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Original Article

Educational Application of Satera Jontal and Sumbawa Culture Based on Augmented Reality to Realize Indonesia SDGs 2030

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Abstract. Indonesia is recorded as an archipelagic country with cultural diversity. However, technological advancement and globalization have an impact on local culture. One of them is that Sumbawa's culture is threatened to be eroded and forgotten due to the younger generation shifting towards Western culture or K-pop. Everyone on the island of Sumbawa, especially students, is expected to know and enhance their love for the local culture of Sumbawa. Based on this, this research aims to examine the concept of SAJODAR as an educational application of Satera Jontal and Sumbawa regional culture based on Augmented Reality (AR) to enhance students' knowledge and love for Sumbawa's local culture. The method used in this research is the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation) to construct a learning system. The ADDIE development model is more effective, rational, and comprehensive for developing a product. The analysis results show a relatively high attention rate in the realm of technology-based cultural learning, to facilitate students, especially in using the SAJODAR application as a medium to enhance the love for Sumbawa culture.

Keywords: Satera Jontal, Sumbawa Culture, Augmented Reality, SDGs 2030.

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1. Introduction

Indonesia needs to improve the quality of human resources and the application of science and technology evenly [1]. Reported from the National Development Planning Agency website (sdgs.bappenas.go.id) President of the Republic of Indonesia, Joko Widodo. In his speech, he stated that the SDGs (Sustainable Development Goals) 2030 are an important reference for achieving sustainable development in achieving the ideals of a golden Indonesia 2045. SDGs encourage change with a focus on human rights, equality, social, economic development, and the environment. SDGs are a refinement of the MDGs (Millennium Development Goals) with a focus on equitable and sustainable development [2].

Culture plays a crucial role in achieving sustainable development goals [3]. There are 17 main points in the 2030 sustainable development goals (SDGs) program, one of which is point 4 which aims to achieve quality education. Emphasizing the importance of education for sustainability which includes cultural understanding and cultural contributions to sustainable development [4]. Education that integrates culture can form a generation that appreciates cultural diversity and encourages intercultural dialogue. Culture includes values, customs, arts, languages, and identities that shape society [5]. However, the development of communication and information technology in modern times is one of the triggers for low public awareness of culture. The ease of access to global culture is very rapid through social media that cannot be filtered into Indonesia. In recent times, traditional Indonesian culture has faded and been eroded by modernization [6].

Easy access to media and technology has caused teenagers and children to shift to western culture or K-pop, thus eroding and forgetting their local culture. In addition, it causes local culture to be increasingly threatened. Reported from the official website tribunnews.com Muzayanah et al. [7] it was revealed that Indonesia is recorded as the largest Kpoper in the world. Based on this, strengthening, preservation and special handling are needed regarding the problem of eroded culture. If not, Indonesia will lose its identity as a pluralistic or multicultural country. In addition, the strong current of globalization, modernization, and strict puritanism are feared to weaken the love of the community, especially the younger generation for local culture, the loss of language and a reduced understanding of traditional values that have long been the foundation of society. This results in the surrounding culture which is a tribal heritage being marginalized,

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devalued, and ignored by foreign cultures. In fact, many young people are not yet familiar with their local culture [8].

The sophistication of today's technology can provide easy access and have a negative impact on the younger generation. Technology acts as a tool or media that makes it easier to broaden our horizons that we cannot reach due to space and time limitations [9]. Based on report data from Albertus Febi and Sugiyanto [10] on the Databoks.Katadata.Co.Id page. revealed that, as of January 2024, there were 185 million internet users in Indonesia, which is equivalent to 66.5% of the total population of 278.7 million people at the beginning of this year. Data on the number of internet users in Indonesia can be seen in Figure 1.

