



THE CONTRIBUTION OF NATURE-BASED TO SPIRITUAL DEVELOPMENT IN EARLY CHILDHOOD: A CONCEPTUAL ANALYSIS

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Abstract

This study aims to fill a gap in the literature by examining how nature-based learning supports children's spiritual development. Conducted within an interpretive qualitative research framework, the study is based on a structured literature review and employs thematic analysis to systematically examine both empirical and theoretical sources. Major academic databases were systematically searched, and studies focusing on child-nature interactions and the spiritual dimensions of education were analyzed. As a result of the analysis, key spiritual themes that emerge from children's interactions with nature were identified: wonder and curiosity, inner peace, awareness, relational connectedness, empathy, and responsibility. These themes reveal how children's experiential relationship with the natural environment nurtures their processes of meaning-making and spiritual sensitivity. The study also examines these dimensions in terms of their pedagogical implications for early childhood education, teacher training, and early childhood curriculum design. The findings indicate that nature functions not merely as a physical space, but also as a relational and existential context that supports children's holistic development. Elements such as natural beauty, cyclicity, and unpredictability trigger reflection, empathy, a sense of belonging, and responsibility. Viewed from the perspective of early childhood religious education in particular, the bond that children form with nature aligns with fundamental spiritual outcomes such as moral development, harmony with creation, connectedness, and gratitude. This alignment suggests that nature-based practices provide a strong foundation for integration with religious education. In conclusion, the study offers a theoretical framework that links nature-based pedagogy with spiritual development and early childhood education. It highlights the necessity of educational practices that support children's sense of wonder, relationality, and search for meaning within the context of nature.

Keywords: Religious education, Early childhood, Spiritual development, Nature-Based learning, Relationality.

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ERKEN ÇOCUKLUKTA DOĞA-TEMELLİ ÖĞRENMENİN SİRİTÜEL GELİŞİME KATKISI: KAVRAMSAL BİR İNCELEME

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Öz

Bu çalışma, doğa-temelli öğrenmenin çocukların spiritüel gelişimini nasıl desteklediğini inceleyerek bu boşluğu doldurmayı amaçlamaktadır. Yorumlayıcı nitel araştırma yaklaşımıyla yürütülen araştırma, yapılandırılmış bir literatür taramasına dayalı olarak, ampirik ve kuramsal kaynakların sistematik biçimde incelendiği tematik analiz yöntemiyle gerçekleştirilmiştir. Başlıca akademik veri tabanları sistematik olarak taranmış; çocuk-doğa etkileşimlerine ve eğitimdeki spiritüel boyutlara odaklanan çalışmalar analiz edilmiştir. Analiz sonucunda, çocukların doğa ile kurdukları etkileşimlerden ortaya çıkan başlıca spiritüel temalar belirlenmiştir: hayret ve merak, içsel dinginlik, farkındalık, ilişkisel bağlılık, empati ve sorumluluk. Bu temalar, çocukların doğal çevreyle deneyimsel ilişkilerinin, onların anlam kurma süreçlerini ve spiritüel duyarlılıklarını nasıl desteklediğini ortaya koymaktadır. Çalışma, bu boyutları erken çocukluk eğitimi, öğretmen eğitimi ve erken çocukluk müfredatı bağlamında pedagojik etkileriyle birlikte ele almaktadır. Bulgular, doğanın yalnızca fiziksel bir mekân değil, aynı zamanda çocukların bütüncül gelişimini destekleyen ilişkisel ve varoluşsal bir bağlam olarak işlev gördüğünü göstermektedir. Doğal güzellik, döngüsellik ve öngörülemelik gibi unsurlar, düşünme, empati, aidiyet ve sorumluluk duygularını tetiklemektedir. Özellikle erken çocukluk din eğitimi perspektifinden bakıldığında, çocukların doğayla kurduğu bağ, ahlaki gelişim, yaratılışa uyum, bağlılık ve şükran gibi temel manevi kazanımlarla örtüşmekte; bu da doğa-temelli uygulamaların din eğitimiyle bütünleşebilecek güçlü bir zemin sunduğunu göstermektedir. Sonuç olarak çalışma, doğa-temelli pedagojiyi spiritüel gelişim ve erken çocukluk eğitimi ile ilişkilendiren kuramsal bir çerçeve sunmakta ve çocukların doğa bağlamında hayret, ilişkisel ve anlam arayışını destekleyen eğitsel uygulamaların gerekliliğine dikkat çekmektedir.

Anahtar Kelimeler: Din eğitimi, Erken çocukluk, Spiritüel gelişim, Doğa-Temelli öğrenme, İlişkisel.

Introduction

Early childhood is a critical developmental stage in which the foundations of not only cognitive, emotional, social, and physical development, but also the increasingly recognized dimension of spiritual development are laid. To date, nature-based learning has been explored from multiple angles in relation to children's development, and its positive influences on various developmental domains have been broadly discussed in the literature. It has been emphasized that being in such environments positively supports children's physical, cognitive, social, and emotional growth. Studies have shown that natural settings enhance children's physical health by increasing their levels of physical activity (Sharma-Brymer & Bland, 2016), while experiences of risky play foster their courage, self-confidence, and problem-solving skills (Sandseter, 2009). Furthermore, natural environments function as a buffer (Wells & Evans, 2003) against sources of stress and support children's capacity for resilience. In addition, the flexible and unstructured play opportunities that stimulate children's curiosity and imagination demonstrate that natural settings provide affordances for creativity, a sense of discovery, and critical thinking skills (Flannigan & Dietze, 2018). Establishing direct and regular contact with nature has also been shown to nurture children's sense of appreciation and respect for the environment (Louv, 2008, pp. 39-41). Nature-based educational practices are considered an effective tool for fostering children's environmental sensitivity and for shaping their environmental attitudes in a positive direction (Temiz & Karaarslan Semiz, 2019). Interaction with nature has also been found to enhance children's self-confidence, motivation to learn, and capacity for independent thinking (Polat & Demirci, 2021). Nevertheless, the impact of nature-based experiences on spiritual development has not yet been addressed in a sufficiently comprehensive manner.

