



Effectiveness of Outdoor Learning Environments on the Enhancement of Creativity and Imagination in Early Learners

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KEYWORDS:

Outdoor learning, creativity, imagination, early childhood education

WORD COUNT:

231

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ABSTRACT

Creativity and imagination are critical cognitive capacities that support holistic development and lifelong learning in early childhood. However, early childhood education in Nigeria has largely emphasized formal, classroom-based instruction, often at the expense of experiential and play-based learning. This paper examines the effectiveness of outdoor learning in fostering creativity and imagination among early childhood learners. Through a review of literature and theoretical perspectives, it highlights how natural environments provide rich stimuli for exploration, problem-solving, and imaginative play. The discussion underscores the unique cultural and contextual considerations in Nigeria. The paper reviews relevant literature and discusses empirical and evidence on learning outcomes. Findings from reviewed studies suggest that outdoor learning environments significantly enhance imaginative play, divergent thinking, learner engagement, and creative expression. Despite these benefits, challenges such as inadequate infrastructure, safety concerns, and limited teacher training hinder effective implementation. The paper concludes that integrating outdoor learning into early childhood education in Nigeria can promote creativity and imagination while aligning formal education with culturally relevant practices. Findings from reviewed studies reveal that while outdoor play significantly enhances creativity and holistic development, inadequate facilities, teacher preparation, and safety concerns limit its full application. The study concludes that integrating outdoor learning into Nigeria's early childhood education curriculum and teacher training programs offers a cost-effective pathway to nurturing children's creativity and imaginative capacity. Thus, recommendations are offered for curriculum reform, teacher professional development, and policy support.

HOW TO CITE

Akeredolu O.O. (2026). Effectiveness of Outdoor Learning Environments on the Enhancement of Creativity and Imagination in Early Learners. *International Journal of Educational Perspectives*, 14(1), 40-47. <https://doi.org/10.5281/zenodo.19558531>.



Introduction

Early childhood education lays the foundation for cognitive, social, emotional, and creative development. During this period, children develop creativity and imagination through play, exploration, and interaction with their environment. Creativity enables children to generate original ideas, think flexibly, and solve problems, while imagination allows them to construct mental representations beyond immediate reality (Guilford, 1967; Vygotsky, 2004). These capacities are essential for adaptive learning and innovation in later life.

In Nigeria, early childhood education has expanded significantly in recent decades due to increased awareness of its importance and government policy initiatives. Nevertheless, instructional practices remain largely teacher-centered and classroom-bound, with a strong emphasis on early academic skills such as literacy and numeracy (Adeyemi, 2020). Such practices often limit opportunities for experiential learning, play, and creative engagement.

Outdoor learning has emerged globally as an effective pedagogical approach that supports holistic development in young children. Learning experiences conducted outside the classroom, such as nature exploration, gardening, outdoor play, and community-based activities, provide rich sensory stimuli and open-ended learning contexts that promote creativity and imagination (Waite, 2011). In Nigeria, where children's cultural experiences traditionally include outdoor play and interaction with the natural environment, outdoor learning offers a culturally responsive and developmentally appropriate approach to early education. Outdoor learning refers to educational activities that take place in open, natural environments rather than solely in traditional classrooms. In early childhood education (ECE), such learning is seen as vital for holistic development because ECE lays the foundation for lifelong growth and national progress. According to Ogunyemi and Ragpot

(2015), outdoor play is “essential for healthy bodies and brains” and supports children's cognitive and social-emotional development. Therefore, engaging with nature and unstructured play allows young children to use all their senses and sparks imagination. Despite these insights, Nigerian schools often limit outdoor time by only allowing outdoor play during breaks or after school, rather than as an integrated part of the curriculum. This gap between current knowledge and practice suggests a need to better integrate outdoor learning into early childhood education a step that could greatly enrich children's creative experiences.

Despite its relevance, outdoor learning is not systematically integrated into early childhood education in Nigeria. This paper, therefore, examines the effectiveness of outdoor learning in enhancing creativity and imagination among early childhood learners, drawing on theoretical perspectives, empirical literature, and contextual considerations.

