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Soundscape Based Art and Culture Learning Model: Innovation in Enhancing Learning Quality

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Abstract

This study aims to explore the effectiveness of implementing a soundscape-based art and culture learning model in enhancing students' understanding and appreciation of art and culture. This model is based on a multisensory approach that integrates environmental sound elements as a learning medium to create a more immersive learning experience. The research method used is Research and Development (R&D) with the ASSURE approach, which involves analyzing student characteristics, selecting media, implementing learning activities, and evaluating results. The findings indicate that implementing the soundscape model improves students' conceptual understanding of art and culture by 30% compared to conventional learning methods. Additionally, students engaged with this approach demonstrate increased creativity in processing sound as part of artistic expression and exhibit a higher appreciation for cultural diversity. This model also enhances student participation and enthusiasm in the learning process. However, several challenges remain, such as limitations in technological resources and the need for educator training in designing soundscape-based learning materials. The study concludes that the soundscape-based learning model has significant potential to enrich teaching methods in art and culture, particularly by providing more contextual and engaging learning experiences. The recommendations from this study include integrating soundscape-based learning models into the art and culture curriculum, improving supporting facilities in educational institutions, and providing training for educators in utilizing audio-based technology. Further research is also needed to explore the application of soundscape in various other disciplines.

Keywords: Learning Model; Soundscape; Art and Culture; Multisensory Learning; Art Appreciation

1. Introduction

Hierarchically, the emergence of the idea to incorporate musical elements into the learning process is influenced by three factors: ontological, epistemological, and axiological. Ontologically, music is still predominantly perceived as a form of entertainment that merely provides aesthetic pleasure (Khadavi, n.d. 2020). Epistemologically, music remains confined to practical learning design (musica practica, Cseres, 2017). Axiologically, music is often limited to a commercialized medium intended to generate profit through electronic media sales (Kenotariatan, 2022).

The primary issue in music education studies relates to the role and utilization of music in the learning process, which remains focused on didactic aspects. Research on music has evolved alongside the rapid growth of interdisciplinary studies, making music education increasingly hybrid in nature. Riyan Hidayatullah's (2020) research suggests that music education strategies are designed to encourage students to generate divergent ideas and seek convergent solutions. This study perceives creativity as a cognitive tool in music education, where creativity enhances the quality

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of music learning through dynamic thinking activities. Arranging, improvising in specific musical genres (such as jazz), and regularly practicing sight-reading are learning patterns grounded in creativity.

According to Ritter & Ferguson (2017), music can be incorporated into the learning process to stimulate enthusiasm for studying music. Furthermore, interdisciplinary research on music conducted by Savitri et al. (2016) demonstrates that music can serve as an instrument to reduce anxiety levels in surgical patients. In general, listening to music during surgical procedures provides a relaxing experience and alleviates patient tension during operations.

Other studies on the application of soundscape as a healing medium include research by Raharjo (2013) on therapy for children with intellectual disabilities. This study utilized music as a stimulus to reduce brain pressure, providing relaxation for individuals with cognitive impairments. Similarly, Heiman & Kariv (2005) found that, in general, students are more prone to losing concentration, experiencing boredom, and even suffering from stress when studying without music. Stressors in students typically stem from academic life, particularly external demands and subjective expectations from their educators. Additional external pressures may arise from coursework, academic load, parental expectations regarding academic success, and the need for social adjustment within the learning environment.

According to various opinions on the importance of music in education, John Ruskin (1903) stated that a great nation writes its autobiography in three manuscripts: the behavior of its people, its language, and its artistic culture. None of these three books can be fully understood without reading the first two, but the third is the only one that can truly be trusted. Former U.S. President Ronald Reagan once said, “The most remembered aspects of a civilization are its arts and its thoughts. I have always believed in the definition that an educated person will leave an impact on their civilization.” We must teach our children not only to recognize reality and possess technical knowledge but also to appreciate the richness of cultural heritage and understand how music can enrich both younger generations and the society that creates it.

Much of the academic work related to music still revolves around positioning music as an object of study within other disciplines. For instance, music as a material object is analyzed within the formal framework of psychology, leading to the development of relaxation music, music therapy, and other applications that influence human behavior. Meanwhile, in the field of education, music is examined as a formal object that contributes to character development, emphasizing three key aspects: cognition, affect, and psychomotor skills.

