



Utilization of the Gamelan EduWeb Website as a Learning Aid for Learning Gamelan Degung

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ABSTRACT

This study aims to describe the use of Gamelan EduWeb as a teaching aid for learning Gamelan Degung in Sukabumi Regency, West Java. Qualitative descriptive methods were used to collect data. The steps involved in analyzing the problems encountered in the field. The researcher then developed the Gamelan EduWeb website to meet users' needs. The next step was to implement the website through Gamelan Degung training for teachers and elementary school students in Cisaat District, Sukabumi Regency, West Java. The research findings indicate that the Gamelan EduWeb website can be used by teachers and students as an educational tool for learning Gamelan Degung. This website serves as an alternative for users interested in learning Gamelan Degung but lacking specialized instructors. Although Gamelan EduWeb is already accessible to the public, the website requires further development in terms of feature completeness and instructional materials.

Keywords: Art Education, Degung, Gamelan, Website

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Introduction

Gamelan Degung learning activities in schools are usually conducted by teachers who provide examples to students using teaching aids. However, in reality, many

elementary school teachers are still unable to play gamelan degung. This is due to a lack of knowledge, skills, and competence in playing the instrument. Secondly, there is a shortage of teachers, so teachers need technology-based media to deliver material independently without time and place constraints. Rumapea [1] states that the development of the computer and internet-based digital world makes all activities limitless in space and time. This obstacle is a factor for teachers and students in preserving the arts in West Java, so a solution is proposed by utilizing the EduWeb gamelan website as a communication technology to serve as a learning aid. This is in line with what Suryati [2] reveals, explaining that communication technology involves the use of tools to process and transfer data from one device to another. This statement is also supported by Sustiwati [3], who notes that technology is essentially a process that adds value to the products it produces, making them more useful. Technology has influenced and changed humans in their daily lives, so that if today is stuttering technology, it will be late in mastering information and will also be left behind in obtaining various advanced opportunities. Information has an important and real role in the era of the information society or knowledge society Rumapea [1] states The development of the digital world based on computers and the internet makes all activities limitless in space and time. This obstacle is a factor for teachers and students in inheriting the arts in West Java, so a solution is given by utilizing the EduWeb gamelan website in the form of communication technology as a medium for learning. This is in line with what Suryati [2] reveals, explaining that communication technology involves the use of tools to process and transfer data from one device to another. This statement is also supported by Sustiwati [3], where technology is essentially a process to get added value from the products it produces, so that they are useful. Technology has influenced and changed humans in their daily lives, so that if technology is stuttering, it will be late in mastering information, and will also be left behind in obtaining various technologies.

Degung Gamelan, as a cultural heritage of West Java, plays a role in strengthening the identity of the Indonesian nation, which has been recognized for its rich cultural wealth. According to Subandi and Gusrayani [4] degung gamelan is one of the musical genres that developed in the Sunda region (West Java), where this art form originates from the aristocracy or priyayi (Sundanese nobility). Degung gamelan is often found at traditional ceremonies such as weddings, welcoming distinguished guests, and many others. This art form undoubtedly becomes one of Indonesia's identities that need to be preserved. Nurmata [5] states that passing down art from generation to generation is the responsibility of all layers of society without exception. It is undeniable that many challenges are faced in

the process of inheriting this art, including the influence of globalization and foreign cultures that have entered and developed rapidly within Indonesian society.

One way that can be optimized to face the challenges in the process of cultural inheritance is through education. Education becomes an effort to introduce and teach the gamelan degung art to students. The curriculum is designed in such a way that the learning process, especially traditional Indonesian arts, can be preserved. The deep learning curriculum currently launched by the government contains three main elements: mindful, which focuses on students' concentration; meaningful, which connects the material to real life; and joyful, which emphasizes happiness in learning. This aligns with the opinion of Albani [6]. According to Raup et al. [7], deep learning is a part of artificial intelligence and machine learning, which is a development of multi-layer neural networks to improve task accuracy such as object detection, voice recognition, and language translation. Deep learning is a method that utilizes layered artificial neural networks or multilayer networks, supporting a fun learning environment that fosters creativity and motivation within students. Methods that can be used include outdoor learning, games, and art-based learning.

