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ORIGINAL ARTICLE

Enhancing Kinesthetic Intelligence in Early Childhood Through Creative Dance Activities: A Classroom Action Research

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ABSTRACT

Introduction: Kinesthetic intelligence is a fundamental aspect of early childhood development that supports physical coordination, body control, and active engagement in learning activities. However, many early childhood learning environments still provide limited opportunities for movement-based activities, resulting in underdeveloped kinesthetic abilities among children.

Objectives: This study aims to analyze the effectiveness of creative dance activities in enhancing kinesthetic intelligence in early childhood learners.

Methods: This study employed a classroom action research design conducted through two cycles, each consisting of planning, implementation, observation, and reflection stages. The participants were early childhood learners, and the intervention involved structured creative dance activities designed to stimulate body movement, coordination, and expression. Data were collected through observation and documentation, focusing on indicators of kinesthetic development such as balance, flexibility, coordination, and movement expression.

Results: The findings indicated a progressive improvement in children's kinesthetic intelligence across the research cycles. In the initial condition, children demonstrated low levels of movement coordination and body control. In Cycle I, moderate improvements were observed, particularly in participation and basic movement coordination. In Cycle II, children showed significant development, including improved balance, flexibility, coordination, and confidence in expressing movements.

Conclusions: Creative dance activities are effective in enhancing kinesthetic intelligence in early childhood. The integration of structured and engaging movement-based learning strategies can support children's physical development and promote active participation in the learning process.

A. Introduction

Early childhood education plays a crucial role in fostering holistic child development, including cognitive, social, emotional, and physical domains. One of the essential aspects of development during early childhood is kinesthetic intelligence, which refers to the ability to control body movements, coordinate physical actions, and express ideas through movement. This ability is fundamental in supporting children's active engagement in learning and their overall physical development. However, in many early childhood education settings, learning activities tend to emphasize cognitive aspects while providing limited opportunities for movement-based experiences, resulting in underdeveloped kinesthetic abilities among children.

From a developmental perspective, kinesthetic intelligence is closely associated with children's motor development and their ability to interact with the environment through physical activity. Early stimulation of motor skills is critical, as it supports not only physical growth but also cognitive and emotional development (Whitebread et al., 2017; Thompson, 2016). Research has shown that children who actively engage in movement-based activities tend to demonstrate better coordination, confidence, and participation in learning processes (Yoshikawa et al., 2016). Therefore, it is essential to design learning environments that provide meaningful opportunities for children to explore and develop their kinesthetic potential.

Play-based learning has been widely recognized as an effective approach in early childhood education, as it allows children to learn through active exploration and experience (Pyle et al., 2017). Movement-based activities, such as creative dance, provide opportunities for children to express themselves, develop coordination, and improve body awareness. Creative dance, in particular, enables children to explore various movements freely while integrating rhythm, balance, flexibility, and expression. These activities align with constructivist learning theory, which emphasizes active participation and experiential learning in knowledge construction (Bodrova & Leong, 2015).

Recent studies highlight the importance of integrating physical and creative activities into early childhood education. High-quality early childhood programs that incorporate active and play-based learning have been shown to enhance children's overall development, including motor skills, engagement, and self-confidence (OECD, 2017; UNICEF, 2019). In addition, movement-based learning contributes to the development of executive functions and self-regulation, which are essential for learning readiness (Diamond, 2016; Whitebread et al., 2017). These findings suggest that incorporating creative movement activities can provide significant benefits for children's holistic development.

More recent evidence also emphasizes the effectiveness of structured learning interventions in early childhood settings. Studies on social and emotional learning (SEL) and play-based approaches indicate that well-designed and guided activities significantly improve children's developmental outcomes (Blewitt et al., 2018; Durlak et al., 2022). Furthermore, the science of learning and development highlights the importance of integrating cognitive, physical, and emotional domains through meaningful and engaging learning experiences (Darling-Hammond et al., 2020). Learning through play, including creative and movement-based activities, has been shown to enhance children's engagement, creativity, and problem-solving abilities (Zosh et al., 2018).

Despite these advancements, the implementation of movement-based learning activities in early childhood education remains limited. Many learning practices still rely on passive instructional approaches, with insufficient emphasis on developing children's kinesthetic intelligence. In addition, existing studies often focus on general motor development without specifically examining the effectiveness of structured creative dance activities as an instructional strategy.

Empirical research that systematically evaluates the impact of creative dance on multiple aspects of kinesthetic intelligence remains limited, indicating a gap in the literature.

Moreover, the effectiveness of creative dance activities is influenced by how teachers design and facilitate learning experiences. Without proper structure and guidance, movement-based activities may not optimally support children's development. Therefore, it is necessary to investigate the implementation of structured creative dance as an instructional strategy that can effectively enhance kinesthetic intelligence in early childhood education.

Based on these considerations, this study aims to examine the effectiveness of creative dance activities in improving kinesthetic intelligence among early childhood learners. The findings of this study are expected to provide empirical evidence to support the integration of movement-based and play-oriented learning strategies in promoting holistic child development.