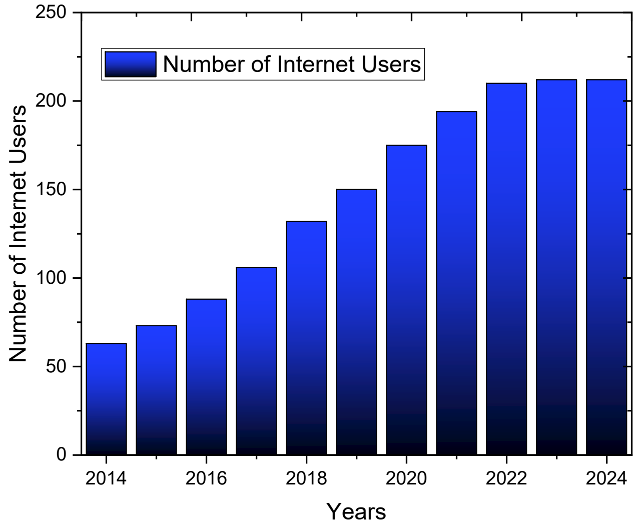

Figure1. Early 2024 Internet Usage Report

Source: https://databoks.katadata.co.id/

West Nusa Tenggara (NTB) is a province in Indonesia that holds a cultural wealth that is no less interesting. NTB culture is a blend of various ethnic groups, traditions, and religions that have lived in harmony for centuries. The tribes that inhabit this area are the Sasak, Sumbawa, and Mbojo tribes. The Sasak tribe, the majority on Lombok Island, is known for its Bau Nyale tradition and unique traditional houses such as Bale Lumbung and Bale Jajar. The Bima tribe on Sumbawa Island is famous for its carving, weaving, and "Jou" war traditions. The Mbojo tribe, also in Sumbawa, is rich in local script learning (satera jontal), dance arts, traditional games and others, making Sumbawa a region that has its own uniqueness compared to other regions [11]. However, the culture in the Sumbawa area is increasingly lost and eroded. Reported from Samawarea.com according to the Deputy Regent of Sumbawa in the museum art competition activity, he said that the tau samawa culture is starting to be forgotten and today 75% of culture must be used in educating and teaching our children. Therefore, a way is needed to save the fading culture so that students do not forget their regional culture. Conservation efforts have been carried out for a long time, but face various obstacles, one of which is the absence of an instrument to present the jontal script [12]. So far, the government and schools in Sumbawa have only presented Satera Jontal in schools using one Sumbawa script book without learning media that can increase interest in learning [13]. Therefore, the creation of intelligent learning media is very important because it is an important part of fostering students' interest in learning the Sumbawa script.

The use of information technology such as devices in the form of gadgets is an alternative solution to overcome this problem. Based on BPS data quoted from databoks.katadata.co.id Prima et al. [14], it was recorded that 33.44% of early childhood in Indonesia use smartphones or wireless devices, while 24.96% of early childhood can access the internet. Furthermore, the latest data from the Central Statistics Agency (BPS) of West Nusa Tenggara Province, Fernandes Júnior et al. [15] the number of productive age reached 68.23% (15-64 years) in June 2021 reaching 68.23% or 3.69 million people, dominated by Generation Z as much as 28.62% The estimated age is now 8-23 years. This shows that almost all Sumbawa people have gadgets, so that it becomes an initial potential to develop new concepts in the digital realm in the digitalization era. The use of this technology is in line with point 4 of the 17 goals of Indonesia's SDGs which emphasizes quality education [16].

Although several developments of educational applications of Aksara Satera jontal have been developed such as the development carried out by Permana et al. [17] "Design and Construction of an Android-Based Application for Getting to Know Satera Jontal Sumbawa". Behnamnia et al. [18] "Design of Educational Game Media Learning Sumbawa Script Satera Jontal Based on Android", which have been used previously, SAJODAR introduces the use of more sophisticated Augmented Reality technology and interactive features that have never existed before. This allows for deeper and more participatory learning. Augmented Reality is not only presented in cultural learning, but is also used in introducing Satera Jontal. Based on the problems that have been raised, this study aims to (1) describe the design process of SAJODAR based on Augmented Reality as a learning medium for students in the Sumbawa area and (2) present the results of the design of the SAJODAR application based on Augmented Reality as a learning medium for students in the Sumbawa area. Thus, SAJODAR is expected to be an enrichment medium in educating students through technology-based learning to support improving the quality of education in the future.

2. Method

The method used in this study is the ADDIE development model method developed by Sriwahyuni et al. [19]. There are several stages in the ADDIE method (Analysis, Design, Development, Implementation, Evaluation). The ADDIE development method used in this study has only reached two stages, namely the Analysis and Design stages. This research and development model was chosen based on design steps that are in accordance with the planned development standards, especially for learning using Augmented Reality. This is very suitable for the platform to be developed, namely educational media about Satera Jontal and the culture in the Sumbawa area.