The implementation of enjoyable art education certainly requires the skills of the teachers themselves. Not many teachers have the expertise to teach gamelan degung as a means of cultural preservation and to create enjoyable learning experiences. Teachers who do not yet have expertise in gamelan degung music need to be supported with learning media in the form of technology. This is in line with the opinion of Putri and Handayani [8], who explain that freedom of thought and independence in learning can be implemented in the implementation of arts education in schools. Arts education is a conscious effort to prepare students through guidance, teaching, and practice activities that serve to nurture and improve students' abilities to express themselves, create, and appreciate. According to Fitra Yuni [9], music education in schools aims to: (1) cultivate a sense of artistry to a certain extent in each child through the development of musical awareness, response to music, and the ability to express oneself through music, thereby enabling children to develop sensitivity toward their surroundings; (2) developing the ability to evaluate music intellectually and artistically by their national culture; and (3) serving as a foundation for continuing studies in higher music education.

The rapid advancement of technology is transforming every aspect of human life, including education. The integration of technology into the education sector has introduced diverse learning patterns tailored to their specific functions, such as serving as a school database system, an application for delivering educational content, and a tool for reporting

student grades. Additionally, the forms of technology used in the field of education can take the form of mobile applications or websites that can be accessed on various devices (smartphones, tablets, iPods, etc.).

The development of technology in the world of education is certainly expected to become a medium to facilitate the process of delivering and receiving learning material information, in line with Ratnaningrum et al. [10] stating that innovation in learning media through technology has become a learning solution, meaning that technology can facilitate and strengthen interaction between teachers and students through online systems, ensuring that the learning process for art continues as expected by the general public, including the study of gamelan degung. Al Bani Thariq et al. [11] explains that deep learning technology offers great opportunities for personalized learning. This aligns with Yones and Aryani [12], in the era of continuously evolving education, arts and culture education plays a crucial role in shaping the character, creativity, and cultural appreciation of students.

Learning to play the degung gamelan is a challenge for teachers due to their lack of competence in playing the instrument. Therefore, Gamelan EduWeb is here to help anyone learn to play the degung gamelan. This website can be accessed anywhere and anytime as long as the user is connected to the internet. Gamelan EduWeb is specifically designed as a replacement for a “coach,” featuring video tutorials on how to play the gamelan instruments. This is because there is a shortage of qualified personnel capable of both playing and teaching gamelan degung, so a technology is needed to assist anyone wishing to learn Gamelan Degung.

Material and Methods

Based on its type, the author uses qualitative research. Qualitative research is a research procedure that produces descriptive data in the form of written or spoken words and the behavior of the people being observed. Qualitative research, according to Verstehen in [13], is research that provides an understanding of current phenomena, with data obtained through direct observation. This method is useful for familiarizing oneself with the research object to be studied. Thus, this study focuses on field research regarding the utilization of the EduWeb gamelan website, which can be applied by elementary school teachers and students as an educational tool for learning gamelan degung. EduWeb contains materials on the notation of basic gamelan degung rhythms, catrik rhythms, kulu-kulu rhythms, puspa jaya (sinyur) rhythms, and ageung song rhythms. The EduWeb gamelan degung also facilitates both teachers and students to learn through available tutorials, such as tutorials on basic playing techniques, playing techniques for the

selancaran song, and playing techniques for the ageung song, thereby assisting in the process of cultural heritage transmission from West Java. The research location is in the West Java region, using observation and interview data collection techniques. Analysis techniques were conducted through reduction, presentation, and concluding the website's features, the application of the website for elementary school teachers, the application of the website for elementary school students, and the strengths and weaknesses of the EduWeb gamelan website [14].

Results

A. Gamelan EduWeb Website

Gamelan EduWeb is a free website developed by lecturers from the Primary Education Program (*Pendidikan Guru Sekolah Dasar* or PGSD) at Muhammadiyah University of Sukabumi and Muhammadiyah University of Cirebon as part of a Community Service Program funded by the DRTPM BIMA Ministry of Education, Culture, Research, and Technology in 2024. It can be accessed via <https://gamelaneduweb.com>. This website was specifically created as an educational tool for self-learning Gamelan Degung, accessible via mobile devices or PCs/laptops as long as users are connected to the internet. Gamelan EduWeb was chosen as the subject of study because it aligns with the needs of teachers and students, given the limited ability of both teachers and students to learn Gamelan Degung. Additionally, the scarcity of instructors capable of teaching Gamelan Degung was a key factor in the creation of this website, making Gamelan EduWeb a valuable tool for teachers and students seeking to learn Gamelan Degung. The learning media is designed appropriately to enhance and advance the learning process and provide support for teacher-centered learning. The effectiveness of the learning media depends on the teachers themselves [15].

