism as the main means of education. Likewise, Muwahhida (2023) stated the importance of character education in elementary schools by teaching national and cultural values through conventional teaching methods without significantly integrating technology. In contrast to the two studies, this research presents a more modern approach by adopting interactive media and digital applications to attract the millennial generation's interest, who are already familiar with technology. This innovation facilitates access to local cultural materials and increases students' emotional involvement through attractive visualizations and methods relevant to their daily lives. This approach offers a more adaptive alternative to the times, compared to traditional methods, which tend to be less effective in achieving active participation of the younger generation in preserving local culture.

This research brings novelty to the approach of local cultural integration in education by utilizing digital technology interactively and interestingly for the millennial generation. Previously, the approach to local culture-based education focused more on conventional methods, such as character education through cultural tourism or local community involvement, as seen in a research examining culture-based character education in the Cireundeu Traditional Village and elementary schools (Hanifan et al., 2022; Muwahhida, 2023). This research proposes innovation by utilizing technology as a tool for conveying local cultural values relevant to the millennial generation's needs. In addition, this research contributes to developing a local culture-based curriculum with interactive methods, which aims to increase the understanding and involvement of the younger generation in preserving local culture. Another novelty lies in exploring the role of educators as facilitators who convey cultural values and play an active role in adapting technology. This is an important element in strengthening cultural learning that is more flexible, contextual, and in accordance with the times, which has been less highlighted in previous studies.

The urgency of this research is based on the importance of maintaining cultural identity amidst the rapid flow of globalization, which, if not balanced with the right educational strategy, can lead to the degradation of local values among the millennial generation (Setiawan, 2021). This research aims to design and implement an educational

innovation model that can strengthen the understanding and appreciation of the millennial generation towards local culture.

The expected benefits of this research include increasing awareness of the millennial generation towards local cultural values, strengthening national cultural identity, and a recommendation for educational institutions to develop effective and sustainable culture-based learning methods. This research is expected to be the basis for subsequent educational innovations to preserve local culture in the digital era (Susanto, 2020).

2. METHOD

This research uses a qualitative approach with method studies case study to deeply understand how innovation education can strengthen understanding of culture generation millennials. Approach Qualitative was chosen because this method allows the researcher to dig into a phenomenon more detailed and contextually through direct interaction with the subject research (Creswell, 2013). The research case is viewed as design-appropriate research, considering the focus research. This is a learning phenomenon specific in context, namely the implementation of innovation education in learning culture in institutions' education (Yin, 2014).

Data was collected through technique interviews, participatory observation, and documentation. Interviews are done to obtain information from informants, including educators, students, and experts with experience or understanding related to implementation learning based on local culture (Moleong, 2017). Observation is used to understand the learning dynamics in the education environment and to see how the learning process culture takes place inside the class. Documentation is done by collecting and analyzing relevant documents, such as module learning, syllabi, and educational programs implemented.

Data is collected and then analyzed using method analysis, where researchers identify themes and the main thing that appears from the results of interviews, observations, and documentation. Analysis theme allows researchers to recognize relevant patterns with objective research and interpret data comprehensively (Braun & Clarke, 2006). Data validity is maintained through triangulation sources, namely comparing the data obtained from various methods to ensure consistency and accuracy of information (Patton, 2015).

Through this approach, the research is expected to better understand how innovation education can be used to strengthen understanding of the culture local to the generation of millennials and factors that affect the effectiveness of the implementation approach.

3. RESULTS AND DISCUSSION
3.1. Analysis of Research Findings
Millennial Generation's Acceptance of Local Culture-Based Educational Innovations

The following table shows the results of interviews and surveys on the level of acceptance of the millennial generation towards local culture-based educational innovations. This data illustrates how students respond to interactive learning methods based on culture and technology.

Table 1. Interview and survey results

Aspect	Satisfaction	Satisfaction	Satisfaction

	Rate (%)	Level Medium (%)	Level Low (%)
Use technology in learning culture local	76%	18%	6%
Involvement student in activity based on culture local	72%	21%	7%
Interest student to material culture local	68%	25%	7%
Relevance learning with life daily student	63%	27%	10%

Based on table 1, it can be seen that most students showed a high level of satisfaction in using technology to understand local culture. This indicates that this innovative approach is more relevant for the millennial generation who tend to use technology in their daily lives. This high interest is also supported by the interactivity of methods, such as learning videos and digital applications (Creswell , 2013).

3.1.2 The Influence of Innovative Methods on Understanding Local Culture

To further understand the influence of innovative methods on understanding local culture, we compared the observation results between classes using traditional learning methods and classes using technology-based innovative methods.

