

AN ANALYSIS OF THE IMPLEMENTATION OF THE FIVE MONTESSORI AREAS IN GAMELAN EDUCATION

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Abstract

This study aims to describe the implementation of the five Montessori areas in gamelan learning. The study employed a qualitative descriptive approach involving eighth-grade students of Stella Duce 2 Junior High School Yogyakarta as the research subjects. Data were collected through observations and documentation in the form of Exploration and Reflection Worksheets based on the Montessori areas. The findings indicate that all five Montessori areas can be implemented in gamelan learning through various authentic activities. The practical life area was reflected in group collaboration and the distribution of instrumental roles. The sensorial area was evident in sound exploration activities and the development of listening sensitivity. The mathematics area was implemented through the understanding of rhythmic patterns and song structures. The language area emerged through discussions, musical communication, and learning reflections. The cultural area was manifested in the understanding of togetherness, etiquette, and appreciation of gamelan as a cultural heritage. The findings suggest that the characteristics of gamelan learning are aligned with Montessori principles and support holistic learning experiences in music education.

Keywords: *Montessori; gamelan learning; five Montessori areas; music education; holistic learning*

INTRODUCTION

Music is one of the fundamental human needs because, as a part of the arts, it enriches human life and contributes to the development of character and personality. Simply put, any sound consciously produced by humans can be considered music (Irawana, 2019). According to Elliot, music education encompasses several aspects, including values, music theories, and the purposes of studying music (Suci, 2019). Music learning provides various benefits for students, not only in cognitive development but also in children's social and motor development. Furthermore, music can enhance neural connectivity in the brain, which in turn improves language skills, memory, and attention. The term *holistic* is derived from the word *holism*, which originates from the Greek word *holos*, meaning "whole" or "entire." Holistic refers to viewing something as a complete and integrated whole. In the context of education, holistic education is regarded as an approach that develops human beings comprehensively by maximizing their social, intellectual, moral, creative, and spiritual potentials (Harni, 2015). This perspective is consistent with the function of music, which should contribute to the enhancement of various student abilities. Therefore, a holistic approach should be implemented in music learning. To realize holistic music education, an appropriate method is needed to achieve these objectives.

One educational approach with a holistic orientation is the Montessori method. The Montessori method is fundamentally student-centered, enabling learners to become more active and motivated in developing their potentials. Moreover, this student-centered approach encourages active participation, allowing students to feel more valued, self-confident, and to develop a positive self-image (Wulandari et al., 2018). To support children's development, Montessori organizes learning into five main areas (Linda Yuliasutite, 2022):

1. Practical Life Area: Learning in this area aims to foster children's independence in daily life through direct and meaningful activities.
2. Sensorial Area: Montessori views sensory development as a sequential, enjoyable, and simple process that is easily carried out by children. This area aims to develop children's senses and provide the foundation for further intellectual development.
3. Language Area: This area stimulates children's language development.

4. Mathematics Area: This area introduces mathematical concepts as a logical extension of sensory experiences that are already familiar to children.
5. Cultural Area: This area provides opportunities for children to engage in artistic activities. It encompasses culture, the universe, art, and music.

Several studies have shown that the Montessori method supports children's development beyond cognitive aspects alone. Kamil (2023) found that one of the Montessori areas, namely the Practical Life Area, can enhance children's independence, which is a fundamental value that should be taught by adults. Through daily activities, children are accustomed to becoming independent, allowing their autonomy to develop in accordance with the expectations of parents and teachers. Another study conducted at Girikarnika Montessori Preschool, which implemented learning based on the five Montessori areas, found that children became the center of the learning process, with all their senses and bodily movements actively engaged. The children also demonstrated self-confidence, independence, responsibility, and respect for differences (Laksmi et al., 2021). These findings indicate that the Montessori approach has the potential to be applied to learning contexts that emphasize student activity and exploration.

In the field of music education, the Montessori approach has also been used as an alternative learning method that emphasizes direct experience. In music learning, children are free to explore the music they prefer according to their interests and abilities, while teachers act as facilitators rather than authoritative figures who provide direct instructions (Sianturi et al., 2024). However, most studies related to Montessori have focused on early childhood education and have rarely examined the implementation of the five Montessori areas specifically in music learning, particularly at educational levels above elementary school or early childhood education. On the other hand, studies on gamelan learning have demonstrated that gamelan has the potential to serve as a medium for character education by fostering responsibility, discipline, appreciation of diversity, and cultural preservation, thereby strengthening nationalism (Dwi Nurhidayah & Wahyuni Tanszil, 2025).

