

Proceeding Paper

Character Building Education through Personalized Programs and E-Learning by Computer Software: A Case Study of Larantuka East Nusa Tenggara in Indonesia [†]

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[†] Presented at the 2024 IEEE 4th International Conference on Electronic Communications, Internet of Things and Big Data, Taipei, Taiwan, 19–21 April 2024.

Abstract: The Indonesian government prioritizes development in the 3T regions: frontier, outermost, and least-developed areas, which are vital for holistic progress. Aligned with the Golden Generation program, it emphasizes education, tech access, and entrepreneurship to empower youth against societal challenges. Larantuka, in East Nusa Tenggara of Indonesia, exemplifies local maritime culture's influence and the need for personalized e-learning which is rooted in tradition. Qualitative research was conducted and identified two key factors: content reflecting collective memory and offline accessibility. Local culture alongside formal education fosters character building and lifelong learning by integrating theoretical teachings with practical applications, based on the cultural value of “gotong royong” (mutual cooperation). This approach ensures that Indonesia’s cultural heritage thrives amidst educational progress.

Keywords: online learning; personalized learning; Larantuka; character building



Citation: Iskandar, I.F.R.; Balontia, M.J.; Sriyanto, H.; Sapoetra, J. Character Building Education through Personalized Programs and E-Learning by Computer Software: A Case Study of Larantuka East Nusa Tenggara in Indonesia. *Eng. Proc.* **2024**, *74*, 25. <https://doi.org/10.3390/engproc2024074025>

Academic Editors: Shu-Han Liao, Teen-Hang Meen and Cheng-Fu Yang

Published: 29 August 2024



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1. Introduction

Development brings progress but poses challenges and opportunities to address, especially for remote regions in Indonesia. As a nation with abundant human resources, disparity is a significant issue if every region does not receive equal development and education. Achieving a balance in development requires time and substantial funding. However, it is important to improve education quality through technological advancement with online programs. This argument is supported by the increasing use of internet-connected devices, such as smartphones and tablets, and is further enhanced by government programs that build the telecommunication infrastructure in remote areas of Indonesia.

However, e-learning is not a flawless instructional delivery model and has shortcomings as follows:

1. Accessibility and infrastructure: In several areas, especially in rural or developing regions, access to fast and stable internet remains a problem. Additionally, not all students have the necessary devices (such as computers or tablets) to access e-learning.
2. Limited social interaction: Online learning can reduce social interaction between students and teachers and among students. This lack of social interaction can impact the development of social skills and students' ability to cooperate.
3. Motivation and discipline: Learning independently through e-learning requires a high level of motivation and discipline in students. Several students struggle to maintain motivation for learning without direct supervision from teachers.
4. Quality content: Online learning requires the content to be relevant, interactive, and of high quality. Effective content development demands investments in time and sufficient resources.

5. Evaluation and performance measurement: It is challenging to evaluate students' progress and measure the effectiveness of online learning. Fair and accurate evaluation systems need to be designed to measure students' understanding effectively.
6. Data security concerns: The use of e-learning platforms involves the exchange of personal data and students' academic information. Data security is a major concern, and effective measures need to be in place to protect sensitive information.
7. Educators and technology skills: Teachers and instructors need adequate technology skills to plan, develop, and manage online learning. Proper training and adequate support are necessary to ensure educators have the knowledge and skills required.

These shortcomings need to be studied to create effective personalized e-learning based on specific regions. By studying traditional education systems that are based on local cultures, the idea of character building based on local wisdom and values can be determined and implemented to solve the challenges and obtain the opportunities that arise in their respective regions. Parapat stated that maintaining local wisdom is an effort that can shape the character of the community, especially the local population [1].

Cooperation between existing informal education based on local cultures and the national standard in education helps to build lifelong education. The process of character building through informal education is a strong foundation for the Indonesian people, aligning with human resources and development that encompass skills in hardware and software in the spirit of nationalism. This is inseparable from the fact that maintaining a country must be undertaken by generating human resources who can participate positively in improving people's lives. This also corresponds to lifelong education, forming human beings with useful abilities for the common good. To examine how to shape character building based on personalized e-learning, we used qualitative research methods and extracted data through in-depth interviews, surveys, and literature studies.

