Original Article

Available online at www.bpasjournals.com

## Revitalizing The Mekongga Language: Online Platform's Role in Language Preservation

<sup>1</sup>Kadaruddin\*, <sup>2</sup>Yusring Sanusi Baso, <sup>3</sup>Gusnawaty Gusnawaty, <sup>3</sup>Munira Hasjim, <sup>5</sup>Muhammad Hasyim, <sup>6</sup>Hendri Yawan

1,2,3,4,5 Faculty of Cultural Sciences, Hasanuddin University, Makassar, Indonesia

**How to cite this article**: Kadaruddin\*, Yusring Sanusi Baso, Gusnawaty Gusnawaty, Munira Hasjim, Muhammad Hasyim, Hendri Yawan (2024) Revitalizing The Mekongga Language: Online Platform's Role in Language Preservation. *Library Progress International*, 44(3) 28979-28986

#### **ABSTRACT**

The preservation of local languages has become essential in an era dominated by globalization and technological advancements. The Mekongga Language, spoken explicitly by communities in Kolaka, also faces challenges in maintaining its existence amidst solid global cultural influences. This article discusses the role of technology-based learning platforms in enhancing efforts to preserve the Mekongga Language. Through qualitative research, this article discusses an online platform developed to support local language preservation: siKongga-LMS Bahasa Mekongga. The findings indicate that using the platform significantly contributes to strengthening efforts to preserve the Mekongga Language, which gives opportunities for collaboration among academics, native speakers, and government entities in developing educational content that meets the Mekongga community's needs. The article also highlights several challenges that may arise in adopting the platform, such as the availability of internet access, resource limitations, and concerns about the loss of cultural dimensions in technology usage. Therefore, with the right approach and support from all stakeholders, the platform can be an effective tool in maintaining the sustainability of the Mekongga language, strengthening cultural identity, and preserving the linguistic heritage of the Mekongga community.

### **KEYWORDS**

Cultural Preservation, Learning Platform, LMS, Mekongga Language, Kolaka, SiKongga

### Introduction

The current development of technology has significantly impacted various aspects of life, including the field of education (Raja & Nagasubramani, 2018). Present-day learning no longer solely emphasizes face-to-face learning processes but can be conducted in blended learning, which combines face-to-face and online learning activities. With this model, instructional materials, assignments, and assessments are partly presented online and partly through face-to-face interactions (Mahmud, 2020). Blended learning provides an opportunity to create a tailored learning experience at the right time and place for each individual (Anis Chaeruman et al., 2018). Through the blended learning approach, learners can utilize different online and offline learning tools (Shu & Gu, 2018). Thus, it can be said that Blended Learning aims to prepare an effective and efficient learning experience by combining a learning environment that aligns with the students' conditions (Isti'anah, 2017).

The era of Industry 4.0 has brought significant impacts on the rapid development of Information and Communication Technology, enabling easy connectivity between individuals (Yang & Gu, 2021). Everyone can communicate and collaborate with others without being limited by distance and time (Morrison-Smith & Ruiz, 2020). The ease of accessing and creating information is one of the factors that should provide advantages in the learning process(Patricia Aguilera-Hermida, 2020). Education 4.0 is a response to the needs of the fourth industrial

<sup>&</sup>lt;sup>1,6</sup>Sembilanbelas November University, Kolaka, Indonsia

revolution, where humans and technology are synchronized to create new opportunities through creativity and innovation (Lase, 2019; Yawan, 2022).

The internet is now commonly employed in the field of education. The internet, as a learning resource, is considered one of the learning media that liberates classrooms from the confines of traditional settings and can be utilized as an innovative learning source in addition to existing learning resources (Ginting, 2019). Internet access is no longer limited to computers and laptops; it can also be achieved through smartphones. The utilization of smartphones as a learning medium enables effective and efficient learning (Baso et al., 2018). In numerous fields worldwide, information and communication technology (ICT) has become a platform for creativity and the enhancement of academic quality (Amponsah et al., 2022).

The emergence of large-scale digital diffusion technology has resulted in the evolution of learning from traditional methods and has introduced new tools designed to cater to learners' needs. As the use of the internet has increased in recent years, computers have become increasingly essential in modern education systems (S. Nkata & A. Dida, 2019). The rapid development of technology and the utilization of the Internet have the potential to enhance the quality of education (Iman et al., 2021). With the rapid advancement of information technology, the use of Learning Management System (LMS) as a learning platform has become a significant trend (Setiawan et al., 2021).