Unless exposed to traumatic experiences, children exhibit a profound interest in their surroundings and perceive their environments in ways that differ significantly from adults. They recognize the world as "fresh, new, and beautiful; full of wonder and excitement" (Carson, 1956, p. 42) and develop their own distinctive modes of acquiring knowledge to explore it. Children do not approach the natural environment merely from a visual or cognitive perspective; rather, they engage with it through sensory, physical, and exploratory interactions. Through actions such as touching, smelling, digging, and tasting, nature becomes not only a source of knowledge but also a lived, felt, and internalized context. This distinctive mode of perceiving the world should be appreciated by both parents and educators, who are called to create opportunities for children to be immersed in nature. However, children's relationships with the natural world are systematically weakened by individual preferences, cultural structures, educational systems, and the effects of urbanization (Louv, 2008, pp. 39-41). Artificially constructed, commercialized, and overly controlled experiences restrict the opportunities for play, exploration, and wonder, thereby hindering children's emotional, spiritual, and existential development.

In early childhood education, increasing attention has been given to the ways in which children's relationships with nature influence their spiritual development; however,

theoretical discussions on how nature-based learning approaches nurture children's spiritual orientations remain fragmented. This study aims to address the question, "In what ways and how does nature-based learning in early childhood support children's spiritual development, and what implications does this have for religious education?" by reviewing the existing literature within a theoretical framework and by identifying the theoretical foundations, pedagogical implications, and educational potential of these contributions. The study further seeks to provide a theoretical background for understanding the spiritual dimension of the child–nature relationship and to highlight the intersection between these two domains. In addition to the more common focus on physical, cognitive, or socio-emotional aspects in nature-based learning research, this study examines-at a theoretical level-the ways in which nature influences children's inner awareness, meaning-making, sense of connectedness, and existential sensitivity. Although the pedagogical benefits of nature-based learning are extensively discussed in the literature, studies explicitly addressing the spiritual dimensions of children's engagement with nature remain limited and scattered. In particular, there is a lack of systematic theoretical analysis of how children's encounters with nature foster spiritual orientations such as meaning, curiosity, wonder, relationality, and existential questioning. Within the broader discipline of religious education, this gap becomes especially relevant, as fostering children's spiritual growth is considered a central pedagogical aim. By situating the discussion within religious education, this study not only addresses the fragmented literature but also highlights how nature-based learning can contribute to the holistic goals of early childhood education, where spiritual, moral, and relational dimensions are integral alongside cognitive and social development.

This study is grounded in a qualitative document analysis approach, designed as a structured literature review. The aim is to conceptually explore how nature-based learning practices contribute to children's spiritual development and to bring together insights from two intersecting fields: early childhood nature education and theories of childhood spirituality. Academic publications, including peer-reviewed articles, book chapters, and dissertations, were identified through systematic searches in major scholarly databases such as Web of Science, Scopus, ERIC, Google Scholar, and DergiPark. The search was guided by keywords including "early childhood", "spiritual development", "nature-based learning", "spirituality in education", "eco-spirituality", "outdoor learning", "child and nature", and "early childhood religious education". Studies were selected based on their relevance to child–nature interactions and their conceptual or empirical engagement with spiritual themes in education. The analysis followed the thematic analysis method proposed by Braun and Clarke (2006). Meaningful units were inductively coded and organized into themes that reflect children's spiritual experiences within nature-based learning contexts. After repeated reading of the selected studies, meaningful units were inductively coded, categorized, and organized into themes that reflect children's spiritual experiences within nature-based learning contexts. To ensure rigor and transparency, themes were cross-checked with existing theoretical frameworks in the field of childhood spirituality and religious education. Rather than merely

cataloguing the literature, this study seeks to construct a conceptual synthesis that highlights the relational, existential, and meaning-making dimensions of young children's experiences in natural environments. It proposes a theoretical foundation that can guide teacher education, curriculum design, and policy development in early childhood education. By framing nature, spirituality, and ontology as intersecting domains, the study offers an alternative pedagogical paradigm that invites new conversations in educational theory and practice. In the subsequent sections of this study, the concepts of spiritual development in early childhood and nature-based learning are addressed under separate headings, and the interactions between these concepts are analyzed in light of the literature.

1. Spiritual Development in Early Childhood

The concept of spirituality resists a universally accepted definition and is often explained through its qualities and characteristics rather than a fixed description. Early studies on children's spirituality conceptualize spirituality not as a pedagogical construct, but as a fundamental dimension of being human (Groome, 1998, p. 331). Viewed as an innate capacity, spirituality is regarded as universal and essential to human existence (McCreery, 1996; Champagne, 2003; Adams et al., 2008; Bryant et al., 2020; Mata-McMahon et al., 2020). The understanding of spirituality as inherent to "being" itself prevents its reduction merely to knowledge or belief. From past to present, studies on the concept converge on the view that spirituality is fundamentally concerned with the connections and relationships an individual establishes with the Other (Hay & Nye, 2006; Hyde, 2008; Adams et al., 2008; de Souza, 2016). Experienced through awareness and relationality, the object of spirituality can encompass all aspects of human life, with religion, philosophy, and morality serving as mediating frameworks in this process (Yıldız & Tosun, 2023). Thus, spirituality becomes the source of learning, the ground of meaning-making, and a central element in personality development throughout the process of making sense of the self and the world. This innate state of spirituality lies at the deepest level of meaning-making, enabling the individual to intuitively sense who they are, where they belong, and what they are part of. Spirituality, which embodies an ontological connectedness with the Other, constitutes an indispensable aspect of lived reality and is expressed as a form of relational consciousness (Hardy A. , 1979; Coles, 1990; Hay & Nye, 2006; Mata-McMahon & Escarfuller, 2023).

