



Exploring the Strategies and Environmental Factors that Foster Curiosity in Early Childhood Education

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Abstract

The research investigates the practices which nurture curiosity at early childhood educational levels while analysing actions and physical setups between educators and students in early childhood education spaces. The phenomenological qualitative research design used interviews and document review and observational methods to study 15 educators and 5 administrators and 10 parents. Research findings determined teacher facilitation as the essential component because educators drive curiosity development through their use of questions together with materials and activities and by giving students independence. The discovery revealed that learning zones consisting of physical spaces along with items inside classrooms help students explore and interact with each other. Children from lower SES backgrounds experience difficulties obtaining outside resources for curiosity development since socio-economic influences shape their socio-cultural factors. Inside classroom instruction that uses culture-based materials and teaching methods created favourable conditions which led students to become more interested and focused. This study offers important contributions to existing knowledge through its specific examples of early childhood learning environments which promote curiosity and resolve gaps found in literatures about concrete methodologies and general environmental qualities for early childhood education contexts. Extensive curiosity development needs to consider teachers' practices as well as classroom design and the social influence inside educational settings to be effective.

Introduction

Learning follows naturally through human curiosity in early childhood education due to its essential character as a fundamental trait. Curiosity acts as a motivational factor which drives children's cognitive along with their social and emotional advancement during early exploration of new experiences. During early childhood development all fundamental learning skills and emotional attitudes develop remarkably strong since curiosity strongly impacts future learning success (Ramzan et al., 2023). The vital role of curiosity is frequently overlooked because standardized assessment systems and specific curricula lead educational settings (Lamnina & Chase, 2021). The investigation examines processes to develop curiosity in early childhood education context along with its effects on both educational methods and student achievement results. People naturally seek information to become knowledgeable through their intrinsic drives to learn facts and this is considered interest as explained by Harefa et al. (2023). Children feel this desire to inquire and explore their environment through active information

processing (Burke & Crocker, 2020). Research on motivation demonstrates that curiosity functions as an extremely positive force that leads to simultaneous activation of cognitive and affective engagement together with problem-solving abilities and knowledge acquisition (Zhu et al., 2023). The educational experiences created for children result in both mental development and imaginative thinking capabilities that youngsters need for navigating their future unpredictable environment (Das, 2024).

Early childhood education demands the development of student curiosity since curiosity naturally exists as an inherent quality of children during this age. Young children exhibit an exploratory nature because their priori concerns drive them to understand environmental phenomena that trigger drastic occurrences (Pelz & Kidd, 2020). The built-in nature of curiosity enables teachers to establish educational settings which focus on student interests that deserve further exploration. Teachers who promote curiosity among their students enable students to build interest and develop learning persistence and learning motivation from within according to Singh & Manjaly (2022). Jha (2021) explains that environments with too many busy schedules or strict control methods will extinguish curiosity which results in reduced student interest in learning.

In early childhood education settings, the teacher takes a fundamental position to develop student curiosity. The development of educational curiosity depends on specific environmental conditions that follow goal definition then individual learning process identification (Al Mamun et al., 2022). The educational strategies of questioning together with modeling and providing resources and using inquiry-based approaches contribute to developing student interest (Chu et al., 2023). When teachers display genuine curiosity students naturally imitate that behavior. The incorporation of curiosity-building in education faces opposition due to time limitations along with teaching program restrictions and teacher expertise regarding curiosity-based instruction (Amorim et al., 2022).

The physical environment together with external and internal factors known as physical climate significantly contributes to curiosity. The presence of teaching tools that students can easily acquire in a classroom space alongside moveable furniture and other displays promotes student curiosity (Little, 2020). Outdoor learning areas have demonstrated their ability to develop curiosity because they supply hands-on touch experiences together with unstructured play opportunities. The research conducted by Fenneman et al. (2022) shows that environments which remain highly structured with limited resources hinder the natural exploration of children.

