



# *Smart Class as a Culture Learning Resource in the Tourism Village of Cisaat*

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**Abstract.** The Tourism Village Network established by the Minister of Tourism and Creative Economy in Indonesia is a challenge for the selected villages to become tourist villages. The determination of this tourist village requires the readiness of various parties, namely the community and officials in the village. Thus, the need for cultural learning resources for the community becomes important. This study aims to analyze the need for smart classes as a source of cultural learning in the Cisaat tourist village. The research method used is descriptive qualitative. Researchers collected data through participatory observation by observing the habits of the people in Cisaat Village in understanding their culture. In addition, a Focus Group Discussion (FGD) was conducted to identify the need for smart classes as a source of learning for the culture of the Cisaat community. Thus, the FGD was conducted for 85 min with two village officials, two elementary school teachers, two junior high school teachers, two high school teachers, and three members of a tourism awareness group in Cisaat village. This study uses thematic analysis to analyze the data. Data analysis was carried out after data in the field had been collected. The results of this study indicate the condition of cultural learning resources, the condition of facilities and infrastructure as a means of supporting learning resources, and the need for smart classes as learning resources in Cisaat Tourism Village. The implication of this research is to strengthen that to increase the readiness of the community in tourist villages, namely by building smart classes as a source of cultural learning. Thus, the results of this study can be used as a source that supports the development of research based on local resources.

**Keywords:** Smart class · Cultural learning · Learning source · Tourism village

## 1 Introduction

Smart class is a class equipped with modern technology such as 3G and 4G, interactive learning, audio and video transmission without interruption, as well as recording and uploading learning activities on the website [1]. In addition, 5G is also a cellular network that offers higher internet speeds than 4G. Currently, 5G networks are becoming known even though the technology requires a lot of micro towers. Unfortunately, not all regions in Indonesia have good networks in the learning process. Even so, the area of Cisaat Village, Subang Regency, West Java is included in the tourist village network. This has

an impact on the education sector to build smart classes that can be a place for learning communities.

According to Jo et al. [2], The smart class provides an environment that allows collaboration, sharing, and participation between teachers and students. In the United States, through the SRI International institution, a website is created under the name School 2.0. Later, the site was endorsed by the United States Department of Education and used in conjunction with schools, districts, and the general public to explore how future technology will support smart classroom education [3].

Tanwar and Gupta [4] show that in today's modern era, smart class is very beneficial for students to understand each chapter visually. This can be done with light fidelity technology or Li-fi technology. One of the biggest benefits of networked Li-fi in schools/colleges is that all software is server-loadable. The space in which the wireless network operates is not flat but round. Therefore, in a multi-level site, network access is available above or below the access point, without the need for additional infrastructure. Based on Abood et al. [5] research, the smart class can reduce paper usage by using a quiz management system through Android-based Near Field Communication (NFC). Jena [6] adding learning with smart classes can help develop students' cognitive dimensions. In addition, through the smart class learning process, students can activate and build background knowledge, process information, turn learning into products they know, and reflect on the learning that has been done [7].

Xing and Lu [8] show that to support smart classes for students, computational thinking skills are needed that can increase internet self-efficacy. Therefore, it is necessary to design a system that can support smart classes as a learning resource in the Cisaat Village area. Considering that Cisaat Village has just been designated as an educational tourism village that develops educational and cultural tourism based on local wisdom.

In addition, learning resources have various important benefits in learning activities [9, 10]. Thus, learning resources can increase learning productivity, provide a more scientific basis for learning and enable broad learning [11]. Therefore, learning resources not only transmit messages but also increase the effectiveness of the learning process. In making learning resources, it is important to pay attention to the purpose, form, message, and level of difficulty of the learning resources [12].

Cultural learning resources are obtained through the learning process of individuals as a result of interactions between group members with each other. Thus, there will be a culture that can be shared. Therefore, the cultural system that grows and develops in society cannot be separated from the values it has built itself. This is what makes the form of cultural values will affect human life in society.