In the developmental psychology literature, the concepts of "religious development" and "spiritual development" are often used in closely related senses (Köylü & Oruç, 2021); however, contemporary approaches reveal that these two concepts can be distinguished from one another while also having intersecting domains (Benson et al., 2003; King & Boyatzis, 2004; Hay & Nye, 2006). Religious development encompasses cognitive, behavioral, and identity-oriented dimensions such as acquiring theological knowledge within the context of a particular belief system, internalizing ritual practices, and feeling a sense of belonging to institutional religion (Goldman, 1964; Fowler, 1981; Oser & Gmünder, 1991). In contrast, spiritual development refers to more universal and

experiential dimensions such as giving meaning to life, transcending oneself, establishing relational depth, and connecting with the transcendent (Roehlkepartain et al., 2005). Religious development is more concerned with what a child or individual believes, how these beliefs are learned and internalized, and what kinds of religious behaviors are exhibited. Spiritual development, on the other hand, is concerned with processes oriented toward well-being and meaning, such as giving meaning to life, connecting with something greater than oneself, seeking inner peace, and reflecting on existence (Hardy & Taylor, 2024, p. 112). However, this distinction is not absolute or definitive. For example, when a child prays, this can be both a religious behavior and an experience of spiritual comfort and attachment. That is, the same behavior can be evaluated within the context of both religious and spiritual development. In this respect, spiritual development offers a more holistic framework concerning the inner life of the individual, which can manifest in both religious and secular contexts. Indeed, some researchers define spiritual development as the existential orientation of the individual, while evaluating religious development as the form of this orientation embedded within a particular belief system. From this perspective, religious development can be conceptualized as a sub-dimension of spiritual development, although not every spiritual experience necessarily fits into a religious framework. This distinction provides an opportunity, especially in multicultural and pluralistic educational contexts, to address children's search for meaning and inner developmental processes in a more inclusive manner.

From the child's perspective, relational consciousness signifies not only that the child exists, but also that they are a subject continually engaged with their environment. Through relationships with objects, the child experiences both the world and their own being. Thus, children encounter the spiritual even in everyday events and may develop an awareness that extends beyond the self (Coles, 1990, p. 31). This awareness operates through feeling, connecting, and meaning-making, ultimately resulting in an experience that is lived and internalized. Such connectedness is not achieved primarily through cognitive concepts but rather through bodily, emotional, and intuitive awareness. Hart's (2003) notion of "key spiritual touchstones" identifies these domains of awareness as moments of wonder, the discovery of inner wisdom, asking ultimate questions of meaning and existence, expressing compassion, and perceiving beyond the material world. According to Hart, the capacity to "see beyond the material world"—to remain open not only to objective reality but also to an unseen yet felt reality—underscores the importance of intuitive thinking and metaphysical sensitivity during childhood. These descriptions also resonate with Heidegger's (2018, pp. 637-640) idea of "heeding the call of being," the capacity to sense the summons of being within things. For instance, a child's recognition of a spider's web glistening in the morning sunlight is more than a visual stimulus; it can trigger depth, questioning, and existential awakening within the child. The child's ability to make sense of themselves in the world, to perceive the mystery of being, to form relational bonds with others and with nature, and to intuit the profundity of existence all point toward their spiritual dimension.

A study (Kirmani & Kirmani, 2009) categorizing spiritual orientations across the lifespan describes early childhood spirituality through four sensitivities: sensory-centered, eco-centered, socio-centered, and cosmos-centered. In this stage, children develop spiritual awareness by experiencing their environment through the senses, forming relationships, and cultivating wonder. Miller (2015, p. 126) notes that children, who view nature as part of themselves, relate it empathetically and responsibly; sensory experiences such as touching, smelling, and playing outdoors enrich spiritual growth. Even without direct access to wilderness, multisensory activities and natural materials in classrooms can support spirituality (Schein D. , 2018, p. 71; Hyde, 2022). Eco-centered sensitivity, highlights emotional, cognitive, and ontological depth of the child–nature relationship, transforming nature from a play object into a meaningful space of belonging (Kirmani & Kirmani, 2009, p. 377). Natural phenomena-sunlight, thunder, shooting stars- evoke mystery, transcendence, and existential reflection, resonating with Heidegger’s (2018, pp. 330-335) openness, Hart’s expanded consciousness, and Hay and Nye’s (2006, p. 13) relational spirituality. Children’s spirituality is not purely internal; it emerges socially as well. Through socio-centered sensitivity, belonging, inclusivity, and responsibility emerge in relational contexts with parents, teachers, peers, and even animals. As Farrugia (2022, p. 33) emphasizes, spiritual identity is constructed and negotiated relationally, making spirituality a pathway of interaction as well as inner awareness. In this context, play becomes a spiritual practice-fostering joy, peace, and connectedness-where children integrate inner wholeness with harmony in the outer world.

Classification of children’s spirituality into different types provides a thematic perspective for related studies, yet it should not be forgotten that spirituality must ultimately be approached holistically. Beyond the themes of individuality, connectedness, wonder, and sensory experience, the theoretical foundations of children’s spirituality also include the elements of presence, imagination, and creativity. Experiences in which the child pays attention to what is present moment express their state of “being here and now” (Hay & Nye, 2006, pp. 66-68). Such experiences, in which the child comes closer to their own consciousness, are pedagogically significant because they nourish the inner world and enable profound engagement with the surrounding environment. Moments such as silently observing the movements of a worm for an extended period or becoming entirely absorbed in play with water are not merely instances of play, but occasions when the child enters an existential depth. At these times, the child is drawn into what Csikszentmihalyi (1990, p. 3) describes as a state of “flow,” sustaining the activity with intense concentration and joy. Children need such moments in order to regulate their own attention and consciousness, and to cultivate feelings of achievement, satisfaction, and self-confidence.