B. Methods

This study employed a classroom action research design to examine the effectiveness of creative dance activities in enhancing kinesthetic intelligence among early childhood learners. Classroom action research was selected as it allows a cyclical and reflective process consisting of planning, implementation, observation, and reflection, enabling continuous improvement of teaching strategies and learning outcomes.

The participants of this study were early childhood learners at the preschool level who were in a developmental stage characterized by rapid physical and motor development. At this stage, children require appropriate stimulation to develop their kinesthetic abilities, including body coordination, balance, flexibility, and movement expression. All participants were actively involved in the learning activities throughout the research process.

The study was conducted in two cycles, with each cycle consisting of four main stages. In the planning stage, learning scenarios were designed using creative dance activities that encouraged children to explore body movements, rhythm, and expression. In the implementation stage, children participated in structured creative dance sessions guided by the teacher, which involved various movement patterns, imitation, and free expression. The observation stage was carried out by systematically monitoring children's kinesthetic performance using predefined indicators. Finally, the reflection stage was conducted to evaluate the effectiveness of the intervention and to identify improvements for the subsequent cycle.

Data were collected using observation, documentation, and performance assessment. Observation was used as the primary method to capture children's kinesthetic behaviors during the learning process, while documentation such as field notes and visual records supported data validity. The assessment focused on several indicators of kinesthetic intelligence, including body coordination, balance, flexibility, and the ability to express movements.

Data analysis was conducted using a descriptive qualitative approach supported by simple quantitative interpretation. The analysis involved comparing the level of children's kinesthetic development across the initial condition, Cycle I, and Cycle II. Improvements were identified based on changes in observed behaviors and the achievement of developmental indicators in each cycle.

Ethical considerations were addressed by ensuring that all activities were conducted in a safe, supportive, and developmentally appropriate environment. Participation was voluntary, and the learning process was designed to prioritize children's well-being and active engagement.

C. Results

The results of this study are presented based on the implementation of classroom action research conducted through two cycles. Each cycle consisted of planning, implementation, observation, and reflection stages aimed at improving children's kinesthetic intelligence through creative dance activities.

Prior to the intervention, children's kinesthetic abilities were categorized as low. Most children demonstrated limited body coordination, lack of balance, and difficulty in expressing movements. In addition, children tended to be passive during learning activities and showed low confidence in performing physical movements. These findings indicate that the initial learning process had not yet effectively stimulated children's kinesthetic development.

In Cycle I, creative dance activities were introduced as a structured learning strategy. The results showed a moderate improvement in children's kinesthetic intelligence. Children began to demonstrate better participation and showed initial improvements in body coordination and movement expression. However, several children still experienced difficulties in maintaining balance and performing coordinated movements, indicating that further refinement of the learning activities was needed.

Based on the reflection of Cycle I, improvements were made in the design of creative dance activities. The learning scenarios were adjusted to be more engaging and better aligned with children's abilities, and the teacher provided more intensive guidance and demonstrations. As a result, Cycle II showed a significant improvement in children's kinesthetic intelligence. Children demonstrated better coordination, improved balance, increased flexibility, and greater confidence in expressing movements.

Table 1. Improvement of Kinesthetic Intelligence Across Indicators

Indicator	Pre-Intervention	Cycle I	Cycle II
Body Coordination	Low	Moderate	High
Balance	Low	Moderate	High
Flexibility	Low	Moderate	High
Movement Expression	Low	Moderate	High

The data presented in Table 1 indicate a consistent improvement in all indicators of kinesthetic intelligence across the research stages. In the pre-intervention stage, all indicators were categorized as low, reflecting children's limited ability to control and coordinate body movements. After the implementation of creative dance activities in Cycle I, all indicators improved to a moderate level, suggesting that the intervention began to positively influence children's motor skills and participation.

Furthermore, in Cycle II, all indicators reached a high level of achievement. This finding demonstrates that the refinement of learning strategies and increased teacher facilitation contributed significantly to the development of children's kinesthetic abilities. The most notable improvements were observed in body coordination and movement expression, where children became more confident and actively engaged in performing creative dance movements.

Table 2. Overall Achievement of Kinesthetic Development

Stage	Achievement Level	Interpretation
Pre-Intervention	Low	Limited kinesthetic abilities
Cycle I	Moderate	Initial improvement observed
Cycle II	High	Significant improvement achieved

Table 2 further confirms the progressive improvement in children's kinesthetic intelligence throughout the research process. The transition from low achievement in the initial stage to a high level in Cycle II indicates that creative dance activities were effective in enhancing children's overall kinesthetic development. This progression also highlights the importance of iterative improvement through the classroom action research process.

Overall, the findings demonstrate that the implementation of creative dance activities resulted in a significant and consistent improvement in children's kinesthetic intelligence. The structured and reflective approach applied in this study played a key role in achieving optimal learning outcomes.

D. Discussion

The findings of this study demonstrate that the implementation of creative dance activities significantly improved children's kinesthetic intelligence across the research cycles. The progression from low levels in the pre-intervention stage to moderate levels in Cycle I and high levels in Cycle II indicates that structured and iterative learning interventions are effective in enhancing children's motor development. These results confirm that kinesthetic intelligence can be developed through appropriate stimulation and meaningful learning experiences in early childhood education.

