

An Overview of Experiential Learning in Childhood Years

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ABSTRACT

Experiential learning is an effective tool for promoting cognitive, social, emotional, and physical development in children, as they learn best through experience, discovery, and sensory engagement. Experiential learning encompasses play-based activities, outdoor exploration, problem-solving in groups, and practical tasks that engage children in life exploration and experimentation. An overview of experiential learning in childhood years has been emphasized in this review paper. This review paper aimed to analyze the contribution of experiential learning or hands on experiences in the holistic development of children. This paper summarises the results of several studies on children's experiential learning that have been carried out over the past 15 years (2010-2024). A comprehensive search was conducted in Google Scholar and Research Gate etc., resulting in the inclusion of 15 researches written in English language, which were focused on use of experiential learning or hands-on activities / experiences in their indoor or outdoor classroom conditions that promote children's holistic development. Results show that experiential learning is an effective teaching strategy that improves learning outcomes in childhood years. By integrating experiential learning into childhood education, educators can create meaningful, engaging, and developmentally appropriate experiences that foster a deeper connection to the world and prepare children for future success.

Keywords: Cognitive Thinking, Early Childhood, Experiential Learning, Hands on Experiences, Holistic Development, Late Childhood and Play based Activities

INTRODUCTION

For childhood education, experiential learning has been proven to be a successful pedagogical strategy. Learning by doing is the essence of experiential learning. We all learn to walk and talk by practicing and perfecting our skills rather than being taught or instructed. In contrast to learning passively, experiential learning involves active engagement. In "experiential learning", the experience itself forms the basis for learning, which is then increased via careful assessment and introspection of the experience. In this children are motivated to investigate their surroundings.

Experiential learning in early childhood has been widely studied and recognized as an effective approach to education. For example, research highlights the importance of integrating play-based and experiential learning in early childhood education, as outlined in India's

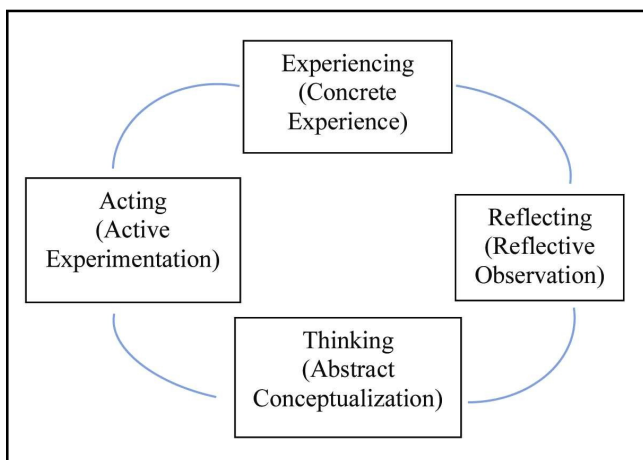
National Education Policy (NEP) 2020 and National Curriculum Framework for the Foundational Stage (NCF-FS) 2022. These studies emphasize creating stimulating environments with activities that promote holistic development across physical, cognitive, social-emotional, and aesthetic domains. Children in late childhood years can engage in meaningful exploration under the supervision of peers or teachers in environments which maintain a balance between structure and flexibility. Cognitive skills, empathy, and ability to solve problems are fostered by involvement in group activities and real-life situations.

Children who used the experimental approach have a greater knowledge of the outcomes because children can better relate the ideas and facts they have learnt to real-world scenarios when they are involved in firsthand experiences and reflections (Amalia, 2022). They

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comprehend problems more easily than those who merely hear about them from teachers without first hand experience. This method implies that there are no “set rules”, “right ways of thinking”, or “perfect behaviours” that one must acquire and use in learning. Hands-on experiences help children acquire critical thinking skills, creativity and social skills by allowing them to assess situations, make decisions, and take outcomes into consideration. Children learn in this setting by working with other individuals and manipulating items, as well as by educating themselves through independent learning (Morrison, 2011). Children have a lot of opportunities to learn and grow during this time since their brains are developing quickly. They can learn effectively in a safe, engaging, and educationally stimulating environment. The activities and materials in this are suitable for the children’s learning stages.