So far, several gamelan applications that are available are only designed to play gamelan virtually on mobile phones and laptops. Unlike these apps, Gamelan EduWeb is not an app for playing gamelan virtually but rather a website that contains gamelan literature materials, percussion notation, and tutorial videos on playing degung gamelan. These tutorial videos can be imitated by teachers and students to be practiced directly on physical gamelan instruments.

B. EduWeb Gamelan Features

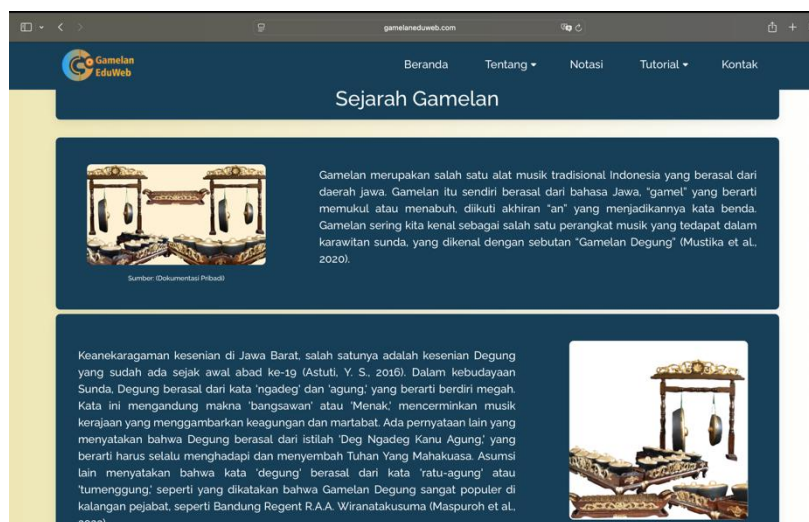
Gamelan EduWeb has several features, including History, Types and Instruments of Degung Gamelan, Song Notation, and Video Tutorials. The following are the features of Gamelan EduWeb.



Source: <https://gamelaneduweb.com>.

Fig. 1. EduWeb Gamelan Home Page Display

Fig. 1 shows the initial display when the website is opened. On this page, there are various features that users can choose from.

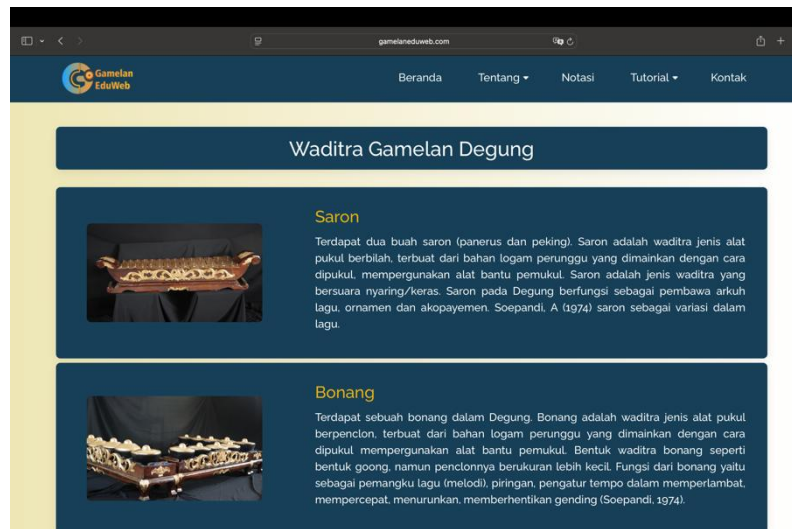


Source: <https://gamelaneduweb.com>.