Goodliff (2016, p. 76), who does not restrict spiritual development in early childhood to directly observable behaviors, explains the inner domains of the child through the concept of spiritual meta-environments. According to this view, spirituality is experienced through three meta-environments: friendship, imagination, and contemplation. In particular,

children’s imaginative play provides a space in which they construct their cultural identity, social relationships, and ethical sensitivity (Harris, 2016). Their extraordinary imaginative capacities not only support creative production but also play a crucial role in problem-solving and coping with challenges. Creativity, closely linked to imagination, becomes a mode of existence and meaning-making when combined with curiosity, autonomy, and originality. By asking questions such as “What would happen if I did this?”, children can question what exists, generate alternative scenarios, develop innovative solutions, and reimagine the world (Wills, 2025, p. 36). In this sense, imagination and creativity transform into an ontological domain through which children realize their potential, and this may be regarded as one of the cornerstones of spiritual development in early childhood.

Grounded in philosophical and pedagogical perspectives, children’s spirituality can be understood as an innate, holistic, relational, and existential dimension shaped through deep connections, with the self, others, nature, and the transcendent. These connections nurture children’s search for meaning, curiosity, wonder, and value formation. Beyond religious contexts, fostering spirituality requires aesthetic experiences, imagination, silence, relationships, and creative expression. Thus, spirituality should be recognized as a vital aspect of child development, and the child’s existential orientation must be supported. Natural learning environments, where children engage freely with themselves and the world, offer authentic spaces for nurturing spiritual growth. These settings should not be seen merely as sites for cognitive development, but as essential spaces for spiritual experience. Environments that allow for freedom, rhythm, and intuitive exploration help bridge children’s inner and outer worlds. In such contexts, relational and sensory awareness can deepen, offering direct encounters with being that nourish spiritual development. Before examining how nature-based learning contributes to spirituality, it is necessary to clarify what spirituality entails, which qualities it includes, and how such environments influence the developmental process.

2. Nature-Based Learning in Early Childhood

Nature-based learning is often understood simply as education conducted outdoors; however, it actually refers to an approach that involves structuring key elements of the teaching–learning process, such as instructional goals, learning environment design, teaching materials, and teacher competencies. In this sense, the concept does not only denote education carried out entirely in nature but rather offers a flexible pedagogical spectrum that integrates nature at varying levels. Within early childhood education, practices such as bringing interesting plants or animals into the classroom, ensuring that children spend time in outdoor settings, or using natural objects as learning materials also represent nature-based learning (Larimore, 2019, p. 15). Greenman (2005, p. 51) emphasizes that nature is represented through diverse spaces, noting that a puddle, a park, or flowers on a windowsill can provide ontological contexts that foster children’s holistic development. Forest schools, nature preschools, outdoor education, environmental education, and sustainability education are among the educational

approaches that embody the principles of nature-based learning. Dynamic, multidimensional, and context-sensitive in nature, this approach does not constitute a static model but rather presents living, evolving, and socially integrated pedagogical spaces. Developed in response to different climatic and ecosystemic conditions, nature-based learning aims to directly support children's environmental awareness, sensory development, and scientific thinking skills. It exemplifies child-centered, place-based, and experiential forms of education. By combining child-centered and informal modes of learning, this approach positions the educator not merely as a transmitter of knowledge but as a creator of learning environments that connect children to life itself (Cutter-Mackenzie-Knowles & Rousell, 2020, p. 207).

In early childhood education, nature has long been regarded as a subject, a context, and a source of motivation for learning. Although nature-based learning has gained prominence in contemporary scholarship, the idea of engaging children with natural environments is not new. Jean-Jacques Rousseau emphasized that children's innate goodness could be preserved through close contact with nature, laying a philosophical foundation for experiential and nature-based approaches (Rousseau, 2009; Essa & Burnham, 2020). Friedrich Froebel (1897), founder of the kindergarten (children's garden) concept, integrated outdoor activities such as planting and nature walks to foster exploration through open-ended materials. Likewise, Comenius (1967) and Montessori (2016) regarded nature as the source of children's sensory and intrinsically motivated learning processes, while Piaget (1951) and Dewey (1938) argued that direct interaction with nature was indispensable for children's cognitive development. Bronfenbrenner's (1979) ecological systems theory further underscored the reciprocal relationship between child and environment, positioning nature not merely as a physical setting but as a developmental context. Contemporary pedagogies also reflect this perspective. The Reggio Emilia approach regards the environment as the "third teacher," favoring natural materials and extended outdoor play. Similarly, Waldorf education positions nature-alongside the home-as the primary learning environment, with classrooms designed to reflect natural elements and use only natural materials (Nicol & Taplin, 2018, p. 37).

Today, the inclusion of nature-based activities in the curricula of many countries indicates that this approach is recognized at both policy and institutional levels. In particular, in Scandinavian countries and Germany, institutions that provide nature-based education operate under various names such as forest kindergarten, outdoor nursery, and nature preschool (Lysklett, 2017, p. 242). In Australia's Early Years Learning Framework (2022), which emphasizes the holistic development of the child, nature-based learning is addressed as an integral component of the curriculum and is regarded as providing interdisciplinary learning opportunities. Accordingly, the framework highlights the importance of arrangements that prioritize interaction with the natural environment, encourage flexible use of space, and promote access to the outdoors. In the curriculum, natural learning is conceptualized as a dynamic, ethical, and ecological pedagogical approach. Similarly, in New Zealand (2017) and Wales (2024), nature-based learning is

considered an inseparable part of the traditional learning environment, and relevant provisions are included in their curricula. In Scandinavian countries (Framework Plan for Kindergartens, 2017; TSPC, 2020; NCC, 2022), however, the approach has long been established, with children's engagement with the outdoors in all weather conditions being regarded as culturally natural. In these contexts, learning in nature, outdoor play, and open-air activities have historically been central to educational practice. In conclusion, nature-based learning is included in the policy documents of many countries; however, its practical implementation is shaped by cultural values, safety priorities, curriculum structures, and legal regulations.