The Kolb Experiential Learning Theory is a significant theory that explains how people learn by doing. Since learning is the main method by which individuals navigate life. Experiential learning is used for all types of learning, growth, and transformation. Individuals can identify the abilities, attitudes, and behaviours that need to change and then put those changes into practice for improved performance with the support of experiential learning. Kolb (1984) defined the four-step Experiential Learning Cycle as the optimal method of learning:



Recent studies highlight how well experiential learning supports a variety of developmental domains. Montessori education, which is based on experiential approaches, has been shown to provide significant advantages for social and cognitive development (Lillard

et al., 2017). In a similar vein, Nazirova (2025) discovered that experiential elements like nature-based and outdoor learning are linked to increased physical activity, better management of the environment, and better health. All of these results emphasise how essential it is to give young children opportunity for hands-on learning.

The empirical data, real-world applications, and theoretical underpinnings of experiential learning in early childhood education will all be further examined in this review paper.

METHOD

Research question of this review paper, does experiential learning help children in their holistic development?

Sources of Data and Search Methodology

The search keywords and eligibility requirements were refined. “Experiential learning”, “Hands on experience”, and “Learning by doing” were included in the search keyword since this review was a part of a larger, systematic literature with a filter applied for publications between 2010 and 2024. For this review, all articles associated with experiential learning were included. While full text filtering and secondary search were carried out independently from the main search, eligibility criteria were particularly established for this study, and title and abstract screening were carried out as part of the larger systematic search. The reference lists of every included study were examined to identify additional records for a secondary search.

Eligibility Criteria

The exclusion and eligibility criteria are outlined in Table 1. Every research paper that looked at learning by doing or experiential learning was included. We restricted our time range to include studies from 2010–2024 in light of the changes in learning and information formation over the past few decades. During the screening process, following are the examples of general characteristic: Authors, year, country of origin, aims, study information, methods of intervention and results.

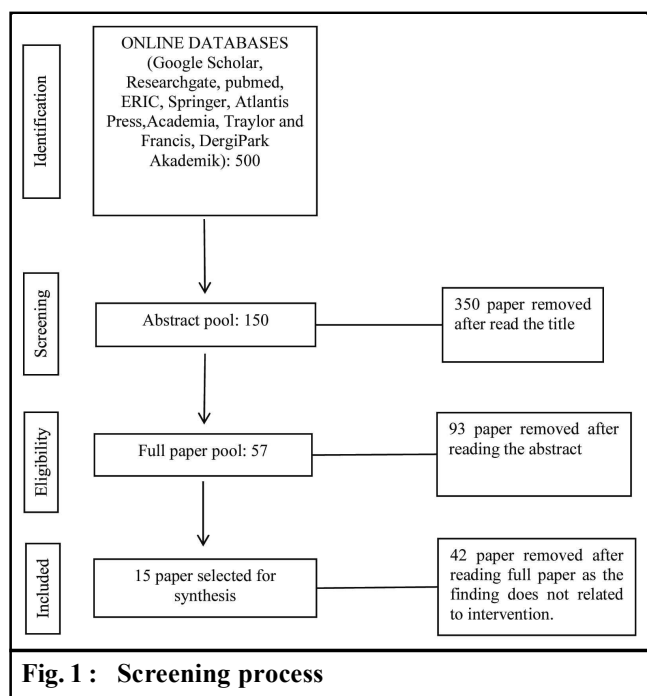
FINDINGS

In January, 2025, the search was carried out. Fig. 1

Table 1 : Inclusion and exclusion criteria of researches

	Inclusion Criteria	Exclusion Criteria
Study objective	Researches that were conducted on childhood age groups, and focused on enhanced knowledge by experiential learning	Age group was not childhood.
Variable of interest	Experiential learning or learning by doing, child centered learning	Teacher centered learning
Publication time period	2010-2024	Before 2010
Publication Language	English	Not published in English

details the entire selection procedure. 15 studies satisfied this paper's inclusion requirements. We choose studies that were carried out during 2010 to 2024. which came from many countries. Every research study was written in English. Table 2 provides an overview of the entire dataset.