Statement of the Problem

Early childhood education is widely recognized as a critical stage for nurturing creativity and imagination, which are essential for cognitive development, innovation, and adaptive learning. However, early childhood education in Nigeria continues to be dominated by teacher-centered, examination-oriented, and classroom-based instructional practices that emphasize early literacy and numeracy skills at the expense of play, exploration, and creative engagement. This pedagogical orientation has resulted in limited opportunities for children to interact meaningfully with their physical and social environments, thereby constraining the development of creativity and imagination.

Although outdoor learning has been shown in international studies to enhance imaginative play, divergent thinking, and learner engagement, its



systematic application in Nigerian early childhood education remains minimal. Existing Nigerian studies on creativity largely focus on primary or secondary education, leaving a significant empirical gap at the early childhood level. Furthermore, there is a lack of rigorous, methodologically robust studies that quantitatively measure the impact of outdoor learning on creativity and imagination while accounting for contextual and cultural factors unique to Nigeria. Outdoor learning significantly boosts creativity and imagination in young children by providing rich, unstructured sensory experiences with natural materials, thus sparking open-ended play and problem-solving skills, leading to better divergent thinking, innovation, and a deeper connection to the world compared to indoor settings. Natural environments encourage exploration, invention, and self-expression, fostering curiosity and confidence in learners.

The absence of strong empirical evidence has limited policy formulation, curriculum innovation, and teacher preparation related to outdoor learning in early childhood education. Consequently, many Nigerian early childhood learners are denied developmentally appropriate and culturally relevant learning experiences that foster creativity and imagination. Addressing this gap is essential for aligning early childhood education in Nigeria with global best practices and national developmental goals.

Purpose of the Study

This study aims at examining the effectiveness of outdoor learning activities on creativity and imagination of early learners. Specifically, it explored how outdoor play and nature-based lessons influence children's creative thinking and imaginative play and identify the factors, such as time, training, and resources that support or hinder outdoor learning in early childhood settings. The goal is to generate insights that can help improve early childhood teaching by integrating outdoor

experiences to foster children's creativity and imagination.

Theoretical Framework

This paper is anchored in Piaget's Constructivist Theory and Bronfenbrenner's Ecological Systems Theory.

1 Piaget's Constructivist Theory

Piaget (1952) argued that children actively construct knowledge through interaction with their environment. Learning occurs through processes of assimilation and accommodation as children explore and manipulate their surroundings. Outdoor learning aligns with constructivist principles by offering hands-on experiences that encourage experimentation, inquiry, and creative thinking.

2 Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner (1979) proposed that child development is influenced by multiple interacting environmental systems. Outdoor learning connects the school microsystem with home and community contexts, making learning more meaningful and culturally relevant. In Nigeria, outdoor learning reflects children's lived experiences and cultural practices, thereby supporting imaginative and creative development.

Conceptual Framework

This study is guided by key concepts that clarify the relationship between outdoor learning and creative development in early childhood.

Outdoor Learning

Outdoor learning refers to structured and unstructured educational activities that take place outside the traditional classroom environment. These activities emphasize experiential learning, sensory exploration, and active engagement with natural and social environments (Waite, 2011). Outdoor learning settings may include school playgrounds, gardens, open fields, and community spaces. Young children are naturally curious and



inquisitive, so outdoor learning opportunities provides: Sensory experiences that support brain development; opportunities for gross motor skill development; hands-on engagement with real-world science and math concepts. A sense of freedom, creativity, and support for mental well-being, emotional regulation as well as responsibility, and patience. Outdoor learning is not exclusively limited to the four walls of a classroom; such learning involves different learning strategies, such as the discovery method, the play-way method, cooperative learning, field trips, and excursions to explore the environment scientifically. Therefore, outdoor education is an activity-based or action-oriented approach in a social context. Outdoor education activities involve learning outside the classroom or laboratory setting using natural or improvised materials to actualize the objectives of teaching and learning through direct experience. Outdoor learning activities stamp out rote learning, memorization and abstractions. When science lessons are not presented in relax interactive forum students may have distorted ideas on the concept learnt. Chioma and Kelechi, (2016) found out that learning based on the environment and the outdoors has shown to improve students' academic achievement and standardized test scores.

