



Technology in Arts Education: Opportunities and Challenges for Preserving the Performing Arts

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Abstract. This article is a conceptual article based on the literature study method. A conceptual approach is used to describe the importance of integrating technology in arts education as an effort to preserve and develop the performing arts. This concept is supported by literature analysis and a review of various relevant sources, including theories about the role of technology in arts education and case studies of technology implementation in the performing arts context. Thus, this article presents theoretical views and conceptual thinking about how technology can be an effective tool in supporting arts education and performing arts preservation.

Keywords: Arts Education, Technology, Performing Arts

1. Introduction

Arts education has a crucial role in developing students' skills, knowledge and appreciation for various types of art. Hadjar Pamadhi [1], highlighted that art education does not only teach the aesthetic value of works of art, but also explores the cultural meaning contained in them. In the context of contemporary arts education, Aristotle [2] classifies the arts into five main types: music, fine arts, dance, theatre, and literature, which form the basis for creative and innovative learning.

The importance of arts education in the context of academic growth was also emphasized by Purhanudin et al., [3], who emphasized that students through arts learning can develop technical skills and creative communication abilities. Furthermore, Lisnawati, [4] highlights that arts education activities enable students to explore diverse cultures, improving their critical and aesthetic abilities in the process.

Apart from enriching students' learning experiences, arts education also has a central role in preserving cultural heritage. Ramdhani [5] emphasized the importance of arts education in maintaining the sustainability of traditional performing arts, such as dance, theatre and regional music, which are an integral part of a nation's cultural identity. Through arts education, students are taught to appreciate and care for this cultural heritage, ensuring that future generations can access and appreciate the cultural riches they possess.

However, traditional performing arts are currently facing serious challenges due to technological developments. Inningrat [6] notes that technological advances have changed people's consumption patterns towards art, with more people choosing modern entertainment such as films and video games over traditional art. This has resulted in a decline in audience interest in traditional performing arts, which could threaten its sustainability and existence.

However, technology can be a solution to preserving performing arts. According to Silaen [7], if technology is properly integrated into arts education, it can help in re-popularizing traditional performing arts, as well as increasing its appeal and accessibility for the younger generation. By utilizing technology, arts education can be at the forefront in educating the younger generation about the urgency of preserving the nation's cultural heritage, while developing sensitivity to cultural values in this modern era.

In the current context of arts education, it is important to answer several questions: What opportunities can be exploited in technology integration? How is this implemented concretely in the arts curriculum? And, what are the obstacles faced in implementing this integration? This article aims to provide insight into these three questions, reviewing the importance of taking strategic steps in facing challenges and exploiting opportunities in efforts to preserve and develop the performing arts.

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2. Opportunities for Using Technology in Arts Education as a Tool for Preserving the Performing Arts

The use of technology in arts education offers a tremendous opportunity to effectively support the preservation and development of the performing arts. One of the advantages of technology is its ability to record and archive works of art in digital format. With digital recording and documentation, art performances can be recorded in detail and accessed again for further study, analysis and future reference [8] (Wake, 2018). This technology is not only facilitating the physical preservation of works of art but also expand their influence and impact in an increasingly digitally connected society [9] (Falcão & Ensom, 2019). VR (Virtual Reality) and AR (Augmented Reality) technology opens new opportunities by providing immersive interactive experiences in the performing arts. For example, VR users can experience a virtual tour of a theatre or other performance location, providing a near-live experience without needing to be physically present at the venue. This changes the way we interact with and appreciate the performing arts, and opens wider access for audiences and educators to access arts content in more depth.

Online platforms and online courses have become an important foundation in supporting performing arts education remotely. They not only increase accessibility to learning, but also allow students and teachers to interact without being limited by geographic boundaries [10] (Roms, 2020). Through this platform, teaching can be customized according to individual needs, while educators can utilize a variety of digital tools and resources to improve the quality of teaching and learning.