2. Background Knowledge

2.1. Lifelong Education

Lifelong education refers to an educational effort that lasts a lifetime to produce individuals to contribute to society. Lifelong education is carried out comprehensively at the formal and informal levels of education. Comprehensiveness means that education is a lifelong learning process for personal, social, and professional development [2]. The process of lifelong education has been improved based on the previous concept of education in two ways. First, the concept of lifelong education contradicts the belief that education is only limited to formal education, namely, schools and universities where both children and young people are prepared for adulthood. Second, the implication of applying this concept is that the formal education system must be regulated flexibly to accommodate individual choices and prepare young people to continue their education as self-directed and competent adult learners [3]. In lifelong education, two types of integration are needed, namely, horizontal integration and vertical integration. Horizontal integration brings all types of education that exist in society together, both in formal education, such as schools, and in informal education so that both can support each other. Furthermore, vertical integration refers to the continuity of each type of education available to each individual throughout their life [2].

2.2. Gotong Royong (Mutual Cooperation): Basis of Character Building and Value

Soekarno, the first president of the Republic of Indonesia, is the one who has sparked "Pancasila" as the nation's ideology. Pancasila is an ideology that contains the following five values extracted from the way of life of the Indonesian people themselves:

- God Almighty group home;
- Just and civilized humanity group;
- Indonesian union group home;
- Democracy led by wisdom of wisdom in representative deliberations group home;
- Social justice for all Indonesian people

In his speech about the idea of Pancasila, Soekarno stated that Pancasila could be squeezed into one virtue, namely mutual cooperation (gotong royong). Gotong royong is one of the local wisdoms of the Indonesian people. Gotong royong can be understood as a way of life for the Indonesian people that encapsulates all the values of Pancasila. The meaning of gotong royong is to help each other in a community. Even though Indonesia has 1340 ethnic groups, gotong royong exists in each of these ethnic groups. Gotong royong has various names depending on the language of the ethnic groups in Indonesia. The Minahasa tribe, one of the Indonesian ethnic groups in North Sulawesi, understands gotong royong with the term "mapalus". Meanwhile, the Minang tribe labels mutual cooperation with the term "manunggal sakato". Every ethnic group in Indonesia has a habit of mutual cooperation in different terms. The practice of gotong royong in every ethnic group of Indonesia shows the values of Pancasila as the way of life of the Indonesian people. This is inseparable from the fact that the five values of Pancasila are rooted in mutual cooperation. Gotong royong is the ideology of the Indonesian nation, namely, Pancasila.

2.3. *Bina Nusantara Character-Building Program*

Since 2014, under Law No. 12 of 2012 regarding higher education and the mandatory teaching of Pancasila education, civic education, religious education, and Indonesian language education to all students, the character-building (CB) curriculum has been adjusted, including its name and content.

Binus University continues to provide character-building education through courses such as Pancasila education, civic education, and religious education as general and compulsory courses. The new courses have new names, such as Character Building: Pancasila, Character Building: Civic Education, and Character Building: Religious Education. The main emphasis in conducting learning activities for the three courses, including social activities conducted outside the classroom, is placed on character formation or improvement. Many fundamental core values are the main topics of discussion in the three courses, which are cultivated within the students through learning activities both inside and outside the classroom.

- Character Building: Pancasila involves a deepening of its noble values, which are articulated in the five principles: the value of the divine, the value of humanity, the value of unity, the value of democracy, and the value of justice. These five values serve as the foundation for character education for all students.
- Character Building: Civic Education focuses on being a good citizen. Through the course, students can possess a strong sense of nationalism and patriotism for the homeland.
- Religious Education: The meaning of faith and religion are emphasized in living. Through the course, students become able to believe and practice their faith in an inclusive, plural, and open manner, while remaining critical and rational. They are also encouraged to understand or interpret religious teachings in situations they are facing.

3. Research Method

Larantuka is located in East Flores district, East Nusa Tenggara, Indonesia, as a sub-district. It is the capital of the district of East Flores. Larantuka comes from the name of the first Catholic kingdom in the archipelago, which was founded in the 13th century, so it is often known as the Vatican foyer. Therefore, this area is a spiritual tourism destination for Catholics. Larantuka is located at the foot of Mount Mandiri and is affected by Portuguese heritage traditions. The area is 75.91 km² with a population of 45,515 according to the 2020 census data [4]. Due to its geographical location, before 2020 there was only one mobile telecommunication operator. Their services covered several sub-districts only. The Indonesia Ministry of Communications and Informatics through BAKTI (Accessibility, Telecommunication, and Information Body) provided 753 access points for telecommunication in East Flores in schools, public health centers, municipal buildings, and tourist attractions [5].