Use of Experiential Learning

In these studies, researchers use various intervention strategies to improve the knowledge of young children through experiential learning. For example, the volcano experimental activity asks children to observe what triggers a volcano explode and what happens when it does so (Nafiqoh and Wulansuci, 2021). Another is a physical activity intervention for health-related activities that involves seven-stage sit-up tests, push-up tests, basketball throw tests, standing jumps, 20-meter shuttle runs, sit and reach, and seven days of pedometry (Eather *et al.*, 2013) another study that focused on children's

self-efficacy in physical activity use creative lessons on gymnastic (Reppa and Theodorakou, 2015). In order to produce renewable energy, Chou *et al.* (2015) employ renewable energy equipment and training materials. Coates and Wilson (2019) concentrated on granting children independence so they can play outside and learn via creativity and physical activity. In their study, Collins *et al.* (2020) used a visit to a zoo or aquarium to gain firsthand experience. They then used a PowerPoint presentation and an activity session where children created environmental enrichment devices for penguins and lemurs. Ersoy and Yilmaz (2018) conducted a study with a classroom instructor who focused on resolving everyday issues in the classroom. In "human rights, citizenship, and democracy classes," they employ a mock trial in addition to various teaching strategies. Dhanapal and Lim (2013) offers lessons on artificial materials and buildings with comparable goals and instructional strategies to find out what the students think about combining indoor and outdoor scientific education. To improve students' English vocabulary, Tabares Orozco *et al.* (2017) use lesson plans that are based on theme-based, didactic material (English songs and music). Reed (2021) taught counting, writing, and number recognition with gestures, films, songs, games, and crafts.

To teach word play skills, the teaching materials included sets of objects (such as dollhouse furniture, plastic animals, and other toys) and matching word cards, letter cards, or riddles that were kept in plastic shoe boxes, or "object boxes" (Webb *et al.*, 2014). Chen (2022) builds a "Voltaic Battery Car" and completes the "Car Climbing the Ramp" assignment using children's prior interdisciplinary knowledge and practical equipment. Environmental and climate change education, field visits to nature and science-themed locations, and activities at a nearby community-based facility are all offered by Djonko Moore *et al.* (2018). To deal with stress and anxiety, Hosokawa *et al.* (2024) employed play-based activities and cognitive-behavioral techniques.