LMS is a system designed to provide, manage, and facilitate online learning processes (Bradley, 2020). LMS enables users to access learning materials, interact with fellow participants, and engage in virtual learning activities. This step is taken in the field of education as it enters a phase known as "the new learning scenarios" (Sanusi B., 2017). Utilizing Learning Management Systems (LMS) as a learning platform can serve as an intriguing alternative to bolster efforts to preserve the Mekongga language. By harnessing the features offered by LMS, such as interactive learning modules, discussion forums, and supplementary resources, users can independently learn the Mekongga language while engaging with local speakers and other platform users.

Through the LMS, users can access learning content tailored to their needs and proficiency levels (SEO Management, 2022). Learning materials can be presented in text, audio, and video to enhance comprehension and user engagement. The discussion forums within the LMS also enable users to communicate with native speakers of the Mekongga language, ask questions, share experiences, and discuss language and cultural issues. Additionally, the LMS provides flexibility in scheduling learning sessions (Halil et al., 2023; xaltius.tech, 2023). Users can learn the Mekongga regional language according to their preferred time and place, allowing for greater accessibility and adaptation to individual schedules and needs. By utilizing LMS as a learning platform (Fitriani, 2020), the efforts to preserve the Mekongga language can reach a wider audience, become more accessible, and engage the younger generation. This technology can also help build an active online community of Mekongga language learners, strengthening social connections and fostering pride in the regional language.

The rapid influx of globalization and information technology into various aspects of human life necessitates awareness and social control, particularly from the community as the custodians of literature, culture, and local wisdom (Dharma et al., 2021). It is expected that they possess a profound understanding of the existence of cultural values within each ethnic group in Indonesia (Arafah et al., 2021). Cultural values can be preserved and upheld through social control and a sound understanding. This is crucial to ensure that cultural values, such as local wisdom, continue to serve as distinctive characteristics of the community. Currently, local languages face severe threats to their extinction. Local languages are often marginalized and at risk of extinction due to the dominance of more widespread and dominant global languages. Several local languages in the world have become extinct due to the decline in the number of speakers (Rizki et al., 2022). Therefore, the preservation of local languages is crucial to ensure their continued use of other language influences (Syamsuri, 2020). Preserving local languages is an important effort to maintain cultural diversity and the identity of a community (Nurwahidah, 2019).

One of the local languages facing preservation challenges is the Mekongga language, which is spoken in the Kolaka District, Southeast Sulawesi Province (Handoko & Poedjosoedarmo, 2006). The community speaks this language in that region, and it is also used in various cultural activities, forms of arts, and traditional ceremonies. Specific traditional ceremonies are typically conveyed or spoken in the Mekongga language (Mahmud et al., 1995). As time goes by, the use of the Mekongga Language has been experiencing a significant decline. The challenge in preserving this regional language lies in attracting the interest and involvement of the younger generation, who are more exposed to global or national languages. To maintain the existence of the Mekongga language and prevent its extinction, more intensive and innovative efforts are needed.

Previous research has highlighted the importance of using technology in the preservation of local languages. For example, a study by (Galla, 2009) demonstrates that technology-based learning platforms have great potential in facilitating the learning of local languages by providing easily accessible and interactive resources. In the context of the Mekongga Language, (Kadaruddin et al., 2022) argue that using information technology, including technology-based learning platforms, can be an effective tool in preserving and enriching the Mekongga Language. This research describes the conditions of Mekongga language learning, as well as the needs and preferences of users in designing and developing suitable learning platforms.

The research conducted by (Cavus et al., 2006) indicates that Learning Management Systems (LMS) can make the learning process more effective. LMS can also be integrated with other web-based learning platforms. Another study conducted by (Wibowo et al., 2015) titled "Development of a Web-Based Learning Management System (LMS) to Measure Students' Conceptual Understanding and Character" suggests that students' responses after using the LMS can be divided into three aspects: user response, material presentation, and graphic design. The user response aspect obtained a percentage of 84.31%, indicating a very good category, meaning that the LMS is easy to use, can make learning enjoyable, and is relatively cost-effective. The analysis of the material presentation aspect resulted in a percentage of 83.33%, indicating good material presentation in the LMS. The analysis of the graphic design aspect yielded a percentage of 82.71%, indicating that the LMS has a good and appealing visual design.