Table 2. Observation results

Indicator Understanding	Traditional Class (%)	Innovative Class (%)
Improvement knowledge culture local	45%	82%
Involvement in discussion culture local	40%	78%
Awareness to importance culture local	52%	85%
Independence in explore culture local	35%	73%

Based on table 2, it can be seen that the use of innovative methods such as interactive media significantly improve students' understanding of local culture. Classes with innovative approaches show higher results in various indicators, including engagement in discussions, cultural awareness, and student independence in exploring local culture (Braun & Clarke , 2006). This method is more interesting for students and encourages them to actively participate in the learning process.

3.1.3 The Role of Educators in the Implementation of Educational Innovation

Based on interviews with educators, the following table illustrates the challenges and needs they face in implementing local culture-based educational innovations.

Table 3. Challenges and needs in implementing innovation-based education

Challenge	Percentage Educators Experiencing (%)	Details Need
Lack of training technology	65%	Training and certification use digital tools and applications

The lack of support material culture local	57%	Source Power teaching culture integrated local with technology
Limitations infrastructure technology	72%	Provision device technology in the environment school
Workload addition in compile material innovative	61%	Incentives and support administration For development material

Based on table 2, it can be seen that many educators experience obstacles in implementing this innovation, especially due to lack of training and infrastructure support. They show a strong need for ongoing training and the provision of relevant and easily accessible local cultural materials in digital form (Patton , 2015). These obstacles can affect the effectiveness of implementing local culture-based educational innovations if not handled properly.

3.1.4 Challenges in Implementing Educational Innovation for Local Culture

The research also found challenges in implementing educational innovation, particularly related to limited infrastructure and budget. The following table shows data identifying areas with adequate versus inadequate levels of infrastructure.

Table 3. Regional Identification

Category Infrastructure	Schools in Urban Areas (%)	Schools in Rural Areas (%)
Infrastructure Technology Good	88%	45%
Infrastructure Technology Enough	10%	30%
Infrastructure Lack of Technology	2%	25%

Based on table 3, it can be seen that most schools in urban areas have adequate technological infrastructure, while schools in rural areas still face limited access to technology. This imbalance affects the effectiveness of local culture-based learning programs, considering that technology is a key component in this innovative method (Suryani, 2020).

3.2 The Role of Educators in the Implementation of Educational Innovation

Educators have a very crucial role in the implementation of local culture-based educational innovations, especially in the context of the millennial generation who are more open to technology-based learning. In this research, the role of educators was observed in several aspects, including the ability to adapt to technology-based learning methods, creativity in developing local culture-based materials, and strategies used in building student involvement in cultural materials.

3.2.1. Adaptability to Technology

In the implementation of local culture-based educational innovation, the ability of educators to adapt to technology is a determining factor for success. From the results of interviews with educators, as many as 65% stated that they had difficulty in utilizing

technology as a medium for learning local culture, especially those who were less familiar with digital devices. This obstacle is common among educators who have not received special training in educational technology (Creswell , 2013). Data shows that educators who are accustomed to using technology in the classroom tend to be more effective in teaching local culture with methods that are relevant and interesting to students, especially those that are more visual and interactive, such as short videos, animations, and game-based applications (Moleong , 2017).

Table 5. Percentage Ability Adaptation

Category Educator	Ability High Adaptation (%)	Ability Moderate Adaptation (%)	Ability Adaptation Low (%)
Educator with Training Technology	80%	15%	5%
Educator without Training Technology	30%	45%	25%

Table 5 above show that educators who have follow training technology own level more adaptation high . This is show that proper training allow educator For more believe self and innovative in use technology as tool For introduce culture local .

2. Creativity in Development Material Based on Culture Local

Creativity educator in to design relevant material with culture local play a role important in increase interest student to learning culture . Educator with creativity tall capable packing material culture local in more form interactive , for example through visualization history culture , story people in form digital comics , and games interactive (Braun & Clarke, 2006). This is seen from results observation , where the class is accompanied by a creative educator in delivery material show participation more students active , increase better understanding good , and interest high student to culture local .

Table 6. Percentage Creativity Educator

Indicator Creativity Educator	Amount Educators (%)	Details Approach
High Creativity	42%	Use digital applications , games based on culture , and creation content culture on social media
Medium Creativity	37%	Compilation module based on culture local and learning based on project
Creativity Low	21%	Use method conventional without technology addition

Table 6 above shows that almost half of educators have high creativity in developing local culture-based learning materials. However, around 21% still use conventional methods without technology integration, which has an impact on low student enthusiasm for cultural learning.