Fig. 2. History of Degung Gamelan

Fig. 2 presents the page dedicated to gamelan literature, beginning with an overview of its historical background. This feature is designed to provide users with comprehensive information about the Degung Gamelan, including its origins, development, and cultural significance. By offering detailed literature, the platform aims to enrich users' understanding and appreciation of gamelan music beyond practical performance. Users can explore various articles, historical accounts, and explanations that contextualize the instruments, musical styles, and traditional practices. This educational resource supports both beginners

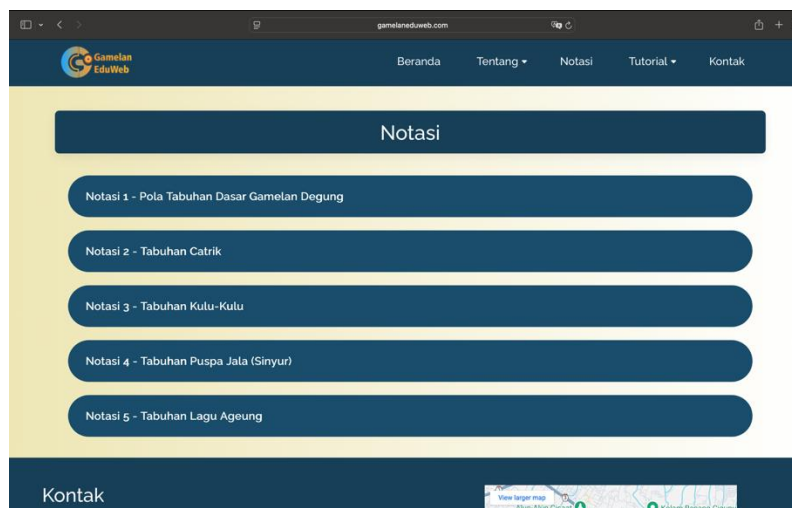
and advanced learners in gaining a deeper knowledge of Degung Gamelan and its role in Indonesian culture.



Source: <https://gamelaneduweb.com>.

Fig. 3. Types of Degung Gamelan Instruments

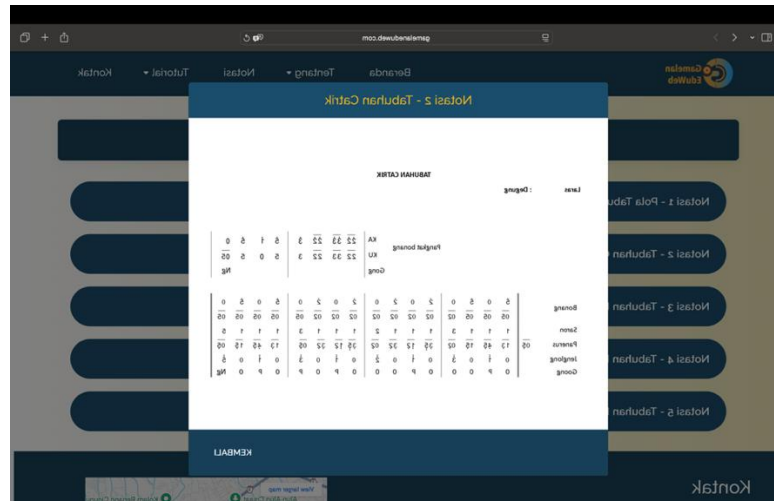
Fig. 3 presents the next literature, namely the types of waditra (instruments) along with the characteristics and functions of each instrument. The waditra in gamelan listed in Gamelan EduWeb include Saron, Bonang, Jenglong, and Goong.



Source: <https://gamelaneduweb.com>.