The younger generation as part of the community in Cisaat village has a role to know about their cultural identity. This is related to the village of Cisaat which is designated as a tourist village. Thus, people in these areas need to have computational thinking skills to support them in be more familiar with the culture through the internet and technological tools. Therefore, this study aims to analyze the need for smart classes as a source of cultural learning in the Cisaat tourist village. This needs analysis was carried out as a stage of developing a smart class that was adapted to the learning conditions in Cisaat village. Thus, all levels of society in Cisaat village can better understand cultural identity through smart classes as a source of cultural learning that will be developed. Based on

previous research, the application of smart classes is carried out only in learning activities [13–15]. However, with this research, the smart class that was built can be developed as a learning resource for learning communities in tourist villages. This is to support facilities that support understanding of the culture of the people in Cisaat village.

## 2 Method

This study uses a qualitative method [16] in an effort to obtain an overview and information on the needs of smart classes as a source of cultural learning in the Cisaat tourist village. Thus, this research was conducted in the village of Cisaat, West Java. The participants in this study were two village officials, two elementary school teachers, two junior high school teachers, two high school teachers, and three members of a tourism awareness group (*Pokdarwis*) in Cisaat village. The participants were selected according to the characteristics of the study, namely knowing the condition of learning facilities and infrastructure, understanding tourist villages, having the ability to use technology, and understanding the culture in Cisaat village. Thus, these participants were used to represent community groups in Cisaat village.

Data collection was carried out using two stages, namely participatory observation and FGD [16]. Participatory observations were carried out by researchers as a process of observing the habits of the people in Cisaat Village in understanding their culture. Therefore, researchers participated in it. So that this research produces data from various informants needed for complete analysis. However, in collecting data the researchers participated in several activities, although not all of them. Thus, participatory observation by researchers is passive. This is because the researcher came to the place of the activity of the person being observed but was not involved in the activity. In its implementation, researchers came to the village secretary's office, schools, and residents' homes to observe and record the atmosphere and events that occurred in the object of research. In addition, a Focus Group Discussion (FGD) was conducted to identify the need for a smart class as a source of learning for the culture of the Cisaat community. FGD is intended to avoid the wrong meaning of a researcher to the focus of the problem being studied. Thus, FGD was conducted for 85 min with 11 participants. The question guide in the FGD was developed based on the AECT learning resource classification concept [17] such as message, people, materials, device, technique, dan setting. FGD activities were carried out using a tape recorder and note-taking to collect data. Thus, the results of the minutes can be compiled to help researchers analyze the data.

This study uses thematic analysis to analyze the data. Thematic analysis is carried out to identify patterns that are patterned in the process of analyzing the needs of smart classes as a source of cultural learning. Thus, the identified themes were coded inductively from raw qualitative data (observation notes, recordings, and FGD minutes) and deductively (theory-driven) based on theory and the results of previous research [18]. Therefore, data analysis was carried out after data in the field had been collected. The analysis is carried out by recording chronologically important and relevant events and critical incidents based on the sequence of events. In addition, thematic analysis activities were carried out by explaining the processes that occurred during the FGDs and observations that were relevant and relevant in the study. Thus, the researcher records all the data

obtained systematically, then outlines the data. Next, compare and group outlines and build themes and codes for evaluation. After that interpret the results and conclude [18].

### 3 Results and Discussions

The visual aspects of smart classes and different media can bring a dynamic perspective to education, as well as provide a clear understanding of the subject matter. However, in developing a smart class, an initial analysis is needed to identify various learning resource needs. The eleven participants consisted of five women and six men. To maintain the research code of ethics, participants' names were disguised with codes E1-E11. E1 (40 y.o.) and E2 (45 y.o.) are village officials who have worked for more than 10 years. Both are residents of the village of Cisaat since birth. E3 (38 y.o.) and E4 (40 y.o.) are primary school teachers with more than 10 years of teaching experience. Meanwhile, E5 (30 y.o.) and E6 (29 y.o.) are junior high school teachers with more than five years of teaching experience. E7 (48 y.o.) and E8 (50 y.o.) are senior high school teachers with more than 15 years of teaching experience. E9 (20 y.o.), E10 (25 y.o.), and E11 (28 y.o.) are members of a tourism awareness group (Pokdarwis) in Cisaat village. Eleven of the participants were natives from Cisaat village. So, they have experience related to culture in Cisaat village. Based on the results of the research that has been done, there are two categories of focused themes, namely the condition of facilities and infrastructure for cultural learning resources and the need for smart classes in Cisaat village.