The essential nature of curiosity as a life success factor remains widely understood but researchers lack detailed understanding about developing its educational benefits for young students from different cultural and financial backgrounds in preschool settings. The community recognizes curiosity widely but lacks examination of how to foster it especially within learning environments (Hidi & Renninger, 2020). The current research neglects both teacher insights and demonstrates insufficient knowledge generation of effective strategies that increase curiosity in preschool students.

The elicitation and enhancement of curiosity exist as culture-specific constructs because these elements become influenced by ethnic contexts and socioeconomic variables as well as individual characteristics according to Yow et al. (2022). A culture focuses its curiosity activities through storytelling for community learning activities but another culture guides curiosity development using educational learning from parental influences. The educational opportunities that socially stratum three children enjoy more than socially stratum four children stem from the fact that the latter group lacks resources to buy educational instruments. For

children of color to develop and sustain their natural curiosity the provision of fair treatment remains essential so they can achieve an equal opportunity.

Dilekçi & Karatay (2023) highlight the significance of this research for the development of twenty-first-century learning abilities because play facilitates critical thinking skills together with creativity skills and flexible skills and collaborative abilities. The entire set of skills derives its power from curiosity because curiosity drives both discovering and inquiring. The study contributes essential information to educational research in early childhood environments about the development of curiosity while preparing children for future personal experiences. The findings provide valuable information to educational workers who develop curricula and other policy administrators who wish to create learning environments rooted in student curiosity.

Methods

The researchers used a phenomenological qualitative design to study early childhood educators who support curiosity development in preschool children. The qualitative approach established itself as the most suitable method to investigate the genuine worked-life experiences together with personal viewpoints and teaching methods among educators who operate in numerous educational environments. The researchers could study the intricate aspects between curiosity-based teaching techniques and their resulting effects on student learning environments through this research strategy.

This study surveyed early childhood education centers found throughout socio-economically different together with culturally diverse locations. A method of purposive selection was used to gather participants who demonstrated extensive experience in early childhood education. They gathered data from 15 childhood instructors who had between five and twenty years of educational experience together with five administrators from schools and ten parents who provided supplementary viewpoints. By combining participants from various educational and cultural backgrounds researchers gained complete knowledge about the conditions that foster curiosity development.

The research data collection was accomplished through three different methods: semi-structured interviews along with classroom observations and studying documents. Semi-structured interviews produced extensive personal information about how participants implemented teaching strategies alongside their classroom interactions and obstacles when teaching curiosity to students. The interviews were done either in-person or virtually and spanned between 45 minutes and 1 hour in duration. Observations of classrooms provided evidence of students' interaction with teachers and materials and space configurations to show active approaches used for cultivating curiosity among students. The researchers analyzed educational materials together with lesson plans and activity guides to observe specific patterns and practices which encourage curiosity development in children.

The analysis utilized thematic analysis through repeated procedures for attaining deep and accurate findings. The process of interviewing participants included transcription work supplemented with observation note reviews for better understanding of the research data. Recurring ideas and key phrases from the research material first underwent coding then lead to category development. Researchers developed basic themes that uncovered the core elements of utilized learning methods and encountered difficulties with those methods and the situations that influenced curiosity-driven education. The study analyzed these themes by connecting them with both the research goals and published literature in order to exhibit how findings extend their reach in early childhood education.

Research credibility and reliability required the use of four assessment methods: triangulation, member checking and peer debriefing and maintaining an audit trail. The validity of findings improved through cross-checking observational and interview records and document analysis with participant validation of interpretations. The researchers conducted extensive methodological investigations to identify effective approaches for early childhood education procedure that would develop curiosity together with practical guidelines for both instructors and policy developers.

Result and Discussion

Research shows curiosity plays a defining role in the cognitive and emotional growth of young children but lacks thorough exploration of the particular technique's educators use for its development. The research investigated classroom factors together with educator experiences and social-cultural aspects which influence curiosity formation during early childhood. The research analysed these different elements through which educators cultivate curiosity in early childhood classrooms to produce understanding both for educational practice and academic discussion in early child development. The study findings highlight three main points about teacher facilitation practices and classroom environment conditions and contextual factors key to developing curiosity in young learners.