Nature-based learning is regarded not only as a set of physical activity opportunities but also as a transformative approach that supports the multidimensional development of children. The child's relationship with nature is not limited to knowledge acquisition; it also encompasses interactions that engage sensory, bodily, and emotional wholeness. Meaningful engagement with nature shifts children from being passive recipients to active learners who generate and transform knowledge through experience. Thus, knowledge emerges as the outcome of a process that is questioned, reconstructed, and contextually shaped through dynamic interactions with nature (Ajaps & Mbah, 2022). Within a biocentric perspective, Wilson (1984, p. 33) argues that establishing positive relationships with nature from an early age, fosters both sensory and cognitive awareness, while restricting contact with nature may hinder children's development and well-being. Beyond spending time outdoors, even simply observing nature from indoors has been shown to positively influence children's mental health, well-being, and behavior (Bowler et al., 2010).

Regular contact with nature has been shown to support children's cognitive processes such as attention, memory, problem-solving, observation, and reasoning. In this regard, a central question in designing learning environments for children is what they should learn and/or experience. Research identifies several expected outcomes of nature-related activities, including encountering new physical challenges, developing strength and resilience, engaging gross and fine motor skills in diverse ways, enhancing problem-solving abilities, interacting with peers through conversation and play, appreciating and caring for nature, expressing abilities and curiosity, exploring and discovering both independently and collaboratively, reinforcing autonomy and a sense of safety, and experiencing beauty, comfort, sensory stimulation, excitement, wonder, and joy (Wellhousen, 2002; Greenman, 2005). Natural environments also foster more constructive peer interactions and provide a foundation for more peaceful social-emotional contexts. In such settings, children are able to sustain longer, narrative-based forms of play and experience fewer conflicts. This is partly due to the availability of larger spaces compared to indoor settings, which facilitate the interaction of bigger groups. Through group play, children learn to share and take turns, while also practicing behaviors such as assuming responsibility, following rules of the game, and showing care for their peers (Hines, 2005; Louv, 2008).

Another contribution of natural learning environments lies in their inclusion of so-called “loose parts,” materials that children can move, manipulate, and transform independently. Such materials enrich play with both variety and complexity, stimulating creativity. Through loose parts, children can reinterpret surrounding objects beyond singular meanings, assigning them multiple functions. The flexibility these materials provide also supports children’s sense of self, self-efficacy, and intrinsic motivation. For this reason, both the level of complexity and the diversity of function should be considered in the selection of loose parts. For example, rather than filling a sandbox with plastic bottles or buckets, encouraging children to bring in natural objects such as sticks, leaves, or pinecones introduces greater potential for complexity and variety (Wilson R. , 2008, p. 29). In this way, unlike traditional fixed-function play units and materials, environments designed around loose parts create an epistemological space of freedom for children.

Nature-based learning also carries transformative potential for children who experience behavioral difficulties or struggle to remain motivated in traditional learning environments. Because standardized activities are not equally meaningful or engaging for every child, nature experiences are proposed as an alternative and inclusive pedagogical tool (Powers & Ridge, 2019, p. 9). They can rekindle children’s interest in learning and positively influence self-confidence, sense of belonging, and motivation. The freedom of movement, sensory diversity, and discovery-oriented structure of outdoor activities often encourage participation from more children compared to conventional classroom practices. Given that behavioral problems frequently emerge in settings where children fail to form meaningful connections, nature-based activities help to create relational and meaningful learning environments that can mitigate such challenges. Thus, nature-based learning should not be viewed merely as an environmental concern or a matter of content delivery, but rather as a pedagogical approach sensitive to individual differences and supportive of holistic development.

3. Findings and Interpretations

Due to the relational dimension of spirituality, forming bonds with nature and the universe constitutes one of the fundamental aspects of spiritual development. Relational spirituality has been described as “...a state of awareness or consciousness of the surrounding world, a sense of compassion and love toward this world and everything within it, and the expression of these feelings through children’s wonder, activities, and relationships with peers or significant adults in their lives” (Giesenberg, 2007, p. 270). As spirituality functions as a medium that directs humans to connect with everything, nature, the universe, and others, it inherently requires mutual interconnectedness (Bone, 2008, p. 344). In a study (Robinson, 2019, p. 347) examining how children’s spiritual development is supported through interaction with nature, the natural world was identified as a key aspect of children’s spirituality and described as a trigger for spiritual experiences. It was also emphasized that children’s spiritual experiences often emerge spontaneously rather than through planned activities. Natural settings thus serve as

powerful learning spaces, enabling children to express their authentic selves, develop inner awareness, and establish a more holistic connection with the world.

The relationship between nature-based learning and spiritual development in early childhood has been classified under themes such as a sense of belonging and wholeness, wonder and curiosity, inner silence and awareness, empathy, and responsibility. These findings also carry implications for the field of religious education. The identified themes, such as belonging, wonder, empathy, and responsibility, closely overlap with the pedagogical aims of religious education, which seeks to nurture children's moral and spiritual sensitivities in an integrated way. Nature-based learning can thus be understood not only as supporting general holistic development but also as providing experiential pathways that resonate with the central goals of early childhood religious education. This suggests that nature-based activities can be meaningfully integrated into religious education curricula, allowing children to connect everyday experiences in nature with broader spiritual and ethical orientations. Ultimately, the synthesis of nature-based learning with religious education highlights the potential for early childhood pedagogy to cultivate relational, moral, and spiritual growth in ways that are developmentally appropriate, experientially rich, and existentially significant.

