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DO EXPERIENCE AND PROFESSIONAL QUALIFICATION COUNT? EVIDENCE FROM EARLY CHILDHOOD CENTRES IN THE ASUOGYAMAN DISTRICT OF GHANA

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Abstract:
This qualitative case study explored how teaching experience and professional qualification influence early childhood teachers' knowledge and application of the classroom environment in Ghana's Asuogyaman District. The study followed an earlier quantitative investigation that found no statistically significant differences in environmental knowledge or practice across qualification and experience levels, prompting the need for deeper contextual exploration. Using semi-structured interviews and participant classroom observations from seven purposefully selected teachers across all circuit clusters, the study examined five domains of environmental knowledge and five domains of application. The analysis, guided by Braun and Clarke's thematic approach, revealed that highly experienced and qualified teachers demonstrated deeper conceptual understanding of spatial layout, environmental print, cultural relevance, and the use of the environment as a pedagogical tool. Additionally, they demonstrated exceptional flexibility, reflective practice, and integration of the learning environment. On the other hand, less experienced teachers relied primarily on outside assistance and demonstrated procedural or surface-level knowledge. However, triangulation revealed that these individual differences were hushed by contextual constraints, such as crammed classrooms, a lack of resources, and inadequate infrastructure, which explained the previous quantitative findings. The study concludes that although teachers' conceptual and practical competence are significantly shaped by their experience and qualifications, systemic barriers may prevent them from expressing themselves fully. It is recommended that CPD be reinforced, mentorship programs, reflective practice frameworks, and culturally sensitive classroom design be implemented in light of the findings.

Keywords: teaching experience, professional qualification, early childhood education, teachers' knowledge, and classroom environment

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1. Introduction

This study was purported to investigate whether or not the experience and professional qualification Early Childhood Education (ECE) teachers possess influence their understanding of the dynamics of the ECE classroom environment and how they apply the environment to facilitate learners' attention in the teaching and learning activity, in the Asuogyaman District of Ghana. The development of children's cognitive, emotional, social, physical, and behavioural skills, which are necessary for success throughout life, is largely dependent on ECE (UNESCO, 2021). Early Childhood Education has garnered significant policy attention in Ghana, with reforms emphasizing that early learning environments have a significant impact on children's attentiveness, engagement, and readiness for lifelong learning. The Early Grade Curriculum in Ghana and the National Teachers' Standards (NTC, 2017) are two examples of modern frameworks that highlight learner-centred pedagogy, developmentally appropriate practices, and purposeful environments as ways to motivate children's interest in paying attention.

The classroom environment, which includes the physical layout, routines, instructional materials, visual print, socioemotional climate, and teacher-learner interactions, is crucial to the various factors that determine children's attention and participation in the classroom. These continue to play a significant role in determining the focus and behaviour of learners (Barrett *et al.*, 2019; Gore *et al.*, 2016). The ECE environment frequently serves as both an instructional tool and an adaptive mechanism to compensate for infrastructural constraints, varying class sizes, and inconsistent teacher preparation in low-resource contexts like Ghana's rural districts.

An ECE classroom enriched with learning centres, environmental print, safety considerations, child-friendly displays, and a conducive space simulates cognitive pathways that help children make sense of their environment. It is equally able to improve attentiveness, decrease off-task behaviour, and encourage children's self-regulation and exploration (Barrett *et al.*, 2019). While Bronfenbrenner views the classroom as a microsystem that directly affects children's behavior and learning, Vygotsky's sociocultural philosophy acknowledges the classroom as a structured social space where scaffolding takes place.

The primary architects of the ECE environment and its utilisation are teachers. Thus, their expertise, professional judgment, experience, and training have a significant impact on how classroom spaces are set up and utilized to maximize learners' attention and participation (Rashid *et al.*, 2025; Alzahrani & Nor, 2022; Audisio *et al.*, 2024).

2. Theoretical Framework

This study is anchored in a blended theoretical framework integrating Teacher Professional Capital Theory by Hargreaves & Fullan, Vygotsky's Sociocultural Theory and Bronfenbrenner's Ecological Systems Theory.