#### 3.1 Condition of Facilities and Infrastructure of Cultural Learning Resources

Cisaat Village is one of the villages in Subang Regency, West Java. Cisaat village has become a tourism zone because it has several tourist attractions such as pineapple plantation agro-tourism, tea garden tourism, *cimutan* spring swimming pool, and culinary and traditional arts. Cisaat Village has historical heritage sites whose existence is still preserved and even cultural activities are still carried out with a schedule of 3 months to 1 year. The events are Hajat Pabarit, Maulid Nabu, and Ruatan Bumi. Based on Cisaat village documents, the total population is 9,724. The number of people aged 30–60 years is 3,876 people or about 40% of the total population. On the other hand, the population with an age range of 17–30 years is 316 people or about 24%. Therefore, the need for cultural learning resources is important for the residents of Cisaat village. The establishment of Cisaat village as a tourist village requires good preparation. Unfortunately, the results of the discussion in FGDs E1 and E2 explained that:

“Until now, in terms of internet and laptop infrastructure, there is still a shortage in Cisaat village. Internet access used by the community often experiences problems. In addition, the facilities and infrastructure are still incomplete. (E1, FGD 2022 Results).

“In Cisaat village we don't have a digital camera yet but we have a place and a room that can be used as a place for learning resources”. (E2, 2022 FGD Results).

The results of the discussion regarding the condition of the facilities and infrastructure of cultural learning resources indicate that the quality of the internet network must be improved. In addition, a digital camera is needed to be able to support cultural learning resources in Cisaat village. Statements E1 and E2 are not in line with Parcival and

Ellington [19] that of the many learning resources only textbooks are widely used. This research shows that with the advancement of technology and information, the learning resources used continue to grow. Thus, the need for facilities and infrastructure to support learning resources is not only for textbooks but other technological devices such as cameras, laptops, and internet networks.

In addition, regarding the condition of the facilities and infrastructure of cultural learning resources, E10 and E11 added that:

“A good internet network and supporting facilities are highly expected. Because the existing facilities and infrastructure are not supported. Especially at the level of Early Childhood Education (PAUD). Thus, cultural learning resources given to PAUD children only use recreation.” (E10, 2022 FGD Results).

“In terms of the use of information technology, our capabilities are still lacking. Only some members of Pokdarwis are used to laptops. This is because some members still have fears when opening their laptops, which are fear of damage and fear of splitting.” (E11, FGD Results 2020).

Through the results of the FGD conducted, it was found that the condition of the facilities and infrastructure of cultural learning resources was not said to be good. Especially for children who are in PAUD. Therefore, a minimum facility for learning the use of good technology is needed. Because there are still residents in Cisaat Village who are not familiar with laptops. Therefore, only the operator can open and operate the laptop.

### **3.2 The Need for Smart Class as a Source of Cultural Learning in Cisaat Village**

Based on the condition of the facilities and infrastructure of cultural learning resources in Cisaat village, a smart class design is needed. This is because applying information technology for teaching and learning is important. Moreover, as a tourist village, people in Cisaat village must understand their culture. In addition, technological advances create new trends for learning resources ranging from the use of social networks and online learning [20]. On the other hand, the results of FGDs E3 and E9 explain that:

“This smart class requires a good internet network. So that students who use it can comfortably access information without being constrained by the network. The provision of films and pictures related to the culture of the Cisaat village is an important requirement for smart classes. Because it helps to learn activities.” (E3, FGD Results 2020).