3.1. Sense of Belonging and Wholeness

Researchers suggest that children have an innate "affinity" (Kals et al., 1999, p. 178) toward nature, describing the child–nature relationship as a relational space (Taguchi, 2011, p. 38) involving mutual transformation. A recent study (Hayır Kanat et al., 2023) on preschool children's awareness of nature revealed that children perceive nature as an integral part of their immediate environment and recognize its essential role in sustaining life. When asked to illustrate nature, children frequently depicted animals, flowers, trees, clouds, and rainbows, elements closely tied to their lived experiences. The study highlights the importance of incorporating nature-based activities to further support and deepen this awareness. Notably, this perception of nature as something children belong to, rather than as a separate entity, resonates with spiritual dimensions of human experience. Robinson (2019, p. 347) emphasizes that children's engagement with nature, through observing, touching, smelling, and talking to it, reflects a deep spiritual connection. These moments not only indicate a sense of wonder but also support spiritual well-being by fostering the child's sense of inner harmony and belonging within the natural world. In such experiences, the natural environment ceases to be merely an object of observation and becomes a space for existential meaning-making, enabling children to connect their inner emotional world with the outer world of creation.

From the perspective of religious education, this connection is pedagogically significant. The child's sense of wholeness with nature reflects an ontological understanding of human beings as part of the created order, a view deeply rooted in many religious traditions, including Islamic teachings (Qur'an, 95:4; 16:3), which emphasize the harmony between humans and creation. Religious education in early childhood aims not only to

impart doctrinal knowledge but also to nurture dispositions such as gratitude, care, interconnectedness, and responsibility toward the world and others (Grajczonek, 2017). In this context, nature-based experiences provide authentic opportunities for children to encounter foundational spiritual themes, such as awe, reverence, interdependence, and stewardship, through direct interaction with the natural world. Therefore, nature-based learning environments serve not only ecological or cognitive purposes but also become pedagogical spaces where moral and spiritual development is naturally cultivated. This integration aligns with the broader aims of early childhood religious education to foster holistic spiritual well-being and ethical awareness.

3.2. Wonder and Curiosity

Through wonder and curiosity, children's aesthetic admiration for nature evokes feelings of mystery and contemplation, elevating the experience from a cognitive engagement to an emotional and existential dimension (Hay & Nye, 2006, p. 72). Carson's (1956, p. 43) conceptualization of the "sense of wonder" highlights that forming a relationship with nature serves not only cognitive or physical purposes but also a profoundly spiritual one. This feeling, which functions as a window opening both to the external world and to the child's inner being, is not a fleeting curiosity but rather an innate human capacity, an existential resource and a domain of spiritual resilience. With today's digital, artificial, and speed-driven world, the spirit of wonder is more vulnerable than ever before to being doused faster than it has been doused in other eras. Imaginative and open-ended contact with the natural world in early childhood education thus has life-essential significance in keeping wonder alive and expanding, which is at the heart of spiritual wellness. Schein (2018, p. 90) similarly conceptualizes the "sense of wonder" as a catalyst for spiritual development, drawing attention to its potential to generate a state of awe that fosters the desire to comprehend something greater than oneself. Natural environments and elements of nature provide children with unstructured play spaces and activities that nurture admiration, aesthetic appreciation, and creativity. Through such play, children's innate spiritual capacities are translated into tangible lived experiences.

Wonder and curiosity are not only developmental dispositions but also fundamental spiritual capacities that foster children's search for meaning and transcendence. Early childhood religious education seeks to nurture these innate capacities by providing opportunities for exploration, contemplation, and questioning (Koç, 2023; Corcoran, 2024; Turan, 2024). Children's wonder and curiosity correspond to the act of reflection and taking lessons that the Qur'an (3:190) continually encourages. In this sense, nature-based learning environments can serve as pedagogical spaces where the sense of wonder becomes a pathway to moral and spiritual formation, complementing the broader aims of holistic education.

3.3. Inner Silence and Awareness

Schein's (2013, p. 381) study found that spending time in nature increases the spiritual awareness of young children. It was observed that children listen to birds, notice the sun,

and watch their surroundings with attention and admiration, highlighting the significant role of nature in spiritual development. Interaction with nature is not limited to outward, physical activities; it also occurs through inner awareness, sensory exploration, and the experience of quietly being. Such environments offer opportunities for relating to others, constructing meaning through symbolic play, and turning inward toward one's own inner world. The personalized structure of nature-based learning environments aligns strongly with ontological approaches. In this context, nature should not be regarded merely as a "setting" but as a dynamic sphere of action in which the child experiences existence, expresses the self, and creates meaning. In Heidegger's (2018) philosophy, the natural environment constitutes a domain of ontological depth in which the child can establish existential connections. The child, in this process, is not simply in nature but becomes a part of nature. The relationship formed here is not a transmission of knowledge but an indication of existential contact. When a child touches a drop of dew with a fingertip, the experience is both sensory and a moment of disclosure (aletheia). In that instant, the child senses being, connects with nature, and can say "I am here," shaping their own existence through experience and relationality. Within this framework, nature-based learning can be seen as creating meaningful "spiritual meta-environments" concerning children's individual being and relationships. Robinson's study illustrates this well, with one child stating, "For me, being near any body of water is when I truly feel at peace" (Robinson, 2019, p. 348) This expression resonates with the sense of "inner silence," a central element of spiritual experience. For educational environments, providing space for such experiences should be regarded not only as a pedagogical responsibility but also as an existential one.

The child's attentive listening to nature in silence and the development of awareness are parallel to the Qur'an's (3:191) call for reflection and inner contemplation. Within this framework, nature-based learning can be seen as creating meaningful "spiritual meta-environments" concerning children's individual being and relationships. Such experiences should be considered not only pedagogical responsibilities but also existential ones, providing children with opportunities to sense being, connect with the natural world, and shape their own existence through experience and relationality.