Previous studies on the Montessori method have primarily examined the development of independence, social skills, and experiential learning based on real-life activities. Meanwhile, research on gamelan learning has mainly highlighted musical skills, character education, group collaboration, and cultural preservation. Nevertheless, studies that connect the fields of gamelan and Montessori remain relatively limited. Montessori research is predominantly conducted in early childhood education settings, whereas gamelan studies generally focus on learning outcomes and character development. To date, only a limited number of studies have specifically analyzed the implementation of the five Montessori areas in gamelan learning at the junior high school level.

Conceptually, however, gamelan learning possesses characteristics that have the potential to simultaneously accommodate the Practical Life, Sensorial, Mathematics, Language, and Cultural Areas. Furthermore, only a few studies have described how these five areas are manifested in gamelan learning activities. Therefore, research analyzing the implementation of the five Montessori areas in gamelan learning is needed to broaden Montessori studies within the field of music education and to provide insights into its application in Indonesian traditional music. Based on the foregoing discussion, this study aims to analyze the implementation of the five Montessori areas in gamelan learning by addressing the following research question: How are the Practical Life, Sensorial, Mathematics, Language, and Cultural Areas manifested in gamelan learning activities? The novelty of this study lies in its analysis of the implementation of the five Montessori areas within the context of Indonesian traditional music, particularly gamelan learning at the junior high school level, which has received limited attention in Montessori studies.

METHOD

This study employed a qualitative descriptive approach. The research began with explanatory processes or events that ultimately served as the basis for drawing conclusions (Yuliani, 2018). The study focused on observing the learning process, student interactions, and the implementation of the five Montessori areas in gamelan learning. The research subjects were eighth-grade students of Stella Duce 2 Junior High School Yogyakarta who participated in Montessori-based gamelan music lessons. The data collection techniques used in this study were observation and documentation in the form of Exploration and Reflection Worksheets based on Montessori principles. According to Sugiyono, as cited in Zhang et al. (2026), observation is a method of collecting data directly from the field by carefully observing research subjects to obtain data on phenomena as they naturally occur.

The data were analyzed using the Miles and Huberman model (Zulfirman, 2022), which consists of the following stages:

1. Data Collection

- Exploration and Reflection Worksheets were completed by students after the practical activities had been carried out.
2. Data Reduction
At this stage, the collected data were summarized, essential information was selected, and attention was focused on the most relevant aspects.
 3. Data Display
The data were presented in the form of descriptive narratives and categorized according to each Montessori area. The analysis results were classified into three types of reflections: descriptive, analytical, and evaluative.
 4. Conclusion Drawing and Verification
The conclusions obtained represent valid findings supported by consistent and credible evidence derived from field data.

DISCUSSION

LESSON PLAN

A. Learning Identity

Educational Level : Junior High School

Subject : Arts and Culture (Music)

Topic : Gamelan Practice

Class : Grade VII Diraya

Time Allocation : 3 Learning Periods (120 minutes)

Learning Model : Montessori (Exploratory and Reflective Approach)

B. Learning Objectives

After participating in the lesson, students are expected to be able to:

1. Perform gamelan pieces according to the tempo led by the kendang.
2. Demonstrate accuracy in entries and maintain the stability of the *gatra* cycle.
3. Control the dynamics and clarity of instrumental sounds.
4. Understand the structure of performance through variations of the layering system.
5. Reflect on their musical experiences independently and communicatively.

C. Learning Materials

- Song structure
- The concepts of *gatra* and cycles in gamelan music
- The role of the kendang as the tempo regulator
- Control of dynamics and sound clarity

D. Methods and Approaches

- Exploratory practice
- Kendang Leader approach
- Layering System
- Individual and group reflection
- Performance observation

E. Learning Procedures

1. Preliminary Activities (20 minutes)

- The teacher opens the lesson.
- Apperception regarding the function of the kendang in gamelan music.
- Explanation of the learning objectives.
- Explanation of the learning sequence (Kendang Leader, Layering System, and Reflection).

2. Main Activities (95 minutes)

a. Group Practice: Kendang Leader and Layering System (45 minutes)

Four groups perform in turns (approximately 10 minutes for each group). Each group carries out the following activities:

1) Kendang Leader

- The tempo is determined by the kendang player without teacher cues.
- The piece is performed for one to two cycles.

2) Layering System

- Stage 1: Saron only
- Stage 2: Addition of the kenong
- Stage 3: Addition of the gong
- Stage 4: Addition of other instruments

Performance aspects observed include:

- Tempo stability
- Accuracy of entries
- Consistency of cycles
- Sound control and coordination

b. Musical Exploration and Reflection Journal (20 minutes)

After group discussions, students individually complete the journal by reflecting on:

- Challenges related to tempo
- Experiences with the layering process
- The role of the kendang
- Awareness of musical structure

c. Group Presentation (20 minutes)

The four groups present the results of their reflections (approximately five minutes per group). The teacher observes communication skills, collaboration, and conceptual understanding.