Developing special applications for the performing arts is also an important aspect of using technology in arts education. For example, apps for vocal, dance, or theatre exercises not only help students practice artistic techniques, but also facilitate independent skill improvement. With this approach, technology becomes not only a tool, but also an active partner in supporting the holistic development of performing arts talent [11] (Wake, 2018).

Intercultural and international collaboration is increasingly easy to do through modern technology. Artists and educators from different parts of the world can work together, share ideas, and even create works of art together through digital platforms. This initiative not only broadens cultural and creative perspectives, but also promotes deeper collaboration in preserving and enriching the performing arts heritage for future generations [12] (Ilari & Cho, 2023). By taking advantage of all these opportunities, technology not only helps preserve performing arts but also paves the way for new exploration and innovation in arts experiences in the digital era [13] (Sutikno, 2020).

2.1 The Concept of Technology Integration in Arts Education and Its Application as an Effort to Preserve the Performing Arts

Keeping the performing arts alive and relevant is important. One way to achieve this is by integrating technology in arts education. This concept utilizes a variety of digital tools and resources to strengthen teaching and learning in the performing arts. Technology, if applied correctly, has great potential to not only preserve the performing arts but also make them more accessible and attractive to the younger generation [14] (Sukma, 2021).

The integration of technology in performing arts education offers several advantages. Accessibility is one of the biggest benefits. With online platforms such as YouTube and Vimeo, students can view performing arts from all over the world, regardless of their geographic location [15] (Fraser et al., 2021). For students with disabilities, technology such as closed captioning and audio description in theatre performances can enhance their learning experience. In addition, technology can make learning performing arts more interesting and motivating. For example, educational games such as Dance Revolution and Rock Band can make learning performing arts fun, while applications such as Simply Piano and Yousician can help students learn to play music easily [16] (Taftazani & Permana, 2021).

Preserving the performing arts through technology focuses not only on access and engagement, but also on creativity and expression. By using tools such as animation software, music applications, and digital cameras, students have new ways to explore the performing arts. They can experiment with various media and styles, and create unique and personal works of performance art. Video editing tools like Adobe Premiere Pro and Final Cut Pro allow students to create their own films, while

apps like GarageBand and FL Studio pave the way for them to create their own music. Technology in performing arts education not only preserves the heritage of the performing arts but also encourages innovation and self-expression [17].

Additionally, technology integration can be a bridge for collaboration and communication in the performing arts. The online platform allows students to work together on performing arts projects, both virtually and in person. This helps them develop important communication and teamwork skills, as well as learn from each other. Platforms like Padlet and Mural can be used for collaboration on visual arts projects, while Sound trap and Jam studio allow students to collaborate on music projects. In this way, technology not only preserves the performing arts but also fosters a spirit of cooperation among students [18]. Of course, technology integration must be done wisely. Technology should not replace direct interaction in performing arts learning. Instead, technology should be used as a tool to enrich and enhance traditional teaching. With careful planning and proper use, technology can be an effective driving force in preserving the performing arts and ensuring they continue to thrive in the future [19].

2.3 Challenges Faced by Educators in Implementation

The use of technology in arts education, although it offers various advantages, is also faced with several challenges that need to be addressed wisely. One of the main challenges is limited access to technology in some areas. There are still areas that do not have adequate internet infrastructure or sufficient accessibility to technological devices [20]. This can hinder efforts to integrate technology in performing arts learning evenly, limiting learning opportunities and developing student creativity in remote or less technologically developed areas [21]. Resistance to change is also a significant challenge faced by educators in adopting technology in the performing arts context. Some traditional or conservative groups may feel that the use of technology can reduce the traditional values or original aesthetics of the performing arts. They may think that technology can obscure the essence of artistic authenticity or interfere with the live experience that is considered essential in the performing arts. Overcoming this resistance requires a sensitive approach and ongoing education about the benefits and added value of technology in enriching artistic experiences [22].