In the first stage of the ADDIE model, initial research is conducted, namely observing or analyzing conditions. Researchers carry out the analysis stage which has several aspects, namely: (1) To analyze the use of this application. The initial step taken by the researcher was to conduct a survey of students aged 9-17 years. The survey was conducted to see how familiar students from the Sumbawa area were with Satera Jontal and the Sumbawa culture itself. (2) This SAJODAR Application Concept Analysis uses literature studies and is presented with several supporting components to facilitate more interactive Satera Jontal learning for students. Later, students will be given gadgets for their learning process accompanied by teachers to foster the character of Sumbawa children and provide students with an understanding of learning Sumbawa script (satera jontal), history and culture in order to prepare superior human resources in achieving the Sustainable Development Goals 2030 Point 4.

This learning media design stage is carried out by creating a flowchart containing the features in the application. The features in question include: 1) Satera Jontal Feature, 2) Sanggar Tari Feature, 3) Pelawan Sumbawa Against the Dutch Animated Video Feature, 4) Regional Arts Feature, 5) Augmented Reality Feature. At the application design stage, UI/UX Design is used. By using UI/UX Design, users can experience direct experience in the application and can be used as a comprehensive approach that focuses on users. Furthermore, in designing the Augmented Reality (AR) feature in the SAJODAR application, Unity is used. Unity is used because it is one of the most popular development platforms in creating Augmented Reality.

3. Result and Discussion

3.1 The Urgency of SAJODAR Application

Based on a survey conducted by the author to children aged 9-17 years with seven questions related to Sumbawa culture and has been answered by 54 respondents regarding the understanding of Sumbawa cultural knowledge and interest in learning culture based on Augmented Reality. The survey results can be seen in Table 1.

Table 1. Answer Respondents

No.	Survey Question	Response	(%)	Total	Mean	SD	Lower 95% CI	Upper 95% CI
1	Are you interested in an Android-based cultural innovation to preserve Sumbawa culture in a fun way?	Yes	90.7	49	69.850	29.486	-195.074	334.774
		No	9.3	5	7.150	3.040	-20.168	34.468
2		2	12.96	7	9.980	4.214	-27.884	47.844

No.	Survey Question	Response	(%)	Total	Mean	SD	Lower 95% CI	Upper 95% CI
	How many correct answers did you obtain in the knowledge-based cultural test?	3	16.67	9	12.835	5.423	-35.893	61.563
		4	33.33	18	25.665	10.839	-71.728	123.058
		5	25.93	14	19.965	8.435	-55.827	95.757
		6	5.56	3	4.280	1.810	-11.983	20.543
		All correct	5.55	3	4.275	1.803	-11.925	20.475
3	Do you own an Android smartphone?	Yes	100	54	77.000	32.526	-215.242	369.242
		No	0	0	0.000	0.000	0.000	0.000
4	Have you ever used educational applications for cultural learning?	Yes	68.5	37	52.750	22.273	-147.372	252.872
		No	31.5	17	24.250	10.253	-67.86	116.369
5	Would you recommend the Android-based Sumbawa culture app to others?	Yes	83.3	45	64.150	27.082	-179.17	307.473
		No	16.7	9	12.850	5.444	-36.068	61.768
6	How frequently would you use the app if it were available?	Often	42.6	23	32.800	13.859	-91.720	157.320
		Occasionally	44.4	24	34.200	14.424	-95.403	163.803
		Rarely	13.0	7	10.000	4.242	-28.11	48.118
7	Which features would you prefer in a cultural learning app?	Quizzes	37.0	20	28.500	12.020	-79.502	136.502
		Interactive videos	27.8	15	21.400	9.050	-59.919	102.719
		Stories & legends	20.4	11	15.700	6.646	-44.019	75.419
		Games	14.8	8	11.400	4.808	-31.801	54.6011
8	In your opinion, is digital technology effective in promoting cultural awareness?	Yes	88.9	48	68.450	28.921	-191.391	328.291
		No	11.1	6	8.550	3.606	-23.850	40.95
9	Have you participated in any cultural preservation program before?	Yes	25.9	14	19.950	8.417	-55.651	95.551
		No	74.1	40	57.050	24.112	-159.590	273.69
10	Do you think school curricula should include local cultural education using mobile apps?	Strongly agree	46.3	25	35.650	15.061	-99.671	170.971
		Agree	38.9	21	29.950	12.657	-83.77	143.670
		Disagree	11.1	6	8.550	3.606	-23.85	40.950
		Strongly disagree	3.7	2	2.850	1.202	-7.95	13.650