2.1 Teacher Professional Capital Theory

According to Hargreaves & Fullan's (2012) theory, a teacher's effectiveness is built on a combination of different "capitals". They conceptualize professional capital to comprise human, social, structural and decisional capital. This framework facilitates the understanding of how a teacher's professional development and learner outcomes are influenced by their individual skills and knowledge (human), their relationships and networks (social), the larger organizational structures and systems they operate within (structural), and their capacity to make sound professional decisions (decisional). This theory's inclusion is justified because a previous quantitative study did not find any significant differences based on experience or qualification. Therefore, professional capital theory helps explain why teachers may have human capital (qualifications) but lack strong social or decisional capital because of systemic limitations or a lack of mentorship.

2.2 Vygotsky's Sociocultural Theory

According to Vygotsky's (1978) sociocultural theory, social interaction in structured settings facilitates children's entry into higher psychological processes. Therefore, the classroom setting serves as both an interactive learning tool and a backdrop. In order to scaffold children's attention within the Zone of Proximal Development, teachers act as "*more knowledgeable others*," utilizing environmental cues such as manipulatives, print, movement spaces, songs, stories, routines, learning centres, questioning techniques and visual stimuli. Examining how teachers with different educational backgrounds view the environment as a pedagogical tool is supported by the application of this theory. Differences in how teachers scaffold learning through environmental tools should therefore be apparent if experience and qualifications are important.

2.3 Bronfenbrenner's Ecological Systems Theory

According to Bronfenbrenner (1977), children develop within nested systems of influence, with their immediate physical and social surroundings serving as the microsystem that most directly impacts children's behaviour, engagement, and attentiveness are most directly impacted by. The classroom in an ECE setting operates as a complex microsystem made up of routines, lighting, ventilation, furniture, environmental print, teacher actions, and peer interactions. It makes sense that the theory looks at how teachers influence the learning environment in their role as microsystem quality mediators. The ecological viewpoint also supports examining the reasons why teachers with different training and experience levels engage in similar environmental practices. In that case, context-level structures such as school infrastructure, district policies, and cultural norms may override individual-level experiences.

These frameworks, when combined, provide a strong lens through which to view how teachers' professional background, experience, and contextual limitations influence how they perceive and utilize the ECE classroom environment. They also enable a

thorough interpretation of teachers' environmental choices, behaviours, and competencies across experience and qualification categories.

3. Empirical Review

Empirical research on early childhood classroom environments increasingly demonstrates that teachers' knowledge of the environment and how they apply it are intricately linked, but not in a straightforward linear fashion where more years of experience or higher qualifications inevitably lead to better practice. The empirical literature is organised around the research questions (Diamond & Ling, 2020; Gore *et al.*, 2016).

3.1 Knowledge of Classroom Environments

The physical and psychological environment of the ECE classroom significantly shapes children's motivation, focus, and curiosity. Research consistently affirms that the ECE environment significantly develops learner attentiveness, engagement, and behaviour (Yang & Gong, 2025; Barrett *et al.*, 2019; Berger, 2015). Barrett *et al.* (2019) demonstrate that environmental features, including lighting, ventilation, furniture arrangement, colour, accessible materials, arranged learning centres, environmental print, and display density, enhance attentiveness and independent learning among children. Berger (2015) emphasizes how physical environments stimulate creativity and exploratory behaviour, especially when equipped with sensory materials and purposeful learning corners.

Teachers' understanding of environmental print and visual stimuli is closely related to physical layout. Children's emergent literacy and concept development, stronger literacy practices, and more sustained engagement in literacy tasks can all be greatly improved by the purposeful use of environmental print (Theobald, 2025). Additionally, teachers have an influence on the emotional climate by providing warmth, safety, and responsiveness, which are critical for maintaining learners' attention (Hamre & Pianta, 2019).

Research assumes that teachers both understand the role of environmental print and can materialize that understanding in resource-constrained settings. While some highly qualified teachers continue to underutilize environmental print because of workload pressures, time constraints, or lax institutional expectations, other evidence suggests that teachers with little formal ECE training can still exhibit high levels of creativity with hand-made charts and labels (Berger, 2015; Dewi *et al.*, 2024).