A lack of technical skills among educators is also a challenge that needs to be addressed. Some teachers may not be familiar with or have sufficient technical skills to integrate technology effectively in teaching performing arts [23]. These skills include using special applications, setting up hardware, or managing digital platforms that are needed to support creative and interactive learning [24]. Intensive training and professional development programs are essential to ensure that educators have the tools and knowledge necessary to successfully implement technology in their performing arts curriculum [25].

Despite these challenges, proactive steps can be taken to overcome these obstacles. This includes investments in broader technology infrastructure and increased accessibility, open communicative approaches to overcome resistance to change, as well as the development of comprehensive training programs to enhance educators' technical skills. By addressing these challenges, performing arts education can continue to advance and harness the full potential of technology integration to enrich and extend the learning experience of students worldwide [26].

3. Conclusion

The article above underlines the importance of integrating technology in arts education as a solution to preserving and developing the performing arts. By leveraging tools such as VR, AR, dedicated apps and online platforms, arts education can be revived and reached by the younger generation in a more engaging and relevant way. Despite facing challenges such as uneven technological accessibility and resistance to change from traditional circles, strategic steps such as investment in infrastructure and educator training can help overcome these obstacles. Thus, the integration of technology not only maintains the continuity of traditional performing arts, but also opens the door to new exploration and innovation in the arts in this digital era, ensuring that this cultural heritage remains alive and enjoyed by all present and future communities.

References

- [1] Hadjar Pamadhi. (2011). Pendidikan Seni di SD. Universitas Terbuka.
- [2] Aristoteles. (2017). Puitika Seni Puisi. Basabasi.
- [3] Purhanudin, M. S. V., Rasimin, R., & Harwanto, D. C. (2022). Pembelajaran Musik Virtual di Era Pandemi COVID 19: Bentuk Tindakan Sosial Rasionalitas Formal dan Nilai. *Tonika: Jurnal Penelitian Dan Pengkajian Seni*, 5(1), 1–13.
- [4] Lisnawati, L. (2023). Implementasi Kurikulum Merdeka Belajar Melalui Muatan Lokal Seni Musik Pada Program Pendidikan Kesetaraan di PKBM Al Kahfi Kota Serang. *Jurnal Pendidikan UNIGA*, 17(1), 716–727.
- [5] Ramdhani, A. H. (2021). Transformasi Etno-Musik Tradisional Sasak: Evolusi Budaya dan Pertentangan Kelas. *ASANKA: Journal of Social Science and Education*, 2(1), 1–18.
- [6] Imanningrat, S. N. S. (2017). Peran Kemajuan Teknologi Dalam Pertunjukan Musik. *Invensi*, 2(1), 1–8. <https://doi.org/10.24821/invensi.v2i1.1802>
- [7] Silaen, H. (1995). Pergeseran Fungsi Musik di Tengah Kehidupan Masyarakat. *Cakrawala Pendidikan*, 3. <https://journal.uny.ac.id/index.php/cp/article/download/9189/pdf>
- [8] Wake, C. (2018). Two decades of digital pedagogies in the performing arts: a comparative survey of theatre, performance, and dance. *International Journal of Performance Arts and Digital Media*, 14(1), 52–69. <https://doi.org/10.1080/14794713.2018.1464097>
- [9] Falcão, P., & Ensom, T. (2019). *Conserving Digital Art*. Springer Series on Cultural Computing, 231–251. https://doi.org/10.1007/978-3-319-97457-6_11
- [10] Roms, H. (2020). Training for performance art and live art. *Theatre, Dance and Performance Training*, 11(2), 117–125. <https://doi.org/10.1080/19443927.2020.1769377>
- [11] Wake, C. (2018). Two decades of digital pedagogies in the performing arts: a comparative survey of theatre, performance, and dance. *International Journal of Performance Arts and Digital Media*, 14(1), 52–69. <https://doi.org/10.1080/14794713.2018.1464097>
- [12] Ilari, B., & Cho, E. (2023). Musical participation and positive youth development in middle school. *Frontiers in Psychology*, 13, 1056542. <https://doi.org/10.3389/FPSYG.2022.1056542/BIBTEX>
- [13] Sutikno, P. Y. (2020). ERA DIGITAL? “PENDIDIKAN SENI MUSIK BERBASIS BUDAYA” SEBAGAI SEBUAH INOVASI PEMBELAJARAN DI SEKOLAH DASAR. *Jurnal Kreatif: Jurnal Kependidikan Dasar*, 11(1), 39–49.
- [14] Sukma, I. (2021). KESENIAN SENJANG DALAM HEGEMONI KEKUASAAN. *Besaung: Jurnal Seni Desain Dan Budaya*, 6(1). Sulastri, E. (2019). 9 Aplikasi Metode Pembelajaran. *Guepedia*.
- [15] Fraser, T., Crooke, A. H. D., & Davidson, J. W. (2021). “Music Has No Borders”: An Exploratory Study of Audience Engagement With YouTube Music Broadcasts During COVID-19 Lockdown, 2020. *Frontiers in Psychology*, 12, 643893. <https://doi.org/10.3389/FPSYG.2021.643893/BIBTEX>
- [16] Taftazani, M., & Permana, C. S. (2021). PEMANFAATAN LAGU ANAK-ANAK SEBAGAI MEDIA PENDIDIKAN KARAKTER DI KELAS I SDN KUBANGSARI KABUPATEN TASIKMALAYA. MOCH. TAFTAZANI: 146040032. *Seni Musik*.
- [17] Hargreaves, D., Marshall, N., & North, A. C. (2003). Music education in the twentyfirst century: a psychological perspective. *British Journal of Music Education*, 20, 147–163. <https://doi.org/10.1017/S0265051703005357>