Larantuka is a part of East Flores with two original cultures, namely "Lamaholot" and "Malay Nagi Larantuka". Lamaholot is the majority culture of nomadic tribes in the mountains. Meanwhile, Malay Nagi Larantuka is a culture with various cultural adaptations, one of which is Portuguese culture. Judging from its territory, Larantuka has been affected by coastal Malay culture. Over time, both cultures were mixed with due marriages as the most triggering factor. In harmony with Indonesian culture based on gotong royong, the local culture of Larantuka also embraces the value. In Larantuka, gotong royong is called "Gemohing". This word is popularly used to imply a joint activity. Besides that, there is also "Kumpo Kao", which means helping relatives who are experiencing difficulties or solving social agendas altogether, which is manifested in material and physical assistance. The activities are carried out in traditional events, church construction, weddings, and Indonesian proclamation celebrations.

In line with the geographical conditions, the fishing culture in Larantuka is still very strong. Maritime-related matters are popular with all generations in society. The older generation has been traditional or modern fishermen and sailors. Meanwhile, the younger generation, along with globalization and technological developments, continue their studies outside East Nusa Tenggara, and those who stay have maritime professions, including inter-strait sea taxi sailors. This maritime activity has been supported as Larantuka has been a trading center for fish. The "fish market" is classified based on the caught and traded amount.

Social activities in the community at the fish market are closely related to the local culture in Larantuka, where greetings in local languages are still often used among the older generation. Foreign cultures influence the younger generation in Larantuka considerably, but this is not negative for the younger generation for cultural enrichment. This is evidenced by the participation of the younger generation in traditional and customary events, triggered by childhood memories without significant foreign exposure. However, the youth organization in Larantuka, named Simpasio, is maintaining and preserving the indigenous culture of the region. The activities carried out by the organization include the following:

- Exploring local knowledge related to traditional Larantuka medicine;
- Portuguese and Catholic cultural influences;
- Documentation of traditional rituals;
- Audio-visual documentation to meet the needs of the era that contains culture.

The related matters are local content in the region and are used to strengthen and maintain the local culture of the region.

4. Findings and Discussions

Residents, teachers, and government officials in Larantuka were found to communicate about the accessibility and infrastructure of Larantuka. Due to its exposure to foreign cultures and the need to connect with other people in other provinces, it is necessary to communicate through a well-established infrastructure. People in Larantuka, especially younger generations, are aware of data security and how to protect their information. The different views concerning internet security between the older and younger generations are classified into technical and cultural categories. For the older generation, technical issues such as data security, unsecured passwords, and digital footprints are problems since they demand easy access to internet-based technologies. The younger generation has problems such as technological mastery of e-learning, which can be solved using character-building education.

Character-building education in Larantuka is carried out in formal and informal education. These two types of education collaborate as gotong royong is the basis for character building in schools and society. People continue to learn to be social beings and to cooperate. Cooperation is the core of the value of gotong royong and the basic value of the Indonesian nation's ideology, namely Pancasila. For example, gotong royong is informally taught through the practice of cooperation, especially in funerals or wedding ceremonies.

Even though various forms of communication are available through the internet, Larantuka is still a traditional way of communication. This is rooted in cooperation-based education

at various levels of formal and informal education. People in Larantuka are used to cooperating with respect to its local culture and familial traits. Learning is effective in the reminiscence of childhood memories, which boosts their motivation. According to our interviews, people in Larantuka find their strength in a group to overcome their weaknesses. Such a way becomes their problem-solving method, in which they discuss their problem and find solutions through "family" discussions. In terms of formal education from pre-school to university, every child is taught the basic values of Indonesian ideology through civic education. The materials are created for the needs of each student at each level of education.

In Indonesia's formal education, local wisdom learning materials are included in the Merdeka curriculum. This implementation allows the regional authority to accommodate local content based on the characteristics and local wisdom in the region. Studies related to local content are based on the nation's culture, which allows the culture to be integrated into the curriculum. The Merderka curriculum provides a learning standard in terms of material development and evaluation. The problem in providing material related to regional culture is the uniformity in schools. In such uniformity, the Medeka Curriculum introduces local excellence and wisdom so that they can be integrated into education. According to the Ministry of Education and Culture of Indonesia, three options exist in the local content integrated into formal education [6]:

- Integration with other subjects;
- Project to strengthen the profile of Pancasila;
- Become a separate subject for two hours.