3. Closing Activities (15 minutes)

The teacher reinforces the following concepts:

- Internal tempo
- *Gatra* structure
- The value of togetherness in gamelan music
- Brief oral reflection.
- Closing remarks.

F. Assessment

1. Assessment Techniques

- Performance observation using assessment rubrics
- Written reflection through the Musical Exploration and Reflection Worksheet

2. Assessment Instruments

Assessment scale: 1–5 according to the rubric criteria.

Final score formula:

Final Score = (Obtained Score ÷ Maximum Score) × 100

G. Learning Media and Resources

- Gamelan instruments
- Musical Exploration and Reflection Worksheets

The Implementation of the Five Montessori Areas in Gamelan Learning

1. Practical Life Area

Based on the lesson plan (RPP), the implementation of this area was manifested through group activities conducted during and after the game. These activities included group formation, the distribution of instrumental roles to each group member, cooperation during practice, and responsibility for maintaining the gamelan instruments. Within the groups, students were given the opportunity to independently choose their instruments and determine their playing strategies, while still being guided by the teacher as a facilitator. Observation results showed that some students were able to participate actively in their groups, both during the gamelan practice and while completing the Exploration and Reflection Worksheets. Students were willing to assist peers who experienced difficulties, either on their own initiative or following the teacher's instructions. This finding was reinforced by the results of the Exploration and Reflection Worksheets, which indicated that cooperation and mutual assistance were important factors in the success of group performances.

2. Sensorial Area

Learning activities in this area involved exploring the sounds of gamelan instruments, where students were given the opportunity to explore the sounds produced by their chosen instruments before participating in group performances. During the performance, students appeared capable of maintaining hand-eye coordination and

responding appropriately to instructions and sounds from other instruments. The reflection sheets also revealed that concentration was essential for maintaining harmony within the group performance.

3. Mathematics Area

The mathematics area was implemented through activities involving counting beats, understanding rhythmic patterns, recognizing song structures, and maintaining the regularity of entering and exiting rhythmic patterns during the performance. Students were given time to explore the rhythmic patterns of their assigned instruments before integrating them into the group performance. Observation results showed that almost all students gradually became able to maintain rhythmic accuracy, understand the rhythmic patterns they played, and recognize the functions of instruments within the song structure.

4. Language Area

Based on the lesson plan, this area was implemented through group discussions, communication of performance difficulties, the provision of feedback, and reflection activities after the learning process. Students were given opportunities to express their learning experiences and provide responses through the Exploration and Reflection Worksheets. Observation results indicated that students actively communicated their needs and sought assistance during the performance. The reflection sheets also revealed students' feelings regarding the challenges they encountered and the strategies they employed to complete the gamelan performance tasks.

5. Cultural Area

The Cultural Area was implemented through activities introducing cultural values embedded in gamelan performance, etiquette within the practice room, respect for the instruments, and appreciation of the meanings contained in the songs performed. The teacher guided students to understand that gamelan is part of a cultural heritage that should be preserved and respected. Observation results showed that students demonstrated careful attitudes toward the gamelan instruments and maintained discipline throughout the practice sessions. In the reflection sheets, students identified togetherness, discipline, and mutual respect as values they gained from the gamelan learning activities.

The Compatibility of Gamelan Learning Characteristics with the Five Montessori Areas

The characteristics of gamelan learning have a strong connection with the five Montessori areas. Group-based gamelan performances create opportunities for students to interact, cooperate, and take responsibility for their respective roles, thereby supporting the development of the Practical Life area. On the other hand, the diversity of instrumental timbres and the need to listen carefully to the ensemble performance encourage the development of the Sensorial area. These findings indicate that gamelan learning provides a rich learning environment that enables students to learn through real-life activities, as emphasized in the Montessori approach.

These hands-on activities are also consistent with the "Learning by Doing" theory proposed by the American philosopher John Dewey. Dewey believed that learning through direct experience enhances understanding more effectively than learning that merely requires students to memorize material. Through authentic experiences, students practice, perform, listen to, and experience what they are learning (Sudharsono et al., 2024). However, meaningful activities that optimize children's potential must also be supported by a conducive environment. A well-prepared, structured, and supportive environment is an inseparable component of the Montessori method.

According to Montessori, there are six principles of a prepared environment: freedom, structure and order, beauty, nature and reality, the social environment, and the intellectual environment. Through a prepared environment, students are given freedom regarding their learning styles and decision-making processes while remaining within clear rules and boundaries. The environment is organized to be neat, attractive, comfortable, and capable of fostering polite behavior. Students are encouraged to interact with peers while simultaneously developing their thinking abilities. Such an environment cultivates positive habits and creativity, enabling students to become independent learners who enjoy learning, experimenting, and exploring new experiences (Astuti & Sandra, 2021).