Fig. 2 shows that illustrate number of publication

Table 2 : Summary of all included researches of this review

Author (s)	Country	Aim / objective	Focused on	Intervention type	Results
Nafiqoh and Wulansuci (2021)	-	To investigate the impact of experiential learning techniques on early childhood science process abilities in the covid-19 era	Science process skills	Observe what triggers a volcano's eruption and what happens as a result of it in this volcano experiment	Significantly enhanced early childhood science skills
Eather <i>et al.</i> (2013)	Australia	To assess the effects of fit-4-fun, a multi-component school-based physical activity intervention, on primary school students' objectively assessed physical activity and health-related fitness	Physical development (fitness education)	Include the seven-stage sit-up, push-up, basketball throw, standing jump, 20-meter shuttle sprint, sit-and-reach, and seven-day pedometry	Greatly increased children's levels of physical activity and health-related fitness
Reppa and Theodorakou (2015)	-	To investigate the potential effects of a creative gymnastics intervention on children's self-efficacy in physical activity	Physical activity	Creative lessons on gymnastics	This study implies that children's self-efficacy in physical exercise may be enhanced by an innovative gymnastics-focused intervention
Chou <i>et al.</i> (2015)	Taiwan	Analyse how an activity on renewable energy affects elementary school learners	Producing renewable energy	Renewable energy apparatuses	The activity boosted some knowledge items and greatly enhanced attitude, but it had no effect on behaviour
Coates and Wilson (2019)	UK	Investigates how participating in a forest school program affected elementary school students' experiences in light of this intersection among formal and informal learning methods	Experiences of engaging in forest learning programme	Breaking away from routine (being outside and having freedom and choice), learning via play (being imaginative and active, managing risk), cooperation, and teamwork	The forest school program enhances children's social, cognitive, emotional, and physical skill development through play-based experiential learning
Collins <i>et al.</i> (2020)	Ireland	To examine the behaviour, attitude, and knowledge of Irish students simultaneously before and after they visit a zoo or aquarium	Information about the species under research, students' opinions and behavioural changes about zoo animals and their education there	A visit to a zoo or aquarium, a powerpoint presentation, and an activity where students creates environmental enrichment tools for penguins and lemurs	Educational intervention showed the greatest increases in learning of children
Ersoy and Yilmaz (2018)	Turkey	The purpose of this study was to assess how well a Turkish primary school teacher used the mock trial method to address issues that arose during class	Classroom problems	Various teaching strategies, including mock trials in "Human rights, citizenship, and democracy classes."	This program made a positive impact on teachers and students
Dhanapal and Lim (2013)	Malaysia	To find out what children think about science classes that combine indoor and outdoor learning	Views of students on both indoor and outdoor scientific education	Courses on man made materials and structures with comparable goals and instructional strategies	This research has demonstrated that both indoor and outdoor learning enhance students' academic performance, and students have responded well to learning science outside as opposed to indoors

Contd...Table 2

Table 2 contd...

Tabares Orozco <i>et al.</i> (2017)	Pereira (Columbia)	Introducing foreign language vocabulary to children via hands on learning to teach them english	Teaching of english vocabulary	Lesson plans that incorporate movements, videos, games, crafts, and educational material (music or songs in english) with a theme	Results were very significant
Reed (2021)	Carolina (U.S.)	To ascertain the effect of adding diversified experiential learning through play to a predetermined curriculum on students' understanding of mathematical concepts	Using play as an additional teaching tool to help students understand mathematical topics	To recognise, count, and write the numerals 0–10, 1–20, 1–100, and 1–120. Songs from 1–5, 1–10, and "Super-fast" That deal with subitizing	The students' test scores significantly improved as a result of the play-based activities, and the student assessments revealed extremely positive opinions
Webb <i>et al.</i> (2014)	U.S.	Two teaching strategies for teaching word play skills to children in the second and third grades were examined in this study	Teaching word play skills	Pair items with word cards, words made of letter cards, or riddles. The teaching aids consisted of sets of items (such as dollhouse furniture, plastic animals, and other toys), and the matching word cards, letter cards, or puzzles were kept in "Object boxes," Which are plastic shoeboxes	An attitude survey revealed that most students preferred the object boxes for task enjoyment and word play concept knowledge, but there was not a significant distinction in student performance between the conditions
Chen (2022)	-	Created a cycle-mode poed (predict-observe-explain-do) model with an online learning platform to assist students in completing a practice task utilising scientific inquiry by combining the predict-observe-explain	Linking their theoretical understanding of science with real-world, hands-on methods	Apply their acquired multidisciplinary knowledge to build a "Voltaic battery car" Using practical tools and finish the "Car climbing the ramp" Problem	Students' motivation, performance, and hands-on skills all improved
Djonko Moore <i>et al.</i> (2018)	Colorado	Over a one-week summer camp, experiential education in science promoted urban children's scientific involvement and understanding through eco-justice and cultural significance	Children lack a solid understanding of ecological systems, natural resources, the surroundings, and the way human activity impacts the natural world	Education on the changing climate and environmental issues, field visits to locations with a science or nature theme, and activities at a nearby community centre	Throughout the study, children's participation in science classes and field trips, as well as their understanding of science-related topics, improved
Hosokawa <i>et al.</i> (2024)	Japan	This study looked at the efficacy of the fun friends program in children ages 4-5	To manage stress and anxiety while building resilience and self-assurance	Play-based activities and cognitive-behavioral techniques	When compared to the control group, the intervention group's extroverted and introverted problem behaviours significantly decreased
Rani and Suvidha (2023)	India	To investigate the cognitive skills of 4-6-year-old slum children and improvement of these abilities through stimulation programs	Cognitive abilities such as slum children's intellectual abilities, knowledge, understanding, visual perception, memory, and object vocabulary	Activities based on cognition	The findings indicate that cognitive skills of children aged 4-6 were significantly impacted by the intervention program