Local wisdom is associated with Pancasila. Indonesian diversity provides a local and global advantage. In the operational curriculum, institutions integrate local content based on [6] regional characteristics, traditions, and resources. Character education in Indonesia has different characteristics because of its diversity. Gotong royong is a common characteristic. Each region has its characteristics. Such different characteristics cannot be separated from geographical characteristics. Communities in Larantuka are affected by marine cultures. In Larantuka, for example, maritime culture is manifested as a way of making a living. Related to character building in lifelong education, integration between informal education in society is required. Every individual in the area learns maritime culture in everyday life. The integration of informal education in the community is supported by the awareness of the community about maintaining its culture. For example, the Simpasio Institute, an association of young people in Larantuka, maintains culture through various educational activities and explores local knowledge related to traditional Larantuka medicine and traditional rituals. Such efforts cannot be separated from discussions with the local government. The economic benefit from the sea supports informal education at the Simpasio Institute in the community. Character education in Larantuka lasts a lifetime through activities that exist in the community (Figure 1).

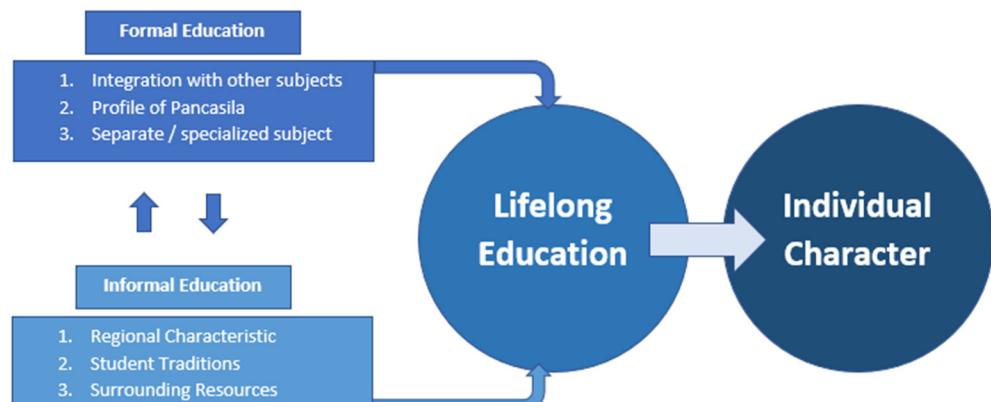


Figure 1. Relationship of individual character in lifelong education at formal and informal educational institutions.

5. Conclusions

Amid globalization and with the influence of foreign cultures, the coastal communities of Larantuka still hold onto their cultural characteristics. People are working at sea for a living. The culture of gotong royong has been implemented in the community. The implementation of mutual cooperation is a form of lifelong education for the residents. The education forms the character of an individual in the region. In terms of character-building education through personalized e-learning, two significant factors are considered: childhood memory, which attracts interest in learning, and methods of learning and materials online, with offline guidance through traditional teaching (Table 1).

Table 1. Teaching-related subjects and means in character-building education.

Items	Means
Accessibility and Infrastructure	Sufficient backup access to local learning centers, schools, or municipal buildings for offline learning
Limited Social Interaction	Required attention through a hybrid approach (offline and online delivery)
Motivation And Discipline	Solution by fostering local culture and familial traits
Quality Content	Content-based local culture and national character-building education to create lifelong and personalized e-learning programs
Evaluation and Performance Measurement	Solution through the Merdeka curriculum
Data Security Concerns	Assistance with existing technology linked to the national database
Educators and Technology Skills	Training with the national standard of the Merdeka curriculum

Author Contributions: Conceptualization, I.F.R.I.; methodology, M.J.B.; software, I.F.R.I. and M.J.B.; validation, I.F.R.I., M.J.B. and J.S.; formal analysis, I.F.R.I.; investigation, I.F.R.I.; resources, M.J.B.; data curation, I.F.R.I.; writing—original draft preparation, I.F.R.I.; writing—review and editing, H.S. and J.S.; visualization, I.F.R.I., M.J.B. and J.S.; supervision, J.S.; project administration, H.S.; funding acquisition, H.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This study did not require ethical approval.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: No New Data were created.

Acknowledgments: This research was supported by the Research and Technology Transfer Office, Bina Nusantara University as a part of Bina Nusantara University's Applied Basic Research Grant entitled Pancasila Education and Maritime Culture (Local Culture) as the Foundation for Shaping Society's Character Amidst the Development of Time, with contract no. 060/VR.RTT/IV/2022 and contract date 8 April 2022.

Conflicts of Interest: The authors declare no conflict of interest.

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