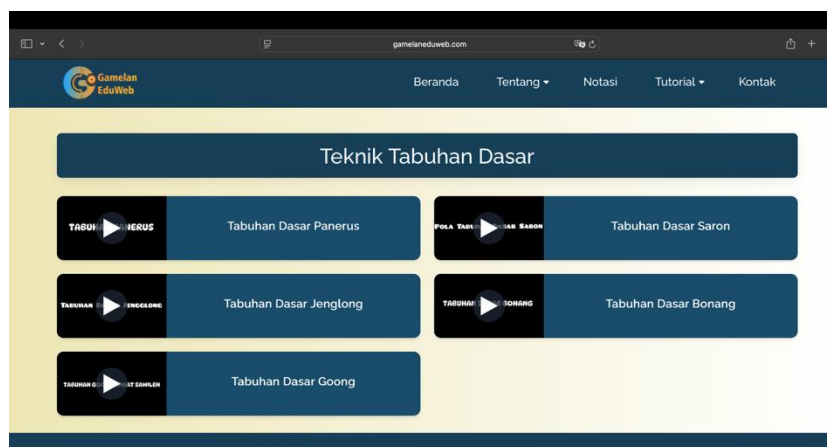
Fig. 4. Types of Gamelan Notation

Fig. 4 shows a list of musical notations that can be learned in Gamelan EduWeb. In this case, users can learn gamelan from notation 1, which is the most basic material, to notation 5, which is the musical notation for the song Ageung. This musical notation is also often used in degung gamelan performances.



Source: <https://gamelaneduweb.com>.

Fig. 5. Gamelan Notation Feature

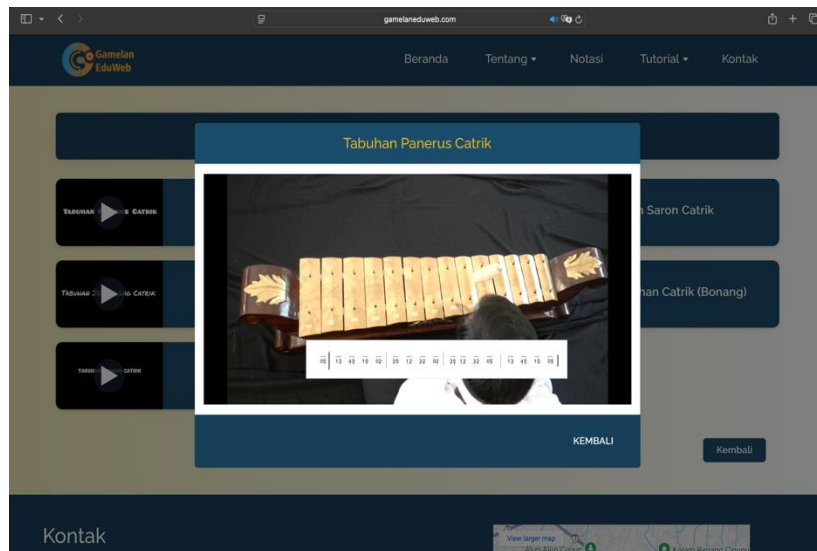


Source: <https://gamelaneduweb.com>.

Fig. 6. Tutorial Videos

Fig. 6 illustrates the core feature of Gamelan EduWeb, which consists of tutorial videos designed to teach users how to play the Degung Gamelan. Within this feature, users can simply click the “play” button to access the instructional videos directly on the website. To enhance the learning experience and make it easier for users to follow along, the researchers strategically positioned the camera from the user’s point of view, providing a first-person perspective of the instruments and hand movements, as shown in Fig. 7. This

approach allows learners to better understand the techniques and replicate the actions accurately while practicing.



Source: <https://gamelaneduweb.com>.

Fig. 7. Video Tutorial Feature

C. Implementation of the Gamelan EduWeb Website in Schools

The implementation of the Gamelan EduWeb website began with training for elementary school teachers who are members of the Teacher Working Group in Cisaat District, Sukabumi Regency, West Java. This training is a community service activity funded by DRTPM BIMA Kemdikbudristekdikti in 2024. During the training process, teachers were trained using two methods: learning to play gamelan through the Gamelan EduWeb platform and receiving direct guidance from researchers and trainers.



Source: <https://gamelaneduweb.com>.

Fig. 8. Degung Gamelan Training for Teachers



Source: <https://gamelaneduweb.com>.

Fig. 9. Application of Gamelan EduWeb for Teachers

In addition to implementing Gamelan EduWeb for teachers, researchers also implemented it for elementary school students.



Source: <https://gamelaneduweb.com>.