from 2010-2024 and y-axis represents number of publication published in which year and x-axis represent year of publications. There are no researches from 2010 to 2012 but from 2013 to 2024 researches were done, and as data shows that in the years of 2013, 2015, 2017, and 2021 two researches per year were done and one research per year in 2014, 2018, 2019, 2020, 2022, 2023, and 2024.

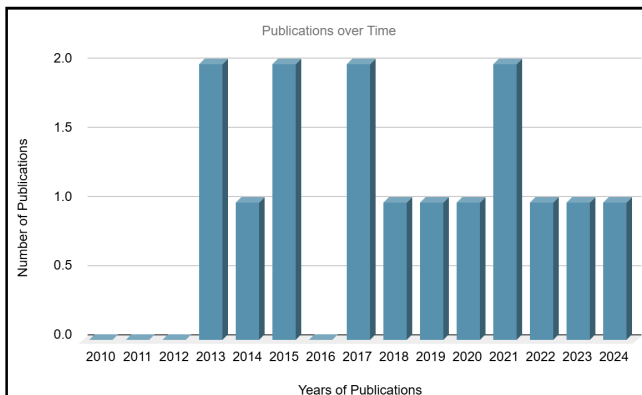


Fig. 2 : Publications over time

RESULTS OF THE STUDY

After examining these 15 studies, it was found that they have had a positive impact on children. The positive impact of these intervention programs on children was seen as follows: experiential learning decrease extroverted and introverted problem behaviour in childrens (Hosokawa *et al.*, 2024), enhancement of science skills in childhood (Nafiqoh and Wulansuci, 2021; Dhanapal and Lim, 2013; Djonko Moore *et al.*, 2017), improved health status and physical development (Eather *et al.*, 2013; Reppa and Theodorakou, 2015), enhance knowledge based concepts (Webb *et al.*, 2014; Chou *et al.*, 2015; Tabares Orozco *et al.*, 2017; Ersoy and Yilmaz, 2018), positively influence the social cognitive and emotional skills (Coates and Wilson, 2019), facilitates learning (Chen, 2022; Collins *et al.*, 2020), enhance academic performance (Reed, 2021).

DISCUSSION

This review explores various studies that focused on the positive significance of experiential learning in childhood. That puts light on different methodologies, intervention and their effectiveness on children.

Experiential learning in Early Childhood

The benefits of experiential learning approaches for young children's cognitive, social, and motor development have been the subject of several research. For example, according to Haryanto and El Syam (2023), self-directed experiential learning encourages young learners' autonomy and curiosity, underscoring the importance of independent learning in early childhood education. Similarly, a study conducted in Japan by Hosokawa *et al.* (2024) showed that experiential learning among children which is designed to focus upon anxiety and stress, resilience and confidence helps in improving extroverted and introverted behavioural problems among respondents, when compared with controlled groups. This indicates the potential of play way or hands on activities in managing problem behaviour in children. Rani and Suvidha (2023), conducted a study on age 4-6 years slum children's cognitive skills and found a significant effect on the cognitive skills of children by the use of hands on cognitive intervention.