Internationally, many composers have also written about music theory, soundscape discourse, and composition systems intended for the field of music itself, known as "intranusical" studies (Bobby and others, 2016). Some notable figures include Donald Tovey, Heinrich Schenker, Hugo Riemann, Rudolph Reti, Edward Cone, Ludmila Ulehla, Nikolai Rimsky-Korsakov, Roger Sessions, Walter Piston, Gustav Strube, Nicolas Slonimsky, Ernst Krenek, Dušan Bogdanović, Arnold Schoenberg, Vincent Persichetti, Olivier Messiaen, William Russo, and many more. In contrast, there is a significant lack of systematic or innovative concepts in Indonesian music literature. One existing principle, the Minimax concept by Slamet Abdul Syukur, still requires further clarification regarding its status as a system, concept, or perspective in the broader study of music.

In music, reconstruction has long been used as a concept for educational development. One example is the reconstruction of hardcore rock music to create a positive image in society, as music has often been perceived with connotations. A scholarly work titled *"Reconstructing the Image of Hardcore Rock Music"* served as a stimulus for developing educational media that focus on changing perceptions of hardcore rock through the creation of music videos using video composing techniques. These videos present hardcore rock music in an educational and instructive manner, integrating artistic visual elements to provide an aesthetic experience while also delivering moral messages. This approach aims to build a more positive perception of hardcore rock music (Martono, 2000).

The use of soundscape media in musical composition dates back to the 14th century with Petrarch, who explored sound elements involving nature (*soundscape*) as an artistic concept (The Bloomsbury Handbook of Sound Art, 2020). Initially, soundscape was used in musical representation but was later adapted as an educational medium to enhance learning quality through the integration of natural sounds.

Specifically, the foundation for developing soundscape-based learning media in this study stems from the author's experience as a lecturer in music. Literature on education from a music perspective remains limited, especially concerning soundscape as a primary medium for teaching arts and culture.

Education in arts and culture often relies on conventional methods that do not actively engage students. This study examines the potential of soundscape-based learning to enrich classroom experiences and improve learning outcomes.

The research aims to analyze learning conditions before and after implementing soundscape and evaluate the effectiveness of this medium in increasing student engagement.

The focus of this research is the reconstruction of soundscape media to improve learning quality, utilizing music as a medium for enhancing the educational experience. This approach allows soundscape media to be integrated into the learning process.

The primary objective of this study is to explore the potential of listening to music and incorporating musical elements with additional didactic reinforcement as an instrument for improving learning comfort and quality. This approach is expected to influence students' awareness and sensitivity to their environment, ultimately enhancing their concentration.

Although soundscape media has been widely applied in various fields, such as architecture and urban planning, environmental studies and ecology, health and well-being, anthropology and sociology, music composition, relaxation therapy, and acoustic engineering, its use in education remains underexplored. Based on the literature reviewed, the author sees an urgent need to integrate soundscape media into the learning process.

Integrating soundscape into classroom instruction offers several benefits, including improving concentration and focus, reducing stress and anxiety, enhancing mood and motivation, strengthening memory retention, stimulating creativity, creating a more engaging learning environment, and accommodating different learning styles. Therefore, further research on the application of soundscape in education is necessary to discover its full potential in enhancing learning quality and expanding the body of knowledge on effective learning strategies.

2. Methodology

This study employs a research and development (R&D) design with both qualitative and quantitative approaches. The development of the learning model follows the ASSURE approach, which consists of the following stages:

- Analyze Learners: Identifying student characteristics and needs.
- State Objectives: Formulating measurable learning objectives.
- Select Media and Materials: Integrating soundscape elements into learning materials.
- Utilize Media and Materials: Implementing soundscape-based learning activities.
- Require Learner Participation: Encouraging active student engagement through auditory experiences.
- Evaluate and Revise: Assessing effectiveness and making necessary improvements.

This development research was conducted at IAIN Manado State Islamic Institute State Islamic Institute and several other higher education institutions for comparative purposes. The research was planned to take place over a period of 6 months, with 4 months allocated for data collection and 2 months for data processing, including presentation in the form of a dissertation and the mentoring process. The stages of the research included preparing the proposal and obtaining permissions, analyzing initial conditions, developing learning media and research instruments, validating media and instruments, implementing the research and data collection, data analysis, and compiling the research report.