Based on the data presented in Table 1, the majority of respondents (90.7%) expressed a strong interest in an Android-based cultural innovation aimed at preserving Sumbawa culture in an engaging and interactive manner, with only 9.3% showing disinterest. This indicates a significant positive response toward integrating technology in cultural preservation efforts. Additionally, when assessed through a cultural knowledge test, most participants demonstrated a moderate level of understanding, with 33.33% achieving four correct answers and 25.93% achieving five. A smaller percentage scored at the lowest (12.96% with two correct answers) or highest levels (5.55% with all answers correct), suggesting room for educational improvement. Overall, the findings underscore both the enthusiasm for digital cultural initiatives and the need to enhance cultural literacy through such platforms.

3.2 Results of SAJODAR Concept Analysis

SAJODAR is a gadget-based application that is oriented towards learning Sumbawa script (satera jontal), history and culture with the aim of developing the character identity of Sumbawa children aged 9-17 years. This application is expected to help improve students' understanding in learning Sumbawa script (satera jontal), history and culture in order to prepare superior human resources in achieving the 2030 Sustainable Development Goals point 4. The results of the application concept analysis are contained in Figure 2.

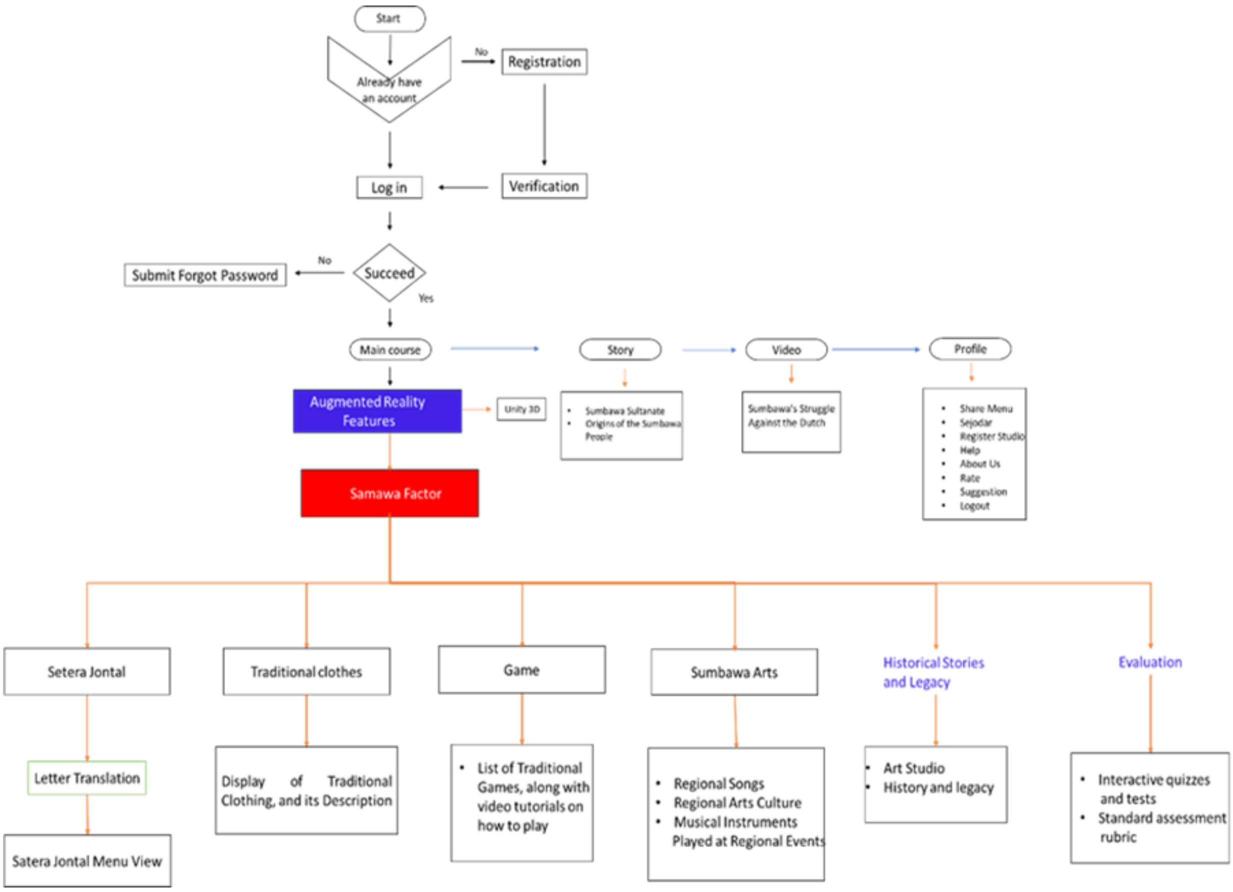

Figure 2. SAJODAR Application Usage Flowchart

Based on Figure 2, the SAJODAR application contains information features that are equipped with images and make it easier for students to find information because they are contained in one media. SAJODAR can be accessed on various types of devices. In using the SAJODAR application, users can start by logging in using an existing account or registering a new account first. After successfully logging in, users will be directed to the main page which provides various menu options such as Augmented Reality and Folklor Samawa. When users select the Augmented Reality menu, users can see 3D objects in the real world through marker images. When users select the Folklor Samawa menu, users will be presented with features in the SAJODAR Application such as, Satera Jontal which provides guidance or rules in Satera Jontal words or sentences to make it easier for users to compose Satera Jontal words. In addition to the Satera Jontal menu, the Folklor Samawa menu also contains a traditional game menu that provides dance videos, dance history, and video tips for beginners. The Sumbawa arts menu provides information about communities working in the cultural sector in preserving Sumbawa culture. This section is intended so that if students are interested in joining the community, they can immediately register online in the application. Apart from that, there is also a menu for historical stories and heritage and finally, evaluation, this menu is used to ensure that users really understand the material presented in SAJODAR.

3.3 Design Results

Based on the design results of the SAJODAR application, there are 6 superior features available to facilitate users in learning Sumbawa literature and culture [20]. These features are equipped with Augmented Reality which will help users understand the concept, facilitate access to interactive cultural learning and improve student learning achievement. These features can be seen in Figures 3 and Figure 4.