Role of Teacher Facilitation in Sparking Curiosity

Educators help develop curiosity in young students through passionate and inquiry-based conditions that support learning. Teacher facilitation demands delivering information alongside habitually generating student inquiry through purposeful discussions as well as imaginative tasks while actively responding to student interests. Students naturally develop independence through observation of teachers who show curiosity which motivates them to inquire about answers to new ideas.

Teachers use open-ended exploration alongside inquiry to spark curiosity as a fundamental approach of their practice. Educators create activities which let children actively participate and think critically thus enabling them to take control of their learning activities.

“When children ask questions, I see it as a teaching moment. I guide them, but I also let them discover answers on their own. This builds their confidence and keeps them engaged.”

Students develop empowerment through inquiry-based learning as they explore by investigating experiments and making discoveries between their observations and natural environment. The teaching process involves create educational situations which fit individual student interests and needs. Teachers who observe children's natural inclinations then respond to those inclinations help learners feel their learning activities are relevant.

“Some children are fascinated by nature, while others love storytelling. I integrate these interests into my lessons to keep them curious and excited to learn.”

When teachers align instruction methods to student interests, they develop educational environments that encourage regular natural discovery of learning material. Educational staff utilizes multiple teaching aids and methods that help students learn better through interactive educational activities. When teachers use creative learning instruments including visuals and storytelling and laboratory work pupils build increased understanding through imagination.

“I often use simple experiments or art projects to spark their interest, when we talk about plants, I let them plant seeds and watch them grow. It's magical for them and keeps their minds active.”

Through hands-on activities the teacher lights interest and allows students to retain learned concepts through direct experiences. A facilitator role where teachers organize discussions serves as equally important as their function in guiding classroom dialogue. The act of creating a supportive atmosphere where kids feel secure to share thoughts among peers strengthens their confidence as well as their intellectual interest in learning.

“I always tell my students there are no wrong questions. This openness makes them feel comfortable sharing their thoughts, which often leads to exciting discussions and discoveries.”

By validating students’ questions and contributions, teachers create a classroom culture where curiosity is celebrated and nurtured.

Impact of a Stimulating Classroom Environment

The classroom environment serves as a crucial factor to develop student curiosity and establish their ongoing involvement at school. An environment with diverse richness attracts children to explore new things which leads them to gain interest in learning. The classroom environment consisting of physical components and materials along with emotional aspects defines the ability to develop curiosity among students. Stimulating surroundings motivate children to connect with their environment while asking queries and investigating interesting subjects that establish their lifelong learning passion. Learning spaces in classrooms should be arranged and organized properly because it represents a fundamental component of creating an engaging learning environment. The planned areas within classrooms help children to actively participate with each learning experience including reading spaces and science stations and arts areas and craft tables.

“I intentionally organize the classroom into different stations that cater to various interests, like a science station with materials for experiments, an art corner with supplies for drawing, and a reading nook with lots of books. This setup encourages children to move around and choose what captures their curiosity.”

Teachers who allow children to choose their classroom interactions provide students with self-direction that lets them explore their interests independently which deepens their curiosity. The visual elements inside the classroom directly influence how much children become curious. The combination of vivid colors with educational posters and interactive walls and student artwork constructs classrooms which welcome students and intensely engage them. Students in visually structured classrooms receive continuous opportunities to find new knowledge which enables them to connect different educational concepts.

“I try to keep the classroom walls filled with vibrant charts, visuals related to our lessons, and the children’s own work. It’s like a constant source of inspiration for them. They often look around and ask me questions about what they see.”

Visual stimulation at the early learning center enables children to stay focused while developing their learning interest through ongoing exploration of new ideas. Teachers must provide classrooms with hands-on materials since these supports students in developing their curiosity. Children engage more frequently in questioning and experimental activities if they hold physical contact with classroom materials including puzzles along with science kits as well as sensory objects and natural elements.

“During our lessons on animals, I bring in pictures, toys, and even videos of real animals. The children love handling the toys and learning about the animals through these materials. It really makes them curious about the natural world.”