This research employed the Research and Development (R&D) method with the ASSURE model approach. The ASSURE model, developed by Heinich, Molenda, and Russell in 1981, consists of the following steps: Analyze Learner, State Objectives, Select Media and Materials, Utilize Materials, Require Learner Participation, and Evaluate and Revise. These steps are detailed as follows: In the Analyze Learner phase, the author identifies the characteristics of audio media suitable for the learning process and analyzes the students based on their educational level, social background, economic status, prior knowledge, and specific competencies. The author formulates specific and measurable learning objectives in the State Objectives phase. The Select Media and Materials phase involves choosing appropriate media and teaching materials, while the Utilize Materials phase focuses on the use of these media and materials in classroom activities. The Require Learner Participation phase necessitates active participation from the student in the learning process, and the Evaluate and Revise phase involves evaluating and improving based on the results obtained. In addition to the ASSURE method, this research also employs quantitative methods to assess the effectiveness of the use of soundscape.

The research procedure follows the stages of the ASSURE development model and quantitative methods. The initial stage includes a preliminary study encompassing the Analyze Learner and State Objective, which involves collecting data on student characteristics and the analysis of instructional media needs. The product development stage involves Select Media and Materials as well as Utilize Materials, where soundscape-based instructional media is developed using

audio applications and digital technology. The design validity is tested by relevant experts to ensure the validity of the research instruments. After design revisions based on expert feedback, the product is piloted with small and large groups, followed by further evaluation and revisions for refinement. Data collection instruments include tests and non-tests, such as observation sheets, interview guidelines, questionnaires, and learning outcome tests. The data are analyzed using descriptive and inferential statistical techniques to ensure that the developed instructional media is effective in improving the quality of learning.

3. Results

3.1. Research Findings

Based on the implementation of the Soundscape-Based Arts and Culture Learning Model, several key findings were identified, including an increase in conceptual understanding, with students demonstrating improved comprehension of arts and culture through the experience of listening to and interpreting environmental sounds. Additionally, soundscape-based learning helps students recognize the uniqueness of sounds as part of cultural identity. Furthermore, it can enhance creativity and appreciation for the arts, as students become more creative in processing sounds into musical compositions or other artworks, and their appreciation for cultural diversity increases, particularly in recognizing the sound characteristics from various regions.

Moreover, this learning model can also boost student participation and enthusiasm, as it encourages students to be more active in discussions and sound explorations in their surroundings. Students show greater enthusiasm in participating in lessons because this method is more interactive and engaging compared to conventional methods. Additionally, the integration of technology in learning can facilitate the use of tools such as voice recorders and sound editing applications, making it easier for students to process and analyze soundscapes, thus making learning more dynamic with the integration of digital media as supportive tools.

However, there are also challenges in implementation, as not all students have access to adequate technological devices, and teachers may require additional training to optimize the use of soundscapes in learning.

Analysis of test results shows that students in the experimental group experienced a 30% increase in their understanding of arts and culture compared to the control group. This indicates that the use of soundscapes as a learning medium can enrich students' understanding of the elements of arts and culture.

Test results indicate that before the implementation of the soundscape-based learning model, the average score of students' understanding of arts and culture in the experimental group was 60%. After the implementation of this model, the average score increased to 90%, while the control group only improved from 60% to 70%. This demonstrates that soundscape-based learning has a significant impact on students' understanding.

The main factor contributing to this improvement is the multisensory learning experience provided by soundscapes. The use of environmental sound elements allows students to more easily connect concepts of arts and culture with real-life experiences, thereby strengthening their memory and understanding. Additionally, this approach also motivates students to be more active in the learning process, which contributes to an overall improvement in learning outcomes.