The improvement observed in Cycle I suggests that the introduction of creative dance activities provided children with opportunities to explore body movements and engage in active learning. Children began to show increased participation, better coordination, and initial confidence in performing movements. This finding is consistent with previous studies indicating that play-based and movement-oriented learning approaches promote children's motor skills and engagement (Pyle et al., 2017; Whitebread et al., 2017). Creative dance, as a form of active learning, allows children to combine physical movement with expression, which contributes to the development of coordination and body awareness (Bodrova & Leong, 2015).

The more significant improvement observed in Cycle II highlights the importance of structured implementation and teacher facilitation. When creative dance activities were designed to be more engaging and adapted to children's abilities, and when teachers provided clearer demonstrations and guidance, children showed higher levels of performance and confidence. This supports the concept that guided and structured learning activities are more effective than unstructured approaches in promoting developmental outcomes (Zosh et al., 2018; Darling-Hammond et al., 2020). It also indicates that teacher involvement plays a critical role in optimizing the effectiveness of movement-based learning.

Furthermore, the improvement across key indicators such as body coordination, balance, flexibility, and movement expression reflects the multidimensional nature of kinesthetic intelligence. These findings align with research suggesting that motor development in early childhood involves the integration of physical, cognitive, and emotional processes (Diamond, 2016; Thompson, 2016). In addition, active movement activities have been shown to enhance children's confidence, participation, and overall readiness to learn (Yoshikawa et al., 2016).

The findings also reinforce the importance of incorporating creative and physical activities into early childhood education. Despite the increasing emphasis on academic learning, movement-based activities remain essential for supporting children's holistic development. Studies have shown that integrating creative movement into learning environments not only improves motor skills but also enhances engagement and motivation (OECD, 2017; UNICEF, 2019). Therefore, creative dance can serve as an effective instructional strategy to balance cognitive and physical development in early childhood education.

In addition, the use of a classroom action research approach contributed to the success of the intervention. The cyclical process of planning, implementation, observation, and reflection allowed for continuous improvement of learning strategies, resulting in more effective outcomes in Cycle II. This finding supports the idea that reflective teaching practices are essential in improving instructional quality and adapting learning to children's needs (Kemmis et al., 2014; Stringer, 2014).

Moreover, the results of this study are supported by recent research emphasizing the role of movement-based learning in enhancing children's development. Physical activity-based learning has been shown to improve motor coordination and cognitive engagement in early childhood (Logan et al., 2018). In addition, creative arts-based approaches, including dance, contribute to children's expressive abilities and overall development (Lobo & Winsler, 2019). Movement integration in classroom learning also supports children's attention and learning readiness (Donnelly et al., 2016). Furthermore, structured physical activities have been found to positively influence children's motor competence and confidence (Robinson et al., 2015). Dance-based interventions, in particular, have been shown to enhance coordination, rhythm, and body awareness among young learners (Koff, 2018).

Overall, this study provides empirical evidence that creative dance activities are an effective strategy for enhancing kinesthetic intelligence in early childhood. The integration of structured movement-based learning, active participation, and reflective teaching practices contributes significantly to children's physical and developmental growth. These findings highlight the importance of incorporating creative and movement-oriented learning approaches in early childhood education to support children's holistic development.

E. Conclusion

This study concludes that the implementation of creative dance activities is effective in enhancing kinesthetic intelligence in early childhood learners. The findings show a consistent improvement across the research cycles, indicating that structured and movement-based learning strategies can significantly develop children's body coordination, balance, flexibility, and movement expression.

The results also demonstrate that the effectiveness of creative dance activities is influenced by the quality of instructional design and teacher facilitation. When learning activities are structured, engaging, and adapted to children's developmental characteristics, they provide meaningful opportunities for active participation and physical exploration. This confirms that movement-based learning, when implemented intentionally, plays a crucial role in supporting children's physical and overall development.

Overall, the integration of creative dance and reflective teaching practices contributes significantly to improving children's kinesthetic intelligence. These findings emphasize the importance of incorporating innovative and movement-oriented learning strategies in early childhood education to promote holistic child development.

F. Recommendations

Based on the findings of this study, several recommendations can be proposed. First, teachers are encouraged to integrate creative dance activities into daily learning practices to enhance children's kinesthetic development. Learning activities should be designed to be engaging, varied, and relevant to children's experiences, while also providing sufficient guidance to support movement exploration.

Second, early childhood education institutions should support the implementation of movement-based learning by providing appropriate facilities, learning media, and professional development programs for teachers. Strengthening teachers' competencies in designing and facilitating creative dance activities is essential for achieving optimal learning outcomes.

Third, policymakers are recommended to strengthen the integration of physical and creative learning approaches within early childhood education curricula. Providing flexible and supportive policies will enable educators to implement innovative teaching strategies more effectively.

Finally, future research is encouraged to explore the effectiveness of creative dance in different educational contexts and to examine additional variables such as learning motivation, creativity, and social interaction. Further studies using diverse research designs are needed to expand the evidence on the role of movement-based learning in early childhood development.

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