Building upon this theoretical foundation, this research aims to make a significant contribution to the development and implementation of technology-based learning platforms for the preservation of the Mekongga Language. Through this innovative approach, it is hoped that a supportive, motivating, and engaging learning environment can be created, involving the entire community in preserving the Mekongga Language. In this context, the research problem is formulated as follows: "How can efforts to preserve the Mekongga Language be enhanced through the implementation of technology-based learning platforms?" The objective of this research is to explore the role of technology-based learning platforms in enhancing efforts to preserve the Mekongga Language. The primary aim of this research is to design and develop a learning platform that can assist in the learning, usage, and preservation of the Mekongga Language. The platform is so called siKongga-LMS Bahasa Mekongga. This research also aims to determine the benefits of using such a platform in promoting active participation within the community to sustain and enrich the Mekongga language.

### 1. Materiel and Methods

This research employed a qualitative approach with several stages conducted to achieve the predetermined research objectives. The following are the research methods used in this study.

#### 2.1 Literature Review

A literature review is a data collection technique that involves conducting a study and examination of books, literature, notes, and reports that are relevant to the problem being addressed (Nazir, 2009). Through the literature review, researchers gather information related to the preservation of local languages, the role of technology in language preservation, the use of technology-based learning platforms, and studies related to the preservation of the Mekongga Language. The literature review provides a deep understanding of the relevant issues, conceptual frameworks, and previous findings that can help in designing and developing appropriate learning platforms.

#### 2.2. Data Collection

The researchers conducted a series of direct observations of the community that speaks the Mekongga Language. This observation is carried out to understand the social context, community's needs, and language practices within the community. In addition, the researchers also conducted interviews with native speakers of the Mekongga Language, academics, and individuals involved in language preservation efforts. These interviews aim to gain a deeper understanding of the challenges, expectations, and preferences related to the use of technology-based learning platforms. Finally, a Focus Group Discussion (FGD) was also carried out to gather additional data. The researchers organized FGD sessions with community members who have a stake in the preservation of the Mekongga Language. The FGD aims to gather input and feedback from participants regarding the development of the learning platform, desired features, and how it can be used in the community context.

## 2.3. Developing siKongga-LMS Bahasa Mekongga

Based on the findings from the literature review, observations, interviews, and FGD, the researchers designed and

developed a technology-based learning platform specifically for the Mekongga Language. This platform includes features such as an online dictionary, interactive learning modules, language-based discussion forums, and educational content relevant to the community's needs.

### 2.4. Implementation and Evaluation

The researchers implement the developed learning platform to community members who have a stake in the language preservation efforts. During a specified period of time, platform users are given the opportunity to use the platform, provide feedback, and report their experiences using the platform. Evaluation is conducted to assess the effectiveness of the platform in improving understanding, usage, and preservation of the Mekongga Language. The evaluation also includes assessing user satisfaction, participation levels, and the platform's impact on awareness and appreciation of the regional language.

### 2. Result and Discussion

Based on the implementation and evaluation of the platform for the preservation of the Mekongga Language, several findings were obtained:

The technology-based learning platform successfully increased accessibility to learning the Mekongga Regional Language. Users can easily access the platform via mobile devices or computers with an internet connection. This enables individuals from various backgrounds and locations to learn the Mekongga Language independently. Furthermore, the learning platform provides a wide range of rich and diverse resources, such as online dictionaries, interactive learning modules, and educational content related to the Mekongga Regional Language. These resources assist users in gaining a better understanding of grammar, vocabulary, and the context of language usage in the Mekongga Language.

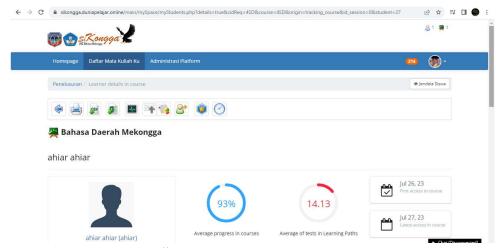
Through language-based discussion forums, users can interact directly with native speakers of the Mekongga Language. This allows users to practice speaking and writing in the Mekongga Language and deepen their understanding of the associated culture and traditions. The technology-based learning platform successfully encourages active participation from community members in the preservation of the Mekongga Language. Users actively engage in discussion forums, share experiences, and contribute to the development of local language content. This creates a collaborative learning environment and strengthens social bonds among community members.