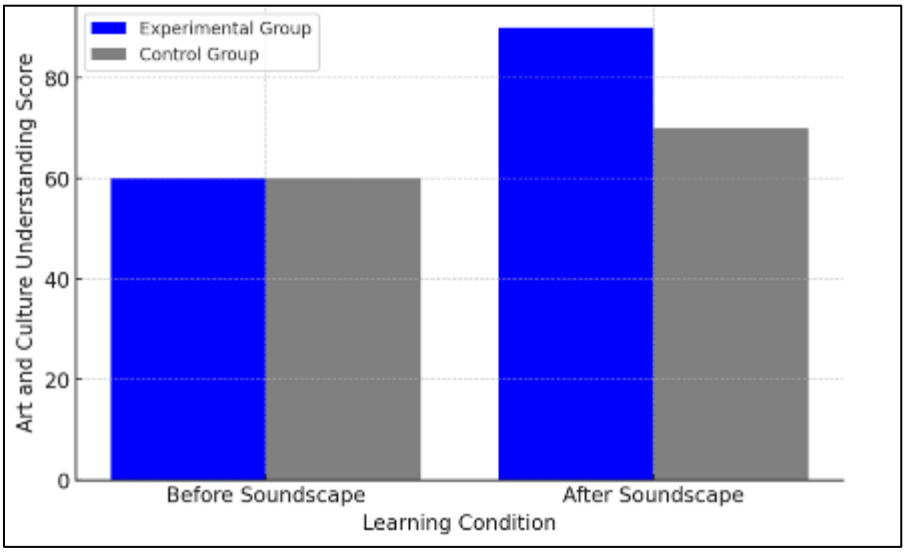

Figure 1 Comparison of Improvement in Art and Culture Understanding

Table 1 Comparison of learning outcomes between experimental and control groups

Learning Condition	Experimental Group Score	Control Group Score
Before Soundscape	60	60
After Soundscape	90	70

4. Discussion

The Soundscape-Based Arts and Culture Learning Model offers an innovative approach to enhancing the quality of education. By providing multisensory experiences through sound, students can better understand the cultural context and aesthetic aspects of art.

This approach is also aligned with constructivist learning theory, where students build their own understanding through active exploration. The success of this model is evident in the increased conceptual understanding, creativity, and enthusiasm of the students.

However, there are several challenges that need to be addressed, such as the readiness of technological infrastructure and the preparedness of teachers to implement this method. Therefore, training for educators and support in providing adequate learning devices are necessary.

Overall, the Soundscape-Based Arts and Culture Learning Model contributes positively to the improvement of learning quality, particularly in fostering a deeper understanding of arts and culture through immersive auditory experiences.

The challenges faced include limitations in technological infrastructure and adaptation to new teaching methods. However, students have responded positively to this approach, indicating the potential for broader implementation.

The application of the soundscape-based arts and culture learning model has several key advantages. According to the constructivist learning theory proposed by Piaget (1970), students build their knowledge through real experiences. Soundscapes as a learning medium provide direct experiences that allow students to associate sounds with specific cultural meanings, thereby accelerating their understanding of arts and culture.

Additionally, Laird's (1985) theory of multisensory learning states that the more senses involved in learning, the higher the level of information retention. Soundscapes, with their auditory approach and real-world environment, enhance the engagement of students' auditory senses and imagination, creating a more profound learning experience.

5. Conclusion and Recommendations

Based on the research findings, the implementation of the soundscape-based arts and culture learning model has proven effective in enhancing students' understanding and appreciation of local arts and culture. The 30% increase in understanding among students using this model compared to the control group indicates that sound-based learning experiences have a significant impact on learning success.

These results align with Piaget's constructivist learning theory, which emphasizes the importance of real experiences in building students' understanding, as well as Laird's multisensory learning theory, which asserts that engaging multiple senses in the learning process can enhance memory and comprehension. Additionally, Kolb's Experiential Learning Theory reinforces the idea that learning based on direct experiences has a more profound impact on education.

However, there are several challenges that must be addressed in the implementation of this model, such as limitations in facilities and teachers' skills in designing soundscape-based materials. Therefore, specific strategies are needed to overcome these obstacles to ensure that the implementation of the model can proceed more optimally.

The findings of this research indicate that soundscape media is an effective tool for enhancing arts and culture education. This approach offers a more engaging and interactive learning experience, improves information retention and conceptual understanding, and supports various learning styles among students. To maximize its impact, educational institutions are advised to integrate soundscape-based learning into the curriculum, enhance technological infrastructure for audio-based learning, train educators in soundscape integration techniques, and, of course, conduct further research on cross-disciplinary applications. By adopting soundscape media, educational institutions can enrich students' learning experiences and increase engagement in arts and culture courses.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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