Children benefit from direct contact experiences to touch materials because these interactions enhance their understanding through combination of exploration alongside observation activities. The emotional atmosphere within the classroom significantly impacts children's readiness to be curious. The classroom environment which offers emotional support enables children to safely share their thoughts and ask questions while taking intellectual risks.

"I always remind my students that it's okay to make mistakes and ask questions. This helps them feel safe and encourages them to explore new ideas without the fear of being judged."

Emotional security within the classroom nurtures curiosity because children are more likely to participate in learning activities, ask questions, and explore topics freely when they feel valued and respected.

Influence of Cultural and Socio-Economic Factors on Curiosity

The curiosity development of young learners substantially depends on cultural along with socio-economic elements. Children's learning approach and questioning behavior alongside their educational commitment become affected by their cultural and socioeconomic conditions. The background cultures children belong to together with their economic social conditions influence which resources they have access to along with the encounters they encounter and the principles their caregivers impart. Educators with knowledge about these elements in their teaching cadre can enhance student curiosity through developing applicable lessons accessible to all students. Children learn to approach exploration and inquiry through the different cultural frameworks which shape their behaviors. Different societies prioritize either communal educational approach along with personal research methods. Teachers who study cultural differences and show appreciation for them can adapt their approach to develop classrooms which advance curiosity among all students.

"In our classroom, we have children from diverse cultural backgrounds, so I try to incorporate stories, materials, and examples from their own cultures. This makes learning more relatable for them and encourages them to ask questions and share their experiences."

Using student cultural viewpoints inside educational spaces enhances teaching quality as it creates personalized learning environments which ignite student curiosity. Curiosity receives substantial influence from both cultural elements and socio-economic personal situations. Students from upper socioeconomic groups typically have better access to educational books together with learning tools as well as extracurricular activities which enable them to explore additional learning opportunities beyond school hours. The available resources at lower socio-economic backgrounds restrict students' capacity to engage with learning since it hampers their curiosity development.

"I've noticed that children from wealthier families come to school with more experiences to share, like vacations or trips to museums. For children from less privileged backgrounds, we try to create those experiences in the classroom by bringing in outside resources, like guest speakers or field trips."

Real-world experiences from the classroom help teachers minimize social inequality gaps by making school material available to all students no matter their financial background. The background financial circumstances of children directly affect how they receive educational support in their homes. These financial resources enable families to give their children supplementary educational help which contains private tutoring along with other enrichment activities and digital tools for learning. Limited resources in some families reduce the support

they provide to children thus affecting their natural curiosity for learning and their motivation to learn.

“I know that some children don’t have access to the same learning tools at home, so I try to make sure the classroom is a place where they can experience hands-on learning, something they might not get elsewhere.”

The classroom environment controlled by teachers creates opportunities for students from all backgrounds to explore their curiosity through a quality learning environment. Socio-economic factors produce multiple impacts on the emotional nature and psychological state of what happens in the classroom. Food insecurity together with housing instability and familial stress becomes additional obstacles for children from disadvantaged backgrounds because they affect their ability to concentrate and participate in learning activities. A classroom environment that teachers construct carefully alongside their sensitivity to students' challenges produces nurturing conditions which stimulate curiosity accordingly.

“It’s important to acknowledge the challenges some children face outside of school. I try to offer extra support and encouragement to help them feel confident in their ability to learn and explore.”

By recognizing the broader context in which children live, educators can better understand the factors that may influence a child’s curiosity and take steps to address these challenges in the classroom.

This study aimed to explore how early childhood educators foster curiosity in young learners, with particular attention to teacher facilitation, the classroom environment, and the impact of cultural and socio-economic factors. The findings have provided significant insights into these areas, contributing to the existing literature and addressing notable gaps in research regarding the practical strategies educators use to spark curiosity and the broader contextual factors that influence curiosity development in early childhood education.