The technology-based learning platform can also enhance motivation for learning the Mekongga Language. Features such as progress tracking systems, awards, and engaging learning challenges can motivate users to continue participating and developing their language skills. This creates an engaging and enjoyable learning experience, thereby increasing motivation and user engagement in the preservation of the local language. The technology-based learning platform enables flexible access to learning the Mekongga Language in terms of time and place. Users can learn anytime and anywhere according to their schedules and preferences. This proves to be an effective solution for those with time constraints or geographical limitations, being far from the sources of Mekongga Language learning.

By using the learning platform, users can receive timely and accurate feedback regarding their proficiency in the Mekongga Language. The integrated evaluation and assessment system within the platform allows users to monitor their progress and identify areas that need improvement. With constructive feedback, users can make corrections and develop their language skills more effectively. Overall, the use of technology-based learning platforms has significant potential in enhancing efforts for the preservation of the Mekongga Regional Language. By increasing accessibility, providing rich resources, facilitating interaction with native speakers, encouraging community participation, boosting learning motivation, offering flexibility in terms of time and place, and providing effective monitoring and feedback, this learning platform can serve as a powerful tool in strengthening the preservation and development of the Mekongga Language.



Picture 1. Learning Management System (LMS) Bahasa Mekongga



Picture 2. User Progress Details

This research demonstrates that the use of technology-based learning platforms has great potential in enhancing efforts to preserve the Mekongga Language. This platform provides a solution to the challenges faced by local language communities in maintaining their language. Increased accessibility through the learning platform allows individuals from various backgrounds to learn the Mekongga Language without geographical limitations. The rich and interactive resources within the platform assist users in gaining a better understanding of the language and its contextual usage. Direct interaction with native speakers through language-based discussion forums helps users practice the Mekongga regional language and deepen their understanding of local culture. This builds confidence and motivation for users to actively use the regional language. Furthermore, the active participation of community members in the development of the learning platform and regional language content creates a collective spirit in preserving the Mekongga Language. Communities can share experiences, knowledge, and maintain the sustainability of the regional language through the platform.

However, there are several challenges to consider in the development of this technology-based learning platform. Challenges include the sustainability of the platform, the development of quality content, and the need to actively involve the regional language community in the platform's development and maintenance process. Additionally, several aspects related to the use of technology-based learning platforms in the preservation of the Mekongga Language need to be considered. Firstly, platform sustainability is a challenge that needs to be addressed. The development and maintenance of the learning platform require sufficient financial, technical, and human resources. It is important to consider sustainable funding models to ensure the platform can continue to operate and grow in the long term. Secondly, the development of quality content is crucial to ensure the effectiveness of the learning platform. Learning content should be tailored to the needs of users, including language proficiency levels, interests, and learning goals. Incorporating diverse types of materials, such as texts, audio, videos, and interactive elements, can enrich the learning experience for users.

In addition, actively involving the Mekongga community in the platform's development and maintenance process is also a key factor. Communities have deep knowledge of their own language and culture, so their participation can provide valuable insights into content development, learning strategy selection, and ensuring the relevance and accuracy of the materials presented. In addition to technical aspects, it is also important to consider social and cultural aspects in the use of learning platforms. Increasing pride and appreciation for the Mekongga Language can be a strong motivating factor for users. Presenting content that reflects the richness of local culture and connecting it to everyday life contexts can help users feel connected to the language and enhance their motivation to learn it.

Overall, a more in-depth discussion on the use of technology-based learning platforms in the preservation of the Mekongga rlanguage should consider aspects of platform sustainability, development of quality content, active community involvement, and respect for social and cultural aspects. By considering these aspects, the use of learning platforms can become an effective and sustainable tool in the efforts to preserve the Mekongga regional language.

### 3. Conclusion

This study highlights the significant role of technology-based learning platforms in enhancing efforts to preserve the Mekongga Language. By utilizing such a platform, the accessibility of learning the Mekongga Language can be improved, while providing rich and interactive resources, facilitating interaction with native speakers, and fostering active community participation. This research demonstrates that the use of technology-based learning platforms can play a crucial role in the preservation of the Mekongga Language. The platform has the potential to enhance understanding, usage, and pride among the community regarding their regional language, thereby strengthening social bonds within the Mekongga language community. Through the utilization of a technology-based learning platform, users can independently learn and practice the Mekongga Language, access relevant resources, engage in interactions with native speakers, and actively participate in language preservation activities. These endeavors contribute to the sustainability of the Mekongga Language, reinforce cultural identity, and enrich community life. However, the development and implementation of siKongga-LMS Bahasa Mekongga also face challenges, including platform sustainability, the creation of high-quality content, and active community involvement. Therefore, collaboration among researchers, technology developers, regional language communities, and relevant stakeholders is necessary to ensure the sustainability and effectiveness of using learning platforms for the preservation of the Mekongga Language.