3.4. Empathy and Responsibility

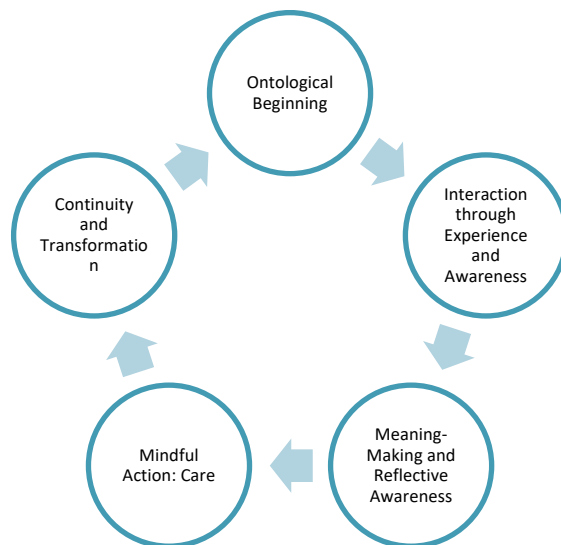
Nature-based learning enhances children's imagination, emotional awareness, and spiritual sensitivity. By fostering empathy with the environment (Karaoğlu, 2024, p. 571), enabling relationships even with inanimate entities, and offering experiences that suggest a dimension beyond the ordinary world, it stimulates curiosity, wonder, and the search for meaning. Children personify and attribute significance to the objects they encounter in nature, engaging with them both sensorially and emotionally. When a child names a tree, embraces it, shows affection, and seeks to protect it, this demonstrates that the child is treating the object as a "subject." Such actions heighten emotional resonance and strengthen the development of empathic capacity (Robinson, 2019). In this process, the

child assumes that another entity has feelings, forming a relationship with it and experiencing sensitivity, protectiveness, and responsibility.

Nature-based learning provides unique chances for children to enhance empathy and responsibility toward the living world. As children listen to or glimpse birds, follow animals, or search for caterpillars and ladybugs, they attune themselves to the rhythms of other beings. In the acting of planting seeds, refilling bird feeders, or mulching trees, they become a caretaker and form a bond and intimacy with a living world that they have the opportunity to influence actively (Bell, 2001). Such practices foster a sense of care and stewardship, highlighting that responsibility emerges not only as a moral concept but also as an experiential reality. Gardening, in turn, allows for dealing with loss and failure and experiencing the responsiveness of plants to care and attention (Bell & Dymont, 2008). Nature-based activities in this sense foster children's empathic potential and consolidate capacities and reinforce their sense of responsibility, aligning closely with the aims of early childhood values education and religious education, where cultivating care, stewardship, and ethical awareness are central pedagogical goals.

Children's spirituality, therefore, can develop not only as inner awareness but also as a sense of responsibility toward communal and sustainable living. Interpreted as a child-centered and transformative learning approach, nature-based learning provides meaningful opportunities for identity formation, empathy, ethical sensitivity, and spiritual well-being. When viewed not merely as a pedagogical tool but as a multilayered process (Wills, 2025, p. 79) intertwined with existential, sensory, and spiritual development, a dialectical structure emerges, as illustrated in Figure 1. In this ontology-based, cyclical, and dialectical model of learning, each stage nourishes the next, encompassing experiential and deeply engaged learning processes.

Figure 1. Nature-Based Spiritual Learning Process



At the ontological beginning, although the child may not yet be cognitively active, they inherently possess “spiritual sensitivity.” Through unstructured nature-based activities, the child engages bodily, sensorially, and emotionally with nature, entering a state of awareness. As the child begins to process these experiences mentally, they derive meaning, which in turn signals a process of personal meaning-making. When awareness is expressed outwardly through acts of responsibility, such as collecting litter, watering plants, or caring for animals, it leads to the stage of care. Each experience enables the child to approach subsequent encounters with renewed awareness, making learning a process of continuous transformation. This dynamic and cyclical model demonstrates that the child, as an active subject, possesses the potential to transform both their own life and the environment around them.

The child’s development of empathy and responsibility toward nature is directly related to the Qur’an’s (2:11; 7:31) teachings on avoiding harm to the environment and living with a sense of responsibility. Cultivating empathy toward nature and instilling a sense of responsibility also supports children in becoming aware of the tasks entrusted to them as human beings, nurturing the consciousness of caring for the Creator’s trust (amanah). In this way, nature-based activities not only nurture children’s empathic capacities but also reinforce their moral and spiritual awareness, aligning closely with the aims of early childhood values education and religious education, where cultivating care, stewardship, and ethical sensitivity are central pedagogical goals.

Conclusion

Learning in early childhood is grounded in children’s innate sensitivities and capacities, which are nourished by conducive environmental experiences enriched through actions such as developing awareness, creating, wondering, and reflecting, ultimately leading to transformation. Children’s physical and biological environments play a crucial role in their developmental processes by providing stimuli and motivation for growth. Therefore, early childhood environments should be designed to support children’s holistic development, with the understanding that such arrangements will shape their multidimensional growth. In early childhood education, spiritual development is directly related to children’s existential meaning-making, sense of belonging, wonder, and relational connectedness. For this reason, the educational process should be nourished by the child’s essence, that is their own existence, and should be open-ended and discovery-oriented. However, contemporary early childhood education is increasingly shaped by technocratic, measurability-driven approaches, in which holistic learning is relegated to the background. By contrast, natural environments offer spaces where children can express creativity and encounter greater challenges due to changing environmental conditions. In contrast, playgrounds designed with artificial surfaces, climbing structures, and fixed play equipment remain the same each day, leading children to seek challenge in other ways that may occasionally be more dangerous or destructive. The novelty that the natural environment provides on a daily basis enables greater variety in young children’s play.