Creativity

Creativity is defined as the ability to produce original ideas, demonstrate flexibility in thinking, and engage in divergent problem-solving (Guilford, 1967). In early childhood, creativity is expressed through play, drawing, storytelling, movement, and experimentation with materials.

Imagination

Imagination involves the capacity to form mental images, scenarios, and ideas that are not immediately present. Vygotsky (2004) emphasized that imagination develops through social interaction and play, enabling children to explore possibilities beyond their immediate experiences.

The conceptual framework posits that outdoor learning environments provide diverse stimuli, freedom of expression, and opportunities for social interaction, which together foster creativity and imagination in early childhood learners.

How Outdoor Learning Fuels Creativity and Imagination

- **Sensory Stimulation:** Diverse sights, sounds, textures, and smells in nature activate the brain, enhancing sensory perception and creative thought.
- **Unstructured Play:** Freedom to explore and create (e.g., building forts, making nature art) with raw materials (wood, stones, leaves) inspires inventive play and self-expression.
- **Problem-Solving:** Navigating uneven terrain or figuring out how to build things in nature develops critical thinking and innovative solutions.
- **Storytelling & Role-Play:** Natural settings inspire rich narratives, poems, and dramatic play, allowing children to transform their environment imaginatively.
- **Divergent Thinking:** Outdoor environments encourage generating multiple solutions and ideas, a key aspect of creativity, notes the Anderton Centre.
- **Higher Creativity Scores:** Studies show children in outdoor settings often score higher on creativity measures than those learning indoors.
- **Increased Curiosity:** Nature-based learning ignites wonder, prompting children to ask questions and become self-directed learners, says Plato.
- **Holistic Development:** Supports physical, emotional (reduced stress), and social skills (teamwork) alongside cognitive growth, making learning more meaningful, according to TeachKloud

In essence, outdoor learning provides an unparalleled rich, open-ended environment that



directly nurtures the innovative and imaginative capacities vital for young learners.

Literature Review

Empirical research on outdoor learning consistently demonstrates its positive influence on creativity and imagination in early childhood. Fjørtoft and Sageie (2000) established that children exposed to natural play environments exhibited significantly higher levels of imaginative play, originality, and creative movement than peers confined to conventional playgrounds. Similarly, Waite (2011) emphasized that outdoor learning environments foster autonomy, curiosity, and exploratory behaviors essential for creative cognition.

In the African context, outdoor learning aligns closely with indigenous knowledge systems and communal child-rearing practices. Ajibade and Oyelade (2018) observed that play-based and experiential learning approaches improved creative expression and problem-solving abilities among Nigerian preschool learners. Their findings indicate that children who engaged in outdoor exploratory activities demonstrated greater flexibility in thinking and imaginative storytelling. Kiewra and Veselack (2016), identified key factors that foster creativity in outdoor classrooms: having ample, consistent time outside; a predictable outdoor space; open-ended natural materials; and supportive adults who encourage exploration.

Several Nigerian studies have also highlighted deficiencies in creativity development due to over-reliance on teacher-centered instruction. Adebayo and Olusegun (2019) found that early childhood classrooms in southwestern Nigeria emphasized rote learning, leaving limited opportunities for play, exploration, and imagination. Similarly, Okoro and Eze (2021) reported that children exposed to experiential and outdoor-based instruction performed significantly better on

creativity assessment scales than those taught exclusively indoors.

Ogunyemi and Ragpot (2015) empirically demonstrated that experiential learning strategies significantly predicted creative thinking among Nigerian primary school pupils. Although their study focused on older children, its findings are transferable to early childhood education, where creativity is foundational. Furthermore, Olatunji (2020) reported that outdoor play positively influenced imaginative role-play and collaborative learning among nursery school pupils in Lagos State. Likewise, (Okoruwa, 2022) reported that most educators agree outdoor play prevents obesity, improves children's mood, enhances creativity and helps children learn about nature. Though, early childhood policy recognizes play as a key medium for learning, yet in practice, many children have limited outdoor opportunities due to several factors such as: fear of accidents, insecurity, lack of safety gadgets and resources, teacher incompetence's etc. Okoruwa (2022) further reported that Nigerian preschools often constrain outdoor play to short breaks, citing safety concerns and parental fears, including injury and abduction during playtime. Moreover, schools are still facing challenges such as: inadequate teacher training, limited space, and lack of curriculum guidelines. Summarily, Nigerian empirical evidence suggests that outdoor learning enhances creativity and imagination, yet remains inadequately implemented due to infrastructural, pedagogical, and policy constraints.