#### References

- [1] Amponsah, K. D., Aboagye, G. K., Narh-Kert, M., Commey-Mintah, P., & Boateng, F. K. (2022). The Impact of Internet Usage on Students' Success in Selected Senior High Schools in Cape Coast metropolis, Ghana. *European Journal of Educational Sciences*, 9(2), 1–18.
- [2] Anis Chaeruman, U., Wibawa, B., & Syahrial, Z. (2018). Determining the Appropriate Blend of Blended Learning: A Formative Research in the Context of Spada-Indonesia. *American Journal of Educational Research*, 6(3), 188–195.
- [3] Arafah, B., Andi Kaharuddin, Takwa, Azhariah Nur B Arafah, Kadaruddin, & Seli Marlina. (2021). *Promoting the Building Up of Character Education Based on Literature, Culture, and Local Wisdom. 1*(1), 2129–2147.
- [4] Baso, Y. S., Padjung, R., & Budi, P. (2018). The Proliferation of Smartphones and their Effects on Improving the Vocabulary of Indonesian Learners of Arabic: *Improving Educational Quality Toward International Standard*, 143–147.
- [5] Bradley, V. M. (2020). Learning Management System (LMS) Use with Online Instruction. *International Journal of Technology in Education*, 4(1), 68.
- [6] Cavus, N., Uzunboylu, H., & Ibrahim, D. (2006). The Efffectivness of Using Learning Management System and Collaborative Tools in Web-Based Teaching of Programming Language. https://www.researchgate.net/publication/297918790\_THE\_EFFECTIVENESS\_OF\_USING\_LEARNING\_MANAGEMENT\_SYSTEMS\_AND\_COLLABORATIVE\_TOOLS\_IN\_WEB-BASED\_TEACHING\_OF\_PROGRAMMING\_LANGUAGES.