3.3.1 Jontal Satera Features

The use of this feature is that users can learn about literary script and recognize the letters and punctuation marks of literary script as well as the rules in writing the history of literary script. When users press this feature, "text input" will automatically appear. Users can type words or sentences and the language in literary script letters will automatically appear. On this page, there is a menu to learn more about how to write, use, and systematic literary script supported by Augmented Reality (AR) technology.

Figure 3. Display of the Applications Featured Features

3.3.2 Dance Studio Features

When users are interested in Sumbawa culture or art, users can browse the art studio community by pressing the "Read more" menu. Users will find all information related to the studio they are interested in, such as contacts, events, awards, and video fragments of the art studio. SAJODAR not only provides learning theory but can also provide alternative access for users who are interested in learning practice with registered studios. On this page, users simply press the "join studio" button to join online with an art studio in Sumbawa.

3.3.3 Sumbawa's Animated Video Feature Against the Dutch

Users can watch while learning the history of the struggle of the Sumbawa people against the Dutch by pressing the "Sumbawa resistance to the Dutch" button on the main menu. In this section, SAJODAR prepares a war video in the form of an animation with an exciting regional hero theme, so that it will not limit the audience's imagination. When the user presses the video, an animated video and a complete reading of who the figures involved will appear.

3.3.4 Regional Arts Features

Users can learn about Sumbawa arts, such as music, songs, regional arts. Users can click on the regional arts section on the first page, then users will be taken to the arts page. On this page, users can learn the meaning of regional song lyrics directly and enjoy audiovisuals when choosing one of the Sumbawa songs provided by SAJODAR. At the bottom of this page, it can be seen that SAJODAR. also provides a place to learn and watch and learn the meaning of ngumang, regional dances, bakelong, sakeco.

Figure 4. Use of Augmented Reality in learning Satera Jontal and Sumbawa culture

3.3.5 Evaluation Features

To ensure that users truly understand the material presented, SAJODAR is equipped with an Evaluation feature. This feature provides interactive quizzes and tests that measure users' understanding of the material that has been studied. Each quiz is equipped with a standard assessment rubric that assesses aspects such as accuracy of answers, understanding of the material, and ability to apply knowledge.

3.3.6 Augmented Reality Features

The Augmented Reality feature in the SAJODAR application was designed using the help of the Unity application, the license of which was then taken from Vuforia and then inserted into Unity, so that the image directed by the camera will appear in three dimensions, as shown in Figure 6. The Augmented Reality page functions to enhance the main function that will display three-dimensional objects when the camera is directed and the marker is detected. This feature will add and provide creative and interactive learning. This feature is the advantage of the nature of cultural adaptation because it is in a unique 3D form.