The paper provide strong support for the effectiveness of outdoor learning in enhancing creativity and imagination among early childhood learners in Nigeria. Consistent with Piaget's constructivist theory, outdoor learning environments facilitate active knowledge construction through exploration and experimentation. Additionally, Bronfenbrenner's ecological systems theory explains how outdoor



learning integrates cultural, social, and environmental influences into children's developmental experiences. As it align with empirical studies (Ajibade & Oyelade, 2018; Olatunji, 2020; Okoro & Eze, 2021), reinforcing the argument that outdoor learning is both pedagogically effective and culturally relevant. However, systemic challenges such as inadequate infrastructure and insufficient teacher preparation continue to limit widespread implementation.

Despite its effectiveness, outdoor learning remains underutilized in Nigerian early childhood education. This gap highlights the need for curriculum reform, teacher capacity building, and infrastructural development to support outdoor pedagogical practices.

Summary

The literature reviewed established a strong theoretical and empirical foundation for the study by exploring the connections among outdoor learning, creativity, and imagination in early childhood. Theoretically, the review drew heavily on Constructivism (Jean Piaget), and Bronfenbrenner's Ecological Systems Theory. These frameworks collectively position learning as an active, experiential, and social process where the outdoor environment provides a rich context for children to construct knowledge. Specifically, Piaget's work highlights play as a crucial mechanism for cognitive development, as children use it to move between the real and imaginary, which is fundamental to creative development.

Empirically, both international and local studies demonstrate a strong consensus among educators that play-based learning is essential for fostering creativity and imagination. Despite this consensus, literature equally revealed a significant gap between knowledge and practice, indicating that outdoor play is often constrained by safety concerns, limited resources, and the need for more teacher training in outdoor pedagogy, particularly in urban areas. Thus, the reviewed literature

supports the central premise that outdoor learning is a powerful, yet underutilized, tool for nurturing imagination and creativity in early learners, making the investigation particularly relevant.

Conclusion

This study concludes that outdoor learning significantly enhances creativity and imagination in early childhood learners in Nigeria. The findings have important implications for curriculum reform, teacher education, and early childhood policy. Embedding outdoor learning within formal early childhood education frameworks can promote holistic development and align schooling with indigenous learning traditions.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Schools should schedule regular outdoor learning times. For example, include nature walks, outdoor storytelling, or science lessons in the school garden. This gives children consistent exposure to creative play in nature.
2. Based on evidence that training boosts creativity in teaching, professional development programs should be used to equip teachers with strategies for outdoor instruction (e.g. using natural materials, supervising free play).
3. Early learning centers should create safe, stimulating play spaces. This can involve fencing schoolyards, planting gardens, or providing a variety of natural loose parts (branches, stones). A well-designed outdoor area encourages imaginative construction and exploration.
4. Outreach programs can inform parents about the benefits of outdoor play, alleviating safety fears. Workshops or community events might demonstrate how outdoor learning supports creativity. Engaging parents in supervised outdoor



activities can build support for outdoor programs.

5. Develop Policy and Curriculum Support: Education authorities should include outdoor learning in early childhood policy guidelines. For instance, the Federal Ministry of Education could mandate specific outdoor time in preschool curricula. Policies could also allocate resources for playground improvements and teacher training.
6. Conduct Further Research and Evaluation: Schools and researchers should collaborate to study outdoor learning outcomes for children. Collecting data on children's creativity and imagination before and after implementing outdoor interventions would guide best practices. Ongoing evaluation can inform continuous improvement of programs.

By following these recommendations, early education stakeholders can harness the creative power of outdoor learning. Doing so will not only make learning more engaging and fun but will also cultivate the imagination and innovative thinking that young children naturally possess.

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