Based on classroom observations and the results of the Exploration and Reflection Worksheets, the findings indicate that gamelan learning accommodates the Practical Life area through activities that foster responsibility, cooperation, and independence. Montessori viewed practical life activities as a means of developing discipline and social skills through authentic experiences. In the context of gamelan learning, these experiences are created through student interactions, role distribution, and shared responsibility for the success of the ensemble performance. Therefore, gamelan learning not only develops musical skills but also cultivates social competencies that represent the goals of the Practical Life area.

The Sensorial area findings demonstrate that gamelan learning is rich in sensory experiences involving listening, perceiving, and responding. Montessori regarded concrete sensory experiences as bridges that help students understand the world through their senses (Darajulia, 2026). In gamelan learning, sensorial abilities develop through recognizing the characteristics of instrumental sounds, maintaining balance within the ensemble, and listening attentively to other instruments. This finding suggests that traditional music learning can serve as an effective medium for developing students' sensory awareness.

Regarding the Mathematics area, the implementation demonstrates that logical thinking and pattern recognition can be learned through musical experiences. Montessori explained that mathematical learning should begin with concrete experiences before progressing to abstract concepts. Students are first introduced to pre-mathematical concepts before moving toward more complex mathematical understanding (Yusshinta et al., 2023). In gamelan learning, concepts of patterns, sequences, and order naturally emerge through rhythmic activities. Consequently, gamelan learning not only develops musical competence but also supports students' logical thinking abilities.

The Language area emerges not only through verbal communication but also through students' abilities to express ideas, feelings, and learning experiences. Language serves as a tool for building social relationships and developing cognitive abilities. In addition, the Language area aims to enhance students' storytelling skills (Hartono, 2023). Through discussions and reflection activities, students learn to express opinions, listen to others, and reflect upon their learning experiences.

Meanwhile, the Cultural area demonstrates that gamelan functions not only as a musical activity but also as a medium for transmitting cultural values. In Montessori education, culture serves as a means for students to understand their relationship with society and the surrounding world. Students do not merely learn the techniques of playing gamelan but also understand the values embedded within these cultural practices. Furthermore, the Cultural area contributes to the development of students' thinking and learning abilities (Kingsley Montessori Insights, 2019). Thus, gamelan learning plays an important role in strengthening cultural identity while fostering character development.

The findings also reveal that the implementation of the five Montessori areas in gamelan learning does not occur separately. While playing gamelan, students simultaneously employ cognitive abilities to understand rhythmic patterns, sensorial abilities to listen to other instruments, social abilities to collaborate with peers, and emotional abilities to manage feelings when mistakes occur. Holistic education emphasizes the development of well-rounded and balanced individuals and serves as an important foundation for character formation (Sriyanta et al., 2025). In addition to character development, the holistic approach plays a crucial role in supporting balanced student growth and development (Rohmah, 2023). Therefore, learning experiences that integrate multiple developmental aspects simultaneously are considered more meaningful than those focusing solely on academic achievement.

Implications of Montessori for Music Education

The implementation of the five Montessori areas indicates a shift in the teacher's role in music learning. Montessori viewed teachers as facilitators who create an environment that grants students freedom while maintaining responsibility (Sari et al., 2026). Students are given opportunities to explore their musical experiences independently. Teachers continue to provide instruction and learning materials but do not dominate or dictate the learning process. These findings suggest that music education can be designed not only to develop technical gamelan performance skills but also to foster social, emotional, and cultural competencies. Therefore, the Montessori approach has the potential to become an alternative model of music education that focuses on students' holistic development.

Research Limitations

This study has several limitations. First, the research was conducted in only one class using total sampling; therefore, it reflects the perspectives of a single group without comparison to other groups. Second, the study did not examine in depth the effects of the implementation on students' development. Furthermore, the research data were collected through observations, documentation, and student reflections within a limited period, meaning that the findings only represent conditions during the research process. Therefore, future studies should involve broader participant groups, longer periods of observation, and more in-depth investigations into the impacts of the implementation.

Suggestions for Future Research

Future studies may be conducted in more diverse music learning contexts, particularly traditional music beyond gamelan, and involve larger participant groups to obtain a more comprehensive understanding of implementation practices. In addition, future research may investigate the effects of implementing the five Montessori areas on student development and music learning outcomes using quantitative or mixed-method approaches.

CONCLUSION

This study demonstrates that the five Montessori areas—Practical Life, Sensorial, Mathematics, Language, and Culture—can be implemented in gamelan learning through various activities involving students' direct experiences. The findings reveal that the characteristics of gamelan learning enable the integration of these five areas, allowing students to gain not only musical experiences but also social, sensorial, communicative, and cultural experiences. In the field of music education, these findings imply the potential application of Montessori principles in traditional music learning and open opportunities for developing music learning models that are more centered on students' learning experiences.

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