Fig. 10. The Application of Gamelan EduWeb on Students

Discussions

The presence of Gamelan EduWeb provides convenience for teachers and students in learning Gamelan Degung, from basic rhythms to the melodies commonly played in Gamelan performances. Based on an interview with one teacher, M.G., who participated in the training, he stated, "This is the first time we've been taught Gamelan, and now there's even a website for it. Gamelan EduWeb is very helpful because there are still few Gamelan instructors here, and many elementary school teachers still don't know how to play Gamelan,

even though their schools have Gamelan instruments. With this, we can practice on our own by looking at the website and then teach the students as well.” During implementation in the field, teachers and students often face challenges in memorizing notation and playing patterns. Therefore, participants can revisit the website to recall the material they have learned. Additionally, Gamelan EduWeb has the advantage of being accessible anytime and anywhere for anyone wishing to practice Gamelan. This aligns with what Saefurrohman et al. [16] stated, that the internet serves as a vast space for accessing and presenting various information needed by humanity today. Furthermore, Gamelan EduWeb also helps teachers and students to practice independently, thereby reducing reliance on the presence of an instructor, as we are aware that the number of Gamelan Degung instructors is very limited.

The use of Gamelan EduWeb in education has been proven to increase motivation among teachers and students who previously had no expertise in playing Gamelan Degung. This was evident during the training, where teachers and students showed high enthusiasm in learning Gamelan Degung. This is in line with what was stated by Mulyani et al. [17], who argued that there are four functions of media. First, shifting the focus of formal education, meaning that abstract learning materials become concrete, and theoretical learning becomes functional and practical. Second, stimulating learning motivation, where media serves as an extrinsic motivator for learners, as the use of learning media becomes more engaging and captures learners' attention. Third, providing clarity so that learners' knowledge and experiences can be clearer and easier to understand, as media can clarify these aspects. Lastly, fourthly, it provides learning stimulation, particularly the learners' curiosity. The positive response from teachers and students has made Gamelan EduWeb an important component of the Teacher Working Group's Work Program in Cisaat Sub-District, Sukabumi Regency, where this program has become a regular activity for teachers to learn Gamelan Degung together.

The creation of Gamelan EduWeb, which has been demonstrated to effectively assist users in learning Degung Gamelan, offers several advantages as well as some limitations. The platform provides structured tutorial videos, literature, and interactive features that enhance users' understanding and practical skills. However, certain challenges, such as technical issues, limited content depth, or user accessibility, have been identified. These concerns have drawn the attention of the researchers, who are committed to continuously refining and expanding the program. Future developments will focus on addressing these limitations, improving user

experience, and ensuring that the platform fully meets the diverse learning needs of its users.

Table 1. Advantages and Disadvantages of Gamelan EduWeb

Advantages	Disadvantages
Can be played anywhere.	Requires an internet connection.
Can be played anytime.	The video tutorials are still separate, so there is no feature to play the entire song.
There are video tutorials that users can follow.	Features need to be developed and more material needs to be added.

Digital learning offers vast potential for the transformation of education, with the aim of improving accessibility, flexibility, and student engagement [18]. The use of Gamelan EduWeb in terms of accessibility can be played by teachers and students as long as the school has physical gamelan musical instruments, as this website is essentially a video tutorial where the materials on the website are practiced directly on physical gamelan instruments. This aims to optimize the gamelan musical instruments already owned by the school so that students can have a direct artistic experience. This artistic experience also aims to develop students' emotional intelligence, as stated by Avandra and Mayar [19], that during the toddler and childhood stages, music is the best period for auditory development and helps students relax and stabilize their emotions through enjoyable learning activities.

In addition to providing students with an artistic experience, learning Gamelan Degung is also an effort to pass on the existence of Gamelan Degung art from generation to generation. This transmission naturally requires the expertise of teachers to ensure that no local culture is overlooked in the educational process. It also helps students understand the connection between school lessons and daily life, enhances their pride in their cultural heritage, and encourages them to participate in preserving this heritage as part of their national identity [17].

In terms of flexibility, Gamelan EduWeb can be used anytime, anywhere, proving that technology in education can influence the process of delivering information without being limited by time and place. The technology on this website plays an important role as a medium for users to learn about Gamelan Degung without reducing the essence of playing physical gamelan instruments.

Conclusion

The use of the EduWeb gamelan website as a learning aid for gamelan degung is a solution for elementary school teachers and students to learn gamelan degung without being limited by space, place, and time. EduWeb facilitates a variety of materials

accompanied by tutorials, making it easier for teachers and students to learn. Teachers' obstacles regarding knowledge, skills, and competence in playing these instruments, as well as the lack of teachers, can be overcome through communication technology as a learning medium.