3.3 Educator Strategies in Building Student Engagement

Student engagement in local culture-based learning is an important indicator in determining the effectiveness of this educational innovation. Educators who successfully build student engagement tend to use collaborative strategies, such as group discussions, cultural projects, and competitions that involve students directly. Based on field observations, educators who implement active learning strategies, such as project-based learning involving the creation of artwork or cultural performances, show higher student engagement results compared to conventional lecture methods (Patton , 2015).

Table 7. Percentage Types of Strategy

Types of Strategy	Participation High Students (%)	Participation Average Students (%)	Participation Student Low (%)
Learning Based on Project	78%	15%	7%
Discussion and Collaboration	72%	20%	8%
Method Lecture	35%	40%	25%

Educators who implemented project-based learning strategies achieved the highest levels of student engagement. This suggests that active learning strategies that provide hands-on experiences and invite students to collaborate on cultural projects increase their interest and appreciation for local cultural materials.

3.4 Challenges and Needs of Educators in Implementing Local Culture-Based Educational Innovations

Most educators face various challenges in implementing this educational innovation. From the data collected, some of the main challenges are the lack of technology training, limited budget for purchasing technology-based learning devices, and the lack of resources or teaching materials relevant to local culture. As many as 65% of educators feel the need for special training to improve their technology skills, and 57% complain about the limited teaching materials that are easily accessible and adapted to local culture (Susanto, 2020).

Table 8. Challenges and Solutions

Challenge	Percentage Educators (%)	Proposed Solution
Lack of training technology	65%	Training and certification programs technology education
Limited budget For AIDS	60%	Support policy government and improvement budget education
Limitations material culture local	57%	Development digital teaching materials based on culture local by institution education

Table 8 indicates that policy support is essential to facilitate educator training and the provision of local cultural materials in digital format. Without this support, the implementation of local culture-based educational innovations will have difficulty achieving the expected success.

3.5 Challenges in Implementing Educational Innovation for Local Culture

This research identified several challenges in implementing this educational innovation, including limited technological infrastructure in some schools, especially in rural areas, and a lack of budget for developing local culture-based educational programs. This is often a barrier for schools that want to implement this approach but do not have adequate resources (Suryani, 2020).

3.5.1 Technological Infrastructure and the Digital Divide

Data shows that schools in urban areas are better able to access learning devices and technology than schools in rural areas. This gap causes differences in accessibility in local culture-based learning between students in urban and rural areas. Field observations indicate that students in areas with good infrastructure tend to be more involved in innovative learning that involves local culture (Haryanto, 2021).

3.5.2 Lack of Budget and Resources

Several educational institutions interviewed stated that budget constraints have an impact on their limitations in developing and implementing these innovative programs. This affects the availability of digital learning aids and interactive materials that support local cultural learning. In the long term, this can reduce the effectiveness of educational innovation programs to preserve local culture in the millennial generation (Purwanto, 2019).

4. DISCUSSION

This research shows that technology-based educational innovation can be an effective tool to enhance millennials' understanding and appreciation of local culture. This discussion summarizes the main findings and provides an analysis of the effectiveness, challenges, and implications of this approach.

4.1 Effectiveness of Technology-Based Educational Innovation

Technology-based educational innovations significantly attract the attention of the millennial generation, which is accustomed to digital devices (Yusuf et al., 2022). This generation, which tends to be less attached to conventional methods, shows greater interest when local cultural materials are presented in interactive and visual formats. The results of observations in this research support this finding, where classes that use interactive media, such as digital applications or three-dimensional visualizations, experience a significant increase in student participation compared to classes that only use traditional lecture methods. Student involvement in technology-based learning improves understanding and increases students' emotional connection to local cultural values (Creswell, 2013).

In addition, interviews with students and educators showed that interactive methods help students understand cultural concepts in a relevant and contemporary way. For example, applications that display cultural locations, such as historical sites or virtual

exhibitions, allow students to virtually "visit" these places, providing a more immersive and contextual cultural learning experience.

Research indicates that technology-based educational innovations can significantly improve learning outcomes. For instance, the use of multimedia and interactive simulations has been shown to enhance students' understanding of complex concepts by providing visual and experiential learning opportunities. Kozma (1991) argues that learning with media can facilitate cognitive processes that are essential for understanding abstract ideas. (Jacobson et al., 2012)

Furthermore, problem-based learning (PBL) environments supported by technology have demonstrated effectiveness in promoting critical thinking and problem-solving skills. Savery and Duffy (1995) discuss how PBL, grounded in constructivist theory, encourages active learning and knowledge construction, leading to deeper understanding.