3.4 Parties Involved in Implementing the SAJODAR Application

In designing the SAJODAR application, assistance from several parties is needed to realize this application. In addition, SAJODAR also requires several stakeholders who play a role in implementing the application, namely:

a) The government plays a role in marketing and expanding the application so that the SAJODAR application can be well-known in the community and also plays a role in injecting funds to accelerate application production.
b) Sumbawa Regional Students are the main target in implementing the SAJODAR application, who will later be guided by teachers in using smartphones to download and utilize all the interesting features in this application.
c) IT/programming staff plays a role in running and supervising the use of applications and resolving technical problems experienced, as well as always developing software to avoid bugs or disruptions in the use of applications and also adding features to it to increase the effectiveness of the application.
d) Educational institutions, such as schools and other formal educational institutions, can utilize the SAJODAR application as additional teaching materials and to support educational programs, especially in cultural subjects.

3.5 SWOT Analysis and SAJODAR Application Implementation Steps

In supporting the achievement of the objectives of designing a culture-based smart education platform, it is necessary to apply SWOT and implementation steps. In this case, SWOT contains the author's knowledge and understanding of related ideas and contexts. Furthermore, implementation steps are made as steps in supporting sustainable development or Indonesia's SDGs 2030. The SWOT analysis can be seen in Table 1 and the implementation steps can be seen in Figure 8.

Table 1. SWOT Analysis of SAJODAR Application

Strength (S)	Weakness (W)
a) The application is designed very simply, making it easy for users to play it. b) Having a unique feature in facilitating learning Culture with Augmented Reality makes the use of this application interesting and easy for students to understand. c) Users who have limited storage space on their devices can access the application via the web without having to download and install the application.	a) Reliance on potentially illegible Augmented Reality technology. b) Limited content. It is possible that some aspects of Sumbawa culture are not fully accommodated in this application.
Opportunities (O)	**Threats (T)**
a) The number of smartphone users and the continuous development of technology. b) In line with the Independent Curriculum which is oriented towards technological progress as a learning medium. c) There are still few applications that promote the culture of the Sumbawa Region.	a. The emergence of new competitors with similar applications.

Figure 5. Timeline for SAJODAR implementation in realizing SDGs 2030 Point 4

Based on the analysis of strengths and weaknesses above, SAJODAR has a high possibility of implementation and sustainability, because of the many strengths and minimal weaknesses it has. Furthermore, the analysis of opportunities and threats shows the high potential for sustainability of this idea due to government support, and the lack of similar innovations. In addition, the existing threats are still minimal and prevention will be carried out along with improvements and developments to this idea in the future.

3.6 Discussion

The results of this study indicate a substantial positive reception and potential for the implementation of the SAJODAR application as a digital learning platform to preserve and promote Sumbawa culture among students aged 9–17 years. With 90.7% of the respondents expressing interest in the development of an Android-based application for cultural preservation, the study underscores the increasing relevance of integrating digital media and technology in education. This finding is consistent with previous studies that emphasize the role of mobile and digital learning in enhancing students' engagement and cultural literacy. For instance, a study by Estrella [21] highlighted how mobile-assisted learning can significantly improve students' motivation and cultural awareness by providing interactive and visually rich experiences. Similarly, Mustapa et al. [22] demonstrated that digital applications that utilize local content not only increase students' cultural understanding but also foster identity development, especially among youth in marginalized regions.

The educational potential of SAJODAR is further strengthened by the results of the cultural knowledge assessment, which reveals a moderate level of understanding among users. While the majority of participants scored four or five correct answers, only a small percentage achieved perfect scores. This pattern reflects a significant opportunity for educational improvement, particularly in the context of indigenous knowledge transmission. This is in line with the findings of Martins et al. [23], who concluded that students in rural or culturally-rich regions often demonstrate only partial comprehension of local heritage due to the lack of structured and accessible learning resources. Therefore, the development of SAJODAR responds directly to this educational gap by offering a more structured, visual, and interactive platform for cultural learning.