“In addition to the people in Cisaat village, this smart class can be used for tourists who will visit here. Thus, they also get cultural information and tourist and culinary places in Cisaat village. Therefore, devices such as computers, laptops, and digital cameras are important to support the smart class.” (E9, FGD Results 2020).

Based on the results of the discussion, it shows that smart class is a community need in Cisaat village as a source of cultural learning. In addition, for room facilities that will be used as smart classes, village officials have them. However, based on the findings of researchers, devices such as laptops, computers, and digital cameras are needed. In addition, the internet network is also a support. In line with Phoong et al. [21] smart class as classroom should be equipped with computers and audio-visual equipment. Therefore, to build a smart class, it is also important to provide audio-visual equipment. Thus, society as a user is not only limited to operating a computer. However, this study shows that smart classes are not only needed by students in schools and colleges

[14, 15]. But the general public in rural areas also needs smart classes as a source of their learning.

Based on the AECT concept [17] related to learning resources, this study shows that the messages they receive regarding technology and information are still inadequate. This is due to the unsupported condition of the facilities and infrastructure. In addition, users of learning resources are still limited to understanding but have not been able to use technological devices properly. This is in line with the results of the E11 discussion. In addition, the software used is not yet available. Because of the research findings, the hardware needs for the main learning resources are laptops and computers. Even so, the technique of using hardware is also needed by the community. Even though from the findings of this study, the room and environment are adequate, but the software and hardware need to be improved.

## 4 Conclusions

This study seeks to analyze the need for smart classes as a source of cultural learning in the Cisaat tourist village. This study concludes that the condition of facilities and infrastructure as a source of cultural learning is still inadequate due to the lack of quality internet networks, the number of computers, and the absence of digital cameras. In addition, the community's ability to use hardware such as laptops is still lacking. Therefore, smart class is needed as a source of cultural learning. So, all walks of life can have access to learn about their culture and also improve their ability to use technology. In addition, this smart class can be alternative tourism for visitors to get information related to Cisaat village. This research is expected to provide an overview for academics and the government to support the needs of smart classes with training and the provision of other supporting facilities. Future research is expected to be able to develop smart class designs as a source of cultural learning in tourist villages.

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## References

1. A. Alelaiwi, A. Alghamdi, M. Shorfuzzaman, M. Rawashdeh, M. S. Hossain, and G. Muhammad, "Enhanced engineering education using smart class environment," *Comput. Human Behav.*, vol. 51, pp. 852–856, 2014, <https://doi.org/10.1016/j.chb.2014.11.061>.
2. J. Jo, J. Park, H. Ji, Y. Yang, and H. Lim, "A study on factor analysis to support knowledge based decisions for a smart class," *Inf. Technol. Manag.*, vol. 17, no. 1, pp. 43–56, 2015, <https://doi.org/10.1007/s10799-015-0222-8>.