- [7] Dharma, N. M. M., Avanindra Amrtani Dharmapurusa, Kevin Nathanael, & Moses Glorino Rumambo Pandin. (2021). Challenges of Generation Z in Maintaining Local Culture As a National Identity in Globalization Era. *Jurnal Pendidikan Tambusai*, *5*(3).
- [8] Fitriani, Y. (2020). Analisa Pemanfaatan Learning Management System (LMS) sebagai Medi Pembelajaran Online selana Pandemi COVID-19. *Journal of Information System, Informatics and Computing*, 4(2), 1.
- [9] Galla, C. K. (2009). Indigenous Language Revitalization and Technology From Traditional to Contemporary Domains. USA: Northern Arizona University. https://www.researchgate.net/publication/251329976\_Indigenous\_Language\_Revitalization\_and\_Technology\_From\_Traditional\_to\_Contemporary\_Domains
- [10] Ginting, F. B. (2019). Internet as a Resource of Learning in Increasing Students' Learning Outcomes on Social Studies Subject. *International Journal Pedagogy of Social Studies*, 4(1), 57–63.
- [11] Halil, N. I., Nasir, A., Syam, H., & Yawan, H. (2023). Building a Digital Learning Hub: Moodle-Based E-Learning for Sekolah Penggerak in Kolaka Utara. *International Journal Of Education, Social Studies, And Management (IJESSM)*, 3(2), 90–105.
- [12] Handoko, A., & Poedjosoedarmo, S. (2006). *Bahasa Mekongga di Kabupaten Kolaka*. Universitas Gajah Mada. https://etd.repository.ugm.ac.id/penelitian/detail/30130
- [13] Iman, M. Z., Yaumi, M., & Baso, Y. S. (2021). Pengembangan Bahan Ajar Bahasa Arab Berbasis Mobile Learning. *Shaut al Arabiyyah*, 9(1), 11. https://doi.org/10.24252/saa.v9i1.18994
- [14] Isti'anah, A. (2017). The Effect of Blended Learning to the Students' Achievement in Grammar Class. *IJEE (Indonesian Journal of English Education)*, 4(1), 16–30.
- [15] Kadaruddin, Baso, Y. S., Gusnawaty, & Hasjim, M. (2022). Learning Conditions Investigation of Local Content Mekongga Language in Kolaka Regency. 3rd Global Conference on Education and Teaching, Netherlands, Nederland. https://www.dpublication.com/wp-content/uploads/2022/07/35-4058.pdf
- [16] Lase, D. (2019). Pendidikan di Era Revolusi Industri 4.0. SUNDERMANN: Jurnal Ilmiah Teologi, Pendidikan, Sains, Humaniora Dan Kebudayaan, 12(2), 28–43. https://doi.org/10.36588/sundermann.v1i1.18
- [17] Mahmud, Haddade, Muh. N., Djirong, S., & Murmahyati. (1995). Struktur Bahasa Mekongga. Jakarta: Pusat Pembinaan dan Pegembangan Bahasa. Depdikbud. https://repositori.kemdikbud.go.id/3665/1/struktur%20bahasa%20mekongga%20%20%20%20%20129h. pdf
- [18] Mahmud, R. (2020). *Blended Learning Model Implementation in the Normal, Pandemic, and New Normal Era:* The 5th Progressive and Fun Education International Conference (PFEIC 2020), Surakarta, Indonesia.
- [19] Morrison-Smith, S., & Ruiz, J. (2020). Challenges and Barriers in Virtual Teams: A Literature Review. SN Applied Sciences, 2(6), 1096. https://doi.org/10.1007/s42452-020-2801-5
- [20] Nazir, M. (2009). *Metode penelitian*. Bogor: Ghalia Indonesia. https://opac.perpusnas.go.id/DetailOpac.aspx?id=711887
- [21] Nurwahidah, L. S. (2019). Preservation of Language and Principles of Local Culturural based Multicultural Education in Indonesia. *Journal Of Educational Experts (JEE)*, 2(1), 33.
- [22] Patricia Aguilera-Hermida, A. (2020). College Students' Use and Acceptance of Emergency Online Learning Due to COVID-19. *International Journal of Educational Research Open, 1*, 100011.
- [23] Raja, R., & Nagasubramani, P. C. (2018). Impact of Modern Technology in Education. *Journal of Applied and Advanced Research*, S33–S35.
- [24] Rizki, D., Rangkuty, R. P., Kurniawati, & Kiram, M. Z. (2022). Acehnese Youth and Local Language: Their Social Identity in Public Space: (A Case study of Speakers of Gayonese and Acehnese). 2nd International Conference on Social Science, Political Science, and Humanities (ICoSPOLHUM 2021), Lhokseumawe, Indonesia.
- [25] S. Nkata, A., & A. Dida, M. (2019). Centralized Education Management Information System for Tracking Student's Academic Progress in Tanzanian Secondary Schools. *International Journal of Modern Education and Computer Science*, 11(10), 25–32.

- [26] Sanusi B., Y. (2017). Pengembangan Model Pembelajaran Bahasa Arab Online Berbasis Learning Management System pada Program Studi Sastra Arab Universitas Hasanuddin. Repository UIN Alauddin Makassar.
- [27] SEO Management. (2022). Learning Management System: Kelebihan, Manfaat dan Contohnya. https://www.sampoernaacademy.sch.id/id/learning-management-system/
- [28] Setiawan, A. M., Munzil, & Fitriyah, I. J. (2021). Trend of Learning Management System (LMS) Platforms for Science Education before-after Covid-19 Pandemic. 060005.
- [29] Shu, H., & Gu, X. (2018). Determining the Differences between Online and Face-to-Face Student–Group Interactions in a Blended Learning Course. *The Internet and Higher Education*, 39, 13–21.
- [30] Syamsuri, A. S. (2020). Pelestarian dan Pemertahanan Bahasa dan Sastra Bugis. Makassar: Nas Media Pustaka.
- [31] Wibowo, A. T., Akhlis, I., & Nugroho, S. E. (2015). Pengembangan LMS (Learning Management System) Berbasis Web untuk Mengukur Pemahaman Konsep dan Karakter Siswa. *Scientific Journal of Informatics*, 1(2), 127–137.
- [32] xaltius.tech. (2023). Adroit—An AI-Driven Learning Management System for Advanced Learning Experiences.
- [33] Yang, F., & Gu, S. (2021). Industry 4.0, a Revolution that Requires Technology and National Strategies. *Complex & Intelligent Systems*, 7(3), 1311–1325.
- [34] Yawan, H. (2022). Augmented Reality Application: Current Status, Opportunities, and Challenges of Indonesian Secondary Education Context. *EDUTEC*: *Journal of Education And Technology*, *5*(3).