One of SAJODAR's primary strengths lies in its technological innovation, particularly the integration of Augmented Reality (AR), which has proven effective in educational settings for enhancing students' cognitive and affective domains. Several studies, such as those by Asad et al. [24], support the notion that AR significantly enhances learners' understanding by bridging abstract cultural concepts with tangible and immersive experiences. In the context of SAJODAR, features like the 3D visualization of traditional scripts (satera jontal), animated historical narratives, and cultural dances make cultural learning not only accessible but also exciting for digital-native students. The application's ability to project cultural knowledge in an engaging and student-friendly format addresses the long-standing challenge in cultural education: bridging the gap between modern learning styles and traditional content.

Comparatively, similar digital cultural applications have been developed in other regions in Indonesia, such as the "BudayaKu" application introduced in Java, which also aimed to preserve local heritage through mobile technology. However, many of these initiatives faced challenges in sustainability due to limited content updates and a lack of institutional support. What distinguishes SAJODAR is its alignment with the national Independent Curriculum and its clear connection to the SDGs, especially Goal 4 (Quality Education). The strategic involvement of stakeholders—governments, educational institutions, students, and IT developers—enhances the feasibility and sustainability of this application. This multi-stakeholder approach reflects the framework proposed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) which recommends integrating cultural heritage education into formal systems through digital innovation and cross-sectoral collaboration.

The SWOT analysis presented further reinforces the strong prospects of SAJODAR. Its strengths, such as user-friendly design, unique AR-based features, and flexible access (web and mobile), align with best practices in digital learning. However, weaknesses such as limited content and potential technological constraints must be addressed for wider adoption. This concern mirrors the findings of Shonfeld et al. [25], who argue that the success of digital cultural education tools depends not only on their technological novelty but also on the breadth and depth of the content provided. In this regard, continuous content expansion and user feedback loops are necessary to ensure the application's relevance and inclusivity across diverse aspects of Sumbawa culture. From an educational impact perspective, SAJODAR's evaluation feature adds a significant pedagogical advantage. The inclusion of interactive quizzes and standardized assessment rubrics allows for measurable learning outcomes. This is important considering that many cultural learning applications often neglect formal assessment, making it difficult to evaluate effectiveness. Research by Buckingham Shum et al. [26] supports the use of embedded assessment tools in educational apps to reinforce knowledge retention and provide immediate feedback, thereby closing the learning loop.

Moreover, SAJODAR plays a critical role in identity formation among youth. Cultural identity is a pivotal factor in educational success and psychological well-being, especially for students in post-colonial and multicultural societies. The ability of SAJODAR to present historical resistance (such as the struggle against Dutch colonization) in animated format not only enhances knowledge but also instills a sense of pride and belonging. This supports Zhang et al. [27] theory of cultural identity, which emphasizes that identities are constructed through narratives and symbolic representations. By engaging students with localized, context-rich content, SAJODAR becomes a medium for reconstructing collective memory and identity among the younger generation.

Another important comparative insight can be drawn from a study by Susanto et al. [28], which investigated the implementation of digital applications for Batak culture preservation. While their study showed moderate success, it also highlighted the difficulty of maintaining user engagement without multimedia enrichment and institutional support. SAJODAR addresses these limitations by offering layered multimedia features (AR, videos, interactive quizzes) and integrating partnerships with art studios and local cultural communities, thus creating both formal and informal learning ecosystems. The application's potential contribution to achieving SDGs, especially point 4 on quality education, is evident not only in its content delivery but also in its inclusive design. The SAJODAR application is intended to be inclusive of students who have limited access to high-end devices by offering web-based versions, a strategy aligned with the digital inclusion framework outlined. Furthermore, its timeline for implementation as illustrated in the study reflects a scalable and sustainable model for other regions in Indonesia seeking to digitize local cultural education.

4. Conclusion

SAJODAR is here to help students in the Sumbawa area understand local script learning (satera jontal) and love the Sumbawa regional culture. The SAJODAR concept was created to facilitate users accompanied by images, music and various features based on Augmented Reality, so that users enjoy interactively and contribute to the achievement of Indonesia's 17 SDGs goals, especially point 4 which emphasizes the importance of quality education. Research findings also indicate that students are more motivated and interested in learning their regional culture through the interactions offered by SAJODAR, this aims to ensure inclusive and equitable education, and increase lifelong learning opportunities for all individuals. Thus, by 2030, Indonesia is expected to be able to ensure that all citizens gain the same knowledge and skills to support development through education, sustainable lifestyles, and cultural promotion, so that SAJODAR can contribute to sustainable development, namely SDGs 2030 point 4. SAJODAR can be maximized by collaborating with the government, academics, programming, and the community in the application development process.

5. Acknowledgments

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