Conflict of Interest

The authors declare no conflict of interest.

References

- [1] M. E. M. Rumapea, "The challenges of music education in the digital age," *Gondang: Jurnal Seni dan Budaya*, vol. 3, no. 2, p. 101, Dec. 2019, doi: 10.24114/gondang.v3i2.13168.
- [2] Suryati, "The use of YouTube as a learning medium for Pop Jazz vocals in the Music Education Study Program at the Indonesian Institute of the Arts, Yogyakarta," 2021.
- [3] N. L. Sustiwati, "The use of learning technology in performing arts in the digital age," 2021.
- [4] D. Subandi, D. Gusrayani, P. Studi PGSD Kelas UPI Kampus Sumedang, and J. Mayor Abdurachman No, "Music ensemble learning strategy through Gamelan Degung media for fifth grade elementary school students," 2017.
- [5] I. K. Nurmeta, "Degung Gamelan training as an effort to strengthen curriculum implementation for the teacher working group in Cisaat District, Sukabumi Regency," 2024.
- [6] A. F. Albani, "The relevance of deep learning curriculum in the context of Indonesian education," *Jurnal Sosialita*, vol. 20, no. 1, pp. 115–121, Feb. 2025, doi: 10.31316/js.v20i1.8172.
- [7] A. Raup, W. Ridwan, Y. Khoeriyah, Q. Yuliaty Zaqiah, and U. Islam Negeri Sunan Gunung Djati Bandung, "Deep learning and its application in learning," [Online]. Available: <http://Jiip.stkipyapisdmpu.ac.id>
- [8] Y. A. Putri and W. Handyaningrum, "Implementation of music extracurricular activities as an implementation of the independent learning concept," *Jurnal Pendidikan Sendratasik*, vol. 9, no. 1, 2020.
- [9] Q. F. Yuni, "Creativity in music education in elementary schools: A conceptual review," 2020.
- [10] I. Ratnaningrum, M. Jazuli, T. J. Raharjo, and W. Widodo, "Innovation in artificial intelligence-based art learning media in the era of globalization," [Online]. Available: <http://pps.unnes.ac.id/pps2/prodi/prosiding-pascasarjana-unnes>
- [11] R. Al Bani Thariq et al., "Implementation of Ki Hadjar Dewantara's philosophy of education in the deep learning curriculum," *JMA*, vol. 2, pp. 3031–5220, 2024, doi: 10.62281.
- [12] A. Yones Pratama and Z. Aryani, "Cultural arts learning model in the independent curriculum at elementary schools," 2024.
- [13] N. S. Husna, R. Octaviani, Z. Sahara, and U. Usiono, "Application of discussion methods to improve communication skills of third grade students at MIS Al-Wardah," *Khazanah Pendidikan*, vol. 18, no. 1, p. 53, Mar. 2024, doi: 10.30595/jkp.v18i1.20311.
- [14] Verstehen et al., *Qualitative Research Methods (Theory, Methods, And Practice)*, 2024. [Online]. Available: www.freepik.com
- [15] M. Miftah and H. Naskah, "Utilization of YouTube tutorial videos as teaching aids for teachers," 2022, doi: 10.47709/educendikia.v2i1.1429.
- [16] N. Saefurrohman, P. S. Karawitan, S. Tinggi, and K. Wilwatikta, "Implementation of independent learning in cultural arts education in the era of Technology 4.0," 2023.
- [17] E. A. Mulyani, N. Fauza, Z. Hainul Putra, R. Novianti, and R. Gusmida Syahrin Barokah, "Teachers' perceptions of empowering local cultural heritage preservation as a learning medium in elementary schools," *Rifqa Gusmida Syahrin Barokah Journal of Human and Education*, vol. 4, no. 6, pp. 290–297, 2024.
- [18] N. G. Wahyudi, "Integrating technology into education: Challenges and opportunities for digital learning in elementary schools," 2024.
- [19] R. Avandra and F. Mayar, "The influence of music on students' learning motivation and emotions in elementary school learning," 2023.