This idea is further supported by Nafiqoh and Wulansuci (2021), who investigate how experiential learning techniques improve young children's science process abilities, especially during the COVID-19 epidemic. According to their research, in early education, observing, classifying, predicting, engaging and comprehending complex topics require real-world, experiential learning. Additionally, a study conducted by Tabares Orozco *et al.* (2017) in Pereira (Columbia) shows how experiential learning is advantageous in introducing foreign language English vocabulary to students, through engaging and situational learning. Chou *et al.* (2015), investigate the efficacy of instructional aids in teaching elementary school pupils about renewable energy and find that stronger relationships between knowledge, attitude, and behaviour are found in students who used the teaching aids

Reed (2021) similarly emphasizes to find out the impact of differentiated experiential learning through play to a predetermined curriculum affects the prekindergarten learners' understanding of mathematical concepts, findings suggests that specific learning needs be provided because play-based learning aligned to had a remarkable impact on the students. This perspective is further supported by Roopnarine and Johnson (2015), who detail multiple approaches to early childhood education that enfold experiential learning to support the overall well-being and development of children.

Experiential Learning in Late Childhood

In late childhood, when children usually go from studying how to learn to actually practice making learning happen, experiential learning also helps them remain more involved in their studies. Chen (2022) suggested a cycle-mode POED model that focused on scientific inquiry techniques, which improved students' performance, motivation, and practical skills.

In late childhood, experiential learning also strongly depends on outdoor learning settings. Coates and Wilson (2019), specifically examine how formal and informal learning approaches link with children participating in forest school programs in the UK and discover that nature-based experiential learning fosters the development of children's social, cognitive, emotional, and physical skills. In the same way, Collins *et al.* (2020) explain how instructional programming combined with zoo and aquarium trips is another method that children's experiences boost their knowledge of theoretical ideas and enable them to maximise learning in real-world scenarios.

According to Dhanapal and Lim (2013), comparison of indoor and outdoor learning experiences, students' engagement and conceptual knowledge of science subjects are improved by engaging, hands-on outdoor settings. The influence of culturally appropriate experiential education in urban contexts is also examined by Djonko-Moore *et al.* (2018), who show how experiential techniques improve students from a variety of backgrounds' understanding and interest in science.

Furthermore, Eather *et al.* (2013) study the usefulness of physical activity-based experiential learning in enhancing children's fitness and general well-being. Their research supports by Reppa and Theodorakou (2015), who investigate the potential effects of a how creative gymnastics intervention on children's self-efficacy in physical activity, they suggest children's self-efficacy in physical exercise may be enhanced by an innovative gymnastics-focused intervention.

Ersoy and Yilmaz (2018) explain how practical, role-playing exercises can improve critical thinking and problem-solving abilities. They suggest mock trials as an experiential learning approach to classroom challenges. Additional information about how primary school pupils use conventional and practical approaches to creative word play is given by Webb *et al.* (2014), who demonstrate that experiential learning not only promotes language development but also late childhood creativity

and imagination.

Conclusion

In this review paper, we examined the range and content of research on experiential learning and learning by doing. In this, the majority of research is focused on providing children's knowledge through learning by doing or based on their experiences, revealing significant changes were seen by researchers. Results of the studies show that experiential learning is an effective teaching strategy that improves learning outcomes in both early and late childhood. Use of experiential learning or intervention strategies on hands on experience promotes cognitive, social, and emotional development, whether it is through inquiry-driven, outdoor, and participatory approaches in later childhood or through play-based learning in the early years and positively enhanced children's knowledge in their respective field or subject. To guarantee that children have meaningful educational experiences appropriate for their developmental stage, future research should keep investigating cutting-edge experiential learning strategies.

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