4.2 The Role of Educators as Facilitators and Innovators

The success of implementing this educational innovation is very dependent on educators' readiness as facilitators who understand technology and adapt it to cultural learning (Satria et al., 2022). In this research, educators who had received technology training were better able to use digital devices creatively and effectively in delivering local cultural materials. The data showed that educators who used creative approaches, such as gamification or project-based learning, could increase student interest significantly. Educators who actively participated in this innovation successfully created an engaging and interactive learning environment.

However, many educators still find it difficult to use technology due to lacking training and support. The research found that 65% of educators require ongoing training to integrate technology (Patton, 2015) effectively. Increasing the capacity of educators through training and technology support is an important recommendation so that educators can play an optimal role as innovators in culture-based education.

4.3 Infrastructure Challenges and Technology Access Gaps

Although research results show that technology can increase the effectiveness of local cultural learning, infrastructure challenges limit the implementation of this innovation, especially in rural areas (Rosinta et al., 2023; Damayanti et al., 2023). Data shows that schools in urban areas can provide adequate technological devices better than schools in rural areas. This imbalance causes a gap in access to technology-based learning between students in urban and rural areas. This infrastructure limitation is a challenge that needs to be overcome because, without adequate access, this innovative approach is difficult to implement evenly (Hanifan et al., 2022).

This digital divide shows that government and educational institutions' efforts must improve infrastructure and provide technological devices throughout the region. Without attention to this aspect, the gap in cultural learning will continue to exist, which impacts the imbalance in understanding local culture among the younger generation in various regions.

Millennial Generation Cultural and Identity Learning

This research has implications for the importance of developing a technology-relevant curriculum for local cultural learning. By adjusting learning methods to the characteristics of the millennial generation , the results of this research confirm that the younger generation has great potential to recognize, understand, and even preserve local

culture if the material is presented in a relevant manner. A culture-based curriculum that combines digital elements can bridge the gap between the younger generation and traditional culture, thereby strengthening their identity as part of a society rich in cultural diversity.

In addition, this research shows that technology in cultural learning can be a tool to revive values that are often neglected in the flow of globalization. By providing easier access to the younger generation to get to know local culture, this educational innovation not only increases understanding but also builds a deeper appreciation of cultural identity. This is important in maintaining cultural sustainability amidst the increasing influence of foreign cultures (Muwahhida , 2023).

4.5 Policy Implications and Recommendations

This research highlights the importance of policy support to expand the application of technology-based educational innovations in local cultural curricula. Government support in the form of adequate education budgets for educator training and the provision of technological infrastructure are key factors for the success of implementing this method widely. Recommendations for education policy are to provide budget allocations that allow for technology training for educators across regions and infrastructure support that can reduce the digital divide among schools in different regions.

In addition, government policies are expected to support the development of relevant and easily accessible local cultural learning materials in digital format. This step will encourage better preservation of local culture through the integration of technology that is close to the lives of the millennial generation , so that they can identify and understand local cultural values as part of their identity.

4.6 Research Limitations and Suggestions for Further Research

This research has several limitations, especially in terms of sample coverage which is limited to schools in certain areas and limited observation time. These limitations affect the generalization of the research results. For further research, it is recommended to conduct cross-regional studies involving more educational institutions from rural and urban areas to obtain more representative data on the effectiveness of technology-based educational innovation in local cultural learning.

In addition, this research is still limited to certain digital technologies. Further research can explore the use of other technologies, such as augmented reality (AR) or virtual reality (VR), to see to what extent these technologies can enhance understanding of local culture in a deep and interactive way.

4. CONCLUSION

This research shows that technology-based educational innovation can strengthen the understanding of local culture among the millennial generation. Key findings include students' positive acceptance of technology-based and interactive learning methods, high involvement in local cultural projects, and the important role of creative and trained educators. This research successfully answered the objective of identifying effective ways to integrate local culture through educational innovation, with the support of technology as the main medium. Theoretically, this research contributes to the development of culture-based educational innovation literature, showing that an approach relevant to the

characteristics of the digital generation can increase students' interest and understanding. Practically, the results of this research underline the need for training and support for educators to optimize the use of technology in local cultural learning. However, the limitations of this research lie in the limited scope of the sample and the variation in educational infrastructure. Expanding the sample to include Crobe expanded ss-studies is recommended for further research to increase external validity. This research makes an important contribution to education policy, highlighting the need for budgets for educator training and the development of local culture-based materials.

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