In this study, the relationship between nature-based learning and children's spiritual development in early childhood has been examined through a literature review. The analysis of the findings indicates that nature-based learning is not only associated with children's physical, cognitive, or social development but also nurtures their spiritual capacities, such as inner silence, belonging, curiosity, wonder, and awareness. It has been observed that through nature-based learning, children's opportunities to play in natural settings, imagine, observe quietly, and engage with elements of nature contribute to the development of their existential awareness. In light of these findings, spiritual development emerges as an important developmental domain, and nature-based activities should be regarded as a crucial pedagogical tool for supporting this dimension. However, it has also been revealed that both nature-based learning and spiritual development remain underrepresented in educational programs, with nature-based activities often instrumentalized merely for physical or cognitive development. From the perspective of early childhood religious education, the findings underscore that the values and dispositions fostered through nature-based learning, such as empathy, responsibility, wonder, and a sense of belonging, closely align with the pedagogical aims of religious education. Religious education in early years does not merely transmit doctrinal knowledge but seeks to nurture children's relational, moral, and spiritual sensitivities. Therefore, integrating nature-based activities within early childhood religious education offers opportunities for experiential learning that bridges children's lived experiences with the broader aims of faith and value education.

Nature-based learning in education, beyond offering practical diversity, presents a transformative proposal grounded in philosophical, pedagogical, and political foundations. Reinforcing an ontological sense of unity between children and nature within early childhood education should be considered not merely a pedagogical choice but a necessity for children's health and development. Engaging children in multisensory, active, and discovery-oriented learning environments within nature plays a critical role not only for academic achievement but also for their long-term well-being. Qualities such as wonder, creativity, and imagination, which cannot be directly taught but can develop through experience, insight, and exploration, are also supported through nature-based learning. Environments that allow children to use their senses and provide them with natural diversity mediate the establishment of a holistic relationship of being, thereby laying a strong foundation for spirituality. The inclusion of natural elements such as stones, branches, seashells, and leaves within classroom settings provides educators with opportunities to foster sensory-centered spirituality within their own environments and limitations. In addition, planning activities focused on the care and protection of living beings, and allowing children to take an active role in these processes, further supports their spiritual development.

In the pedagogical and political context, one of the foremost recommendations for making spiritual development more visible and functional is its recognition as an integral and existential dimension of child development. It should be acknowledged that all

dimensions of development are interconnected and that learning must be approached in an integrated manner. Supporting spiritual development in early childhood is not merely a philosophical or theoretical concern but also requires pedagogical competence and awareness. In this regard, it is crucial for early childhood educators to cultivate a conscious and sensitive approach that recognizes the contribution of nature-based activities to children's spiritual growth. The pedagogical recognition of "spiritual moments" requires teachers to possess intuitive and relational sensitivity, positioning them not simply as transmitters of knowledge but as companions who seek depth within children's experiences. Spirituality should not be viewed as an "add-on" at the margins of early childhood education but as an inseparable dimension of development through which children make sense of their holistic existence. To integrate this dimension into education, teachers must develop both sensitivity and the skills to translate such sensitivity into pedagogical practice. Evaluating children's spiritual experiences expressed through play, encounters with nature, and relational interactions necessitates that teachers engage with children not only at the cognitive level but also at ethical and ontological levels. This, in turn, requires that teacher education programs for early childhood be enriched to include both nature-based learning and approaches to spiritual development. For religious education, this implies that teachers in early childhood settings must be equipped not only to recognize spiritual moments but also to interpret them within frameworks that support children's holistic faith formation. Sensitivity to children's questions, their expressions of awe, and their sense of connectedness with the natural world requires pedagogical strategies that situate these experiences as part of their moral and spiritual education.

Education policy documents should provide clearer, more concrete, and culturally sensitive implementation guidelines on how both spiritual development and nature-based learning can be made functional within a pedagogical framework. It is noteworthy that countries which have easily integrated nature-based learning into their educational processes are often those where being immersed in nature is already a cultural practice. In industrialized societies that have become detached from nature, and, in a sense, alienated from themselves, embedding such an approach into the curriculum requires not only an educational innovation but also a transformation of worldview. Nature-based learning should be approached not merely as a set of supplementary activities but as a pedagogical approach that supports the holistic development of children. Policies should encourage the expansion of early childhood institutions with access to nature and provide opportunities that foster exploration and awareness alongside play. Educational policies that incorporate nature-based and spiritual learning models, while taking into account local ecological, cultural, and historical values, are likely to contribute meaningfully to the transformation that is required.

Policy documents and curriculum frameworks in religious education should also acknowledge the role of nature-based experiences as integral to children's spiritual and religious development. By embedding ecological awareness, empathy, and relationality

into early childhood religious education framework, educational systems can contribute to both children's spiritual well-being and their preparation for responsible participation in society. Both in formal and informal educational settings, and in the family, nature-based learning should be utilized in early childhood education for the healthy development of every developmental domain, and it is necessary to ensure that the child can establish a physical relationship with the world. For human experiences belong to this world, and the person strives to realize himself/herself in this world. In order not to be separated from the origin in which one was created, it is of great importance to pay attention to this in the first stages of education.

In order to recognize children's spirituality and identify its characteristics, there is a need for empirical research in particular. Employing a variety of qualitative methods to describe spiritual development would contribute to enhancing conceptual depth. Existing studies on the relationship between nature and spirituality are largely Western-centered, and children's connections with nature and their spiritual expressions have not been sufficiently investigated in diverse cultural contexts. Future research that undertakes field studies on spirituality and nature-based learning will support the multidimensional conceptualization of this relationship. Furthermore, examining spirituality within different disciplines, such as environmental education, early childhood pedagogy, and environmental philosophy, will help ensure that the concept is not reduced solely to the domains of religious education or the psychology of religion.

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