- [18] Purhanudin, M. S. V., Rasimin, R., & Harwanto, D. C. (2022). Pembelajaran Musik Virtualdi Era Pandemi COVID 19: Bentuk Tindakan Sosial Rasionalitas Formal dan Nilai. *Tonika: Jurnal Penelitian Dan Pengkajian Seni*, 5(1), 1–13.
- [19] Yu, X., Xie, Z., Yu, Y., Lee, J., Vazquez-Guardado, A., Luan, H., Ruban, J., Ning, X., Akhtar, A., Li, D., Ji, B., Liu, Y., Sun, R., Cao, J., Huo, Q., Zhong, Y., Lee, C. M., Kim, S. Y., Gutruf, P., ... Rogers, J. A. (2019). Skin-integrated wireless haptic interfaces for virtual and augmented reality. *Nature* 2019 575:7783, 575(7783), 473–479. <https://doi.org/10.1038/s41586-019-1687-0>
- [20] Gracintya Rhapsody, S. (2021). Komposisi Musik Meditasi Untuk Pembedayaan Diri Dalam 'Energy Of Consciousness.' Institut Seni Indonesia Yogyakarta.
- [22] Inghis, D. (2014). Book review: Routledge Handbook of Social and Cultural Theory. In *Journal of Classical Sociology* (Vol. 14, Issue 4). <https://doi.org/10.1177/1468795x14555059>
- [23] Leni, N. (2020). EFEKTIFITAS PELATIHAN METODOLOGI PEMBELAJARAN DENGAN PEMBELAJARAN AKTIF MIKiR. *Lentera: Jurnal Diklat Keagamaan Padang*, 5(1), 29–38.
- [24] Kusainun, N. (2019). Relevansi Materi Pokok Matematika Pada Tema 1 Kelas I Sd Dengan Hots (Higher Order Thinking Skills). *Jurnal JPSD (Jurnal Pendidikan Sekolah Dasar)*, 6(1), 9–15. <https://doi.org/10.12928/jpsd.v6i1.14145>
- [25] Abdul, A. F. (2017). Kualitas Pelayanan Pendidikan Lembaga Kursus dan Pelatihan (LKP) Dian Gitaya.
- [26] Rumapea, M. E. M. (2019). Tantangan pembelajaran musik pada era digital. *Gondang: Jurnal Seni Dan Budaya*, 3(2), 101–110.

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