Research shows how current literature lacks distinct empirical studies about instructional methods which drive curiosity development in mixed-level classrooms. Research on curiosity which leads learning according to Murayama (2022) shows limited availability especially in practical educational applications. Theoretical studies dominate alongside those with broad scope generalization to teaching processes. Thus, most investigations overlook actual implementation of these concepts in educational environments. This component contributes significantly to fill an existing knowledge gap regarding actionable strategies to cultivate young children's curiosity through offering exploratory encounters and unbound materials and supportive learning spaces for student self-regulation. The research participants identified choice and real objects as essential factors which helped to develop student curiosity. The research by Malone & Lepper (2021) confirms that students become more interested by nature when they follow their own selected areas of study. The authors advise teachers to initiate critical learning through environmental contemplation according to Kistoro et al. (2023) while the presented study confirms this approach.

The development of curiosity depends heavily on classroom environment according to this research investigation. Research indicates that learning and enquiry have direct correlations with environment when applied to children who need stimulating settings to encourage their enquiry nature. Research about concrete classroom architecture and its influence on desire to know with curiosity remains scarce. The research describes how classroom layouts including learning spaces for differentiation and elements of open space learning and activity/location unforeseen and avenues for displaying curiosity enhance curiosity as a learning approach. This study backs the findings of who stated that parents need to establish environments which

facilitate learning activities. The educators deliberately determined the space organization in both settings which revealed the direct relationship between space organization and curiosity development. The practical classroom arrangements detailed in this type of information provide valuable contributions to research which demonstrates proper ways to increase educator curiosity.

This study has added to existing research by evaluating both socio-economic elements along with their influence on curiosity. Past literature (Farkas, 2003) proves the existence of socio-economic enrollment variations in early child care yet little research investigates how these factors influence curiosity growth. This research verifies that children with low SES get less support for the development of curiosity. Children from families with higher socioeconomic standing benefit from diverse educational experiences between school and outside environments so they naturally demonstrate more curiosity. Children in the lower socioeconomic status level experience resource limitations which prevent them from using their hands as well as classroom time to stimulate curiosity. Studies validate the theory that high-wage parent families give their children numerous educational resources which support educational development. The study reveals teachers have the ability to reduce these inequalities by delivering specific classroom stimuli like teaching games as well as visits and guest speakers. The research data validates the general finding which states that students from 'loses' backgrounds need similar learning opportunities to students from 'highness' backgrounds.

This research explores socio-economic components and their effects on curiosity development as its main contribution to filling gaps in existing scholarly works. Many previous studies have documented social economic inequalities in admission rates to early child care and education but few investigations exist about how these factors affect curiosity growth during this period. According to the research findings low SES children receive limited resources for developing their curiosity level. Children from elevated socioeconomic brackets receive plentiful access to structured educational activities at school and beyond so they develop enhanced curiosity levels. The lack of both financial backing and time for experiential learning prevents lower SES children from developing their curiosity inside and outside the classroom. There is evidence supporting the belief that children from wealthy families acquire several educational opportunities that stimulate their curiosity. Education professionals can reduce unequal learning opportunities through their classroom activities especially with teaching methods such as games or regular visits and guest speakers. The research agrees with earlier reports that students identified as having 'loses' must receive equivalent learning opportunities as those with 'highness'.

This study confirms that additional education strategies must be included along with environmental characteristics as well as other factors which influence young learners' curiosity development. Both researchers emphasize both concept exploration and practical learning for early childhood education. Some of the essential aspects in curiosity cultivation which involve teacher facilitation along with classroom environments and socio-cultural specific difficulties for creating curiosities remain insufficiently studied. This research value is significant because it reveals how these elements combine together to strengthen classroom environments that help students explore while teachers guide learning through authentic cultural resources. Teachers must adjust their plans through schemes to develop because various socio-economic factors either help or hinder children's learning potential.

Conclusion

The current research investigation provides detailed knowledge about how early childhood educators tackle the challenge of fostering curiosity in young learners. The research findings

contributed to filling knowledge gaps in teacher facilitation studies along with effective classroom climate analysis and socio-cultural and socioeconomic factors by providing specific implications which demonstrate ways to nurture curiosity. Such factors including teacher directions and good classroom layouts and variable student profiles function together to create successful learning environments according to these results. The methods presented in this work allow practitioners to incorporate curiosity-building strategies into existing and developing preschool systems which makes it easy for future students to benefit from positive educational interactions.

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