3. G. Bo-Gyeong, K. Hyeon-Jin, S. Hee-Jeon, J. Jong-Won, and L. Eun-Hwan, "Future School 2030 model for the introduction of future school systems," Korea, 2011.
4. K. Tanwar and S. Gupta, "Smart Class Using Li-Fi Technology," *Int. J. Eng. Sci.*, vol. 3, no. 7, pp. 16–18, 2014, [Online]. Available: <http://theijes.com/papers/v3-i7/Version-1/D0371016018.pdf>.
5. M. S. Abood, M. Ismail, and R. Nordin, "A Quiz Management System Based on P2P Near-Field Communication On Android Platform for Smart Class Environments," in *2016 International Conference on Advances in Electrical, Electronic and Systems Engineering (ICAEES)*, 2016, pp. 14–16.
6. P. C. Jena, "Effect of Smart Classroom Learning Environment on Academic Achievement of Rural High Achievers and Low Achievers in Science," *Int. Lett. Soc. Humanist. Sci.*, vol. 3, pp. 1–9, 2013, <https://doi.org/10.18052/www.scipress.com/ilshs.3.1>.
7. A. Chaudhary, G. Agrawal, and M. Jharia, "A Review on Applications of Smart Class and E-Learning," *Int. J. Sci. Eng. Res.*, vol. 2, no. 3, pp. 77–80, 2014.
8. D. Xing and C. Lu, "Predicting key factors affecting secondary school students' computational thinking skills under the smart classroom environment: evidence from the science course," *J. Balt. Sci. Educ.*, vol. 21, no. 1, pp. 156–170, 2022.
9. M. Gregoriou, "Creative pedagogies: examining the pedagogies fostering possibility thinking in primary classrooms, using learning resources associated with museum visits," *Educ. 3-13*, pp. 1–16, 2022, <https://doi.org/10.1080/03004279.2022.2110604>.
10. T. T. Dien, N. Thanh-Hai, and N. Thai-Nghe, "An approach for learning resource recommendation using deep matrix factorization," *J. Inf. Telecommun.*, vol. 0, no. 0, pp. 1–18, 2022, <https://doi.org/10.1080/24751839.2022.2058250>.
11. K. E. Freese, P. Documét, J. J. Lawrence, F. Linkov, R. E. LaPorte, and R. D. Stall, "From the schools and programs of public health, student column: Public health education using supercourse: A computer-based learning resource for health-care professionals in the Southern Province of Zambia," *Public Health Rep.*, vol. 129, no. 1, pp. 100–106, 2014, <https://doi.org/10.1177/003335491412900116>.
12. Z. Abidin, Rumansyah, and K. Arizona, "Pembelajaran Online Berbasis Proyek Salah Satu Solusi Kegiatan Belajar Mengajar Di Tengah Pandemi Covid-19," *J. Ilm. Profesi Pendidik.*, vol. 5, no. 1, pp. 64–70, 2020, <https://doi.org/10.29303/JIPP.V5I1.111>.
13. X. Wang, T. Liu, J. Wang, and J. Tian, "Understanding Learner Continuance Intention: A Comparison of Live Video Learning, Pre-Recorded Video Learning and Hybrid Video Learning in COVID-19 Pandemic," *Int. J. Hum. Comput. Interact.*, vol. 38, no. 3, pp. 263–281, 2022, <https://doi.org/10.1080/10447318.2021.1938389>.
14. R. Nai, "The design of smart classroom for modern college English teaching under Internet of Things," *PLoS One*, vol. 17, pp. 1–24, 2022, <https://doi.org/10.1371/journal.pone.0264176>.
15. Q. Lin et al., "A study of blended learning using the smart class teaching module on psychosocial dysfunction course during the training of undergraduate occupational therapy students in China," *Med. Sci. Monit.*, vol. 27, pp. 1–13, 2021, <https://doi.org/10.12659/MSM.931748>.
16. J. Creswell, *Research Design, Qualitative, Quantitative and Mixed Methods Approaches*, Fourth. Sage Publication, 2017.
17. A. Januszewski and M. Molenda, *Educational technology: A definition with commentary*. New York: Lawrence Erlbaum Associates. Inc., 2008.
18. R. E. Boyatzis, *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks: Sage, 1998.
19. F. Percival and H. Ellington, *A Handbook of Educational Technology*. London: Koganpage, Ltd., 1984.

20. J. Schacter and B. Jo, "Improving preschoolers' mathematics achievement with tablets: a randomized controlled trial," *Math. Educ. Res. J.*, vol. 29, no. 3, pp. 313–327, 2017, <https://doi.org/10.1007/s13394-017-0203-9>.
21. S. Y. Phoong, S. W. Phoong, S. Moghavvemi, and A. Sulaiman, "Effect of Smart Classroom on Student Achievement at Higher Education," *J. Educ. Technol. Syst.*, vol. 48, no. 2, pp. 291–304, 2019, <https://doi.org/10.1177/0047239519870721>.

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