Another crucial aspect of teachers' environmental knowledge is their awareness of accessibility and safety (Yang & Gong, 2025. In Ghana and other settings, preschool teachers are expected to uphold environments that are developmentally appropriate, safe, and orderly. This implies that a teacher's professional knowledge should include safety awareness (NAEYC, 2019). However, empirical research shows that awareness does not always result in consistent practice. Even in classrooms run by highly qualified or experienced teachers, studies in low-resource ECE settings frequently reveal risks like

crammed classrooms, unsecured furniture, and hazardous material storage, indicating that systemic resourcing and infrastructure deficiencies can overwhelm teachers' intentions (Berger, 2015).

Teachers are expected to show that they understand the classroom environment as a learning tool in addition to considering it as a container that needs to be orderly and secured. The quality of the learning environment, which includes the availability of manipulatives, the layout of learning centres, and the use of visual cues to support instructional routines, is strongly correlated with the instructional practices of teachers in early literacy classrooms (Theobald, 2025).

Highly qualified or experienced teachers create visually stimulating environments, and professional practice with increasing resources characterizes the environment as a "third teacher" that shapes children's engagement and behavioural regulation (Edwards, 2018). While experienced teachers rely on teacher-dominated instructional routines that do not fully utilize the environment as a pedagogical tool, some less formally qualified teachers use modest resources in highly strategic ways to promote exploration, peer interaction, and self-directed learning (Gore *et al.*,2023; Yang & Gong, 2025).

Lastly, a significant body of empirical research looks at how sensitive teachers are to contextual and cultural relevance in classroom design. Stronger identity development, increased learner motivation, and more genuine engagement are typically supported in early childhood classrooms that incorporate local languages, artifacts, stories, and community practices (Simoncini *et al.*, 2025; Boyd & Phillips, 2021).

Selecting these strands captures the main dimensions through which classroom environment quality is conceptualised. They resonate with Vygotsky's theory of tools and signs mediating learning, Bronfenbrenner's emphasis on microsystems, and empirical frameworks that break down environmental quality into structural, material, and relational components.

3.2 Teaching Experience and Environmental Competence

Numerous studies indicate that environmental knowledge and practice are influenced by teacher experience and training (Rashid *et al.*, 2025; Audisio *et al.*, 2024, Gore *et al.*, 2023). Researchers contend that more seasoned teachers exhibit superior management techniques, environmental design, and classroom organization (Boyd & Phillips, 2021, McClelland *et al.*, 2019). They learn to make intuitive decisions and recognize patterns in behavior.

Higher-qualified teachers frequently exhibit a deeper theoretical understanding of classroom ecology, inclusive design, and developmentally appropriate environments, (Manning *et al.*, 2017; Darling-Hammond *et al.*, 2020). According to McClelland *et al.* (2019) and Stronge *et al.* (2011), seasoned teachers also tend to improve their intuitive understanding of children's behavioural cues and modify the environment to promote attentiveness. These presumptions are challenged by new research, which contends that experience by itself does not ensure high-quality practice, particularly in the absence of

continuous professional development or reflective engagement (Hargreaves & Fullan, 2012), and that practice may also be restricted by contextual factors (Hamre & Pianta, 2021).

Inconsistent relationships between experience and the quality of the classroom environment were discovered by Yang & Gong (2025). According to Hamre & Pianta (2021), teacher experience by itself cannot predict environmental effectiveness in the absence of supportive infrastructure, reflective practice, institutional support, and ongoing professional development. Qualifications may also have limited expression in environments with uniform physical infrastructure and scarce resources Yang & Gong, 2025).

This nuanced understanding was confirmed by the quantitative study carried out in the Asuogyaman District: there were no statistically significant differences in teachers' knowledge or application of the ECE environment to improve attentiveness based on teaching experience or professional qualification. The results highlight how individual-level differences may be minimized by contextual factors such as limited resources, structural limitations, packed classrooms, administrative demands, and inadequate supervision (Oppong Frimpong *et al.*, 2025).

3.3 Qualification and Application of ECE Classroom Environment

It is anticipated that the qualification enhances pedagogical knowledge, such as classroom ecology and child-centred design (Manning *et al.*, 2017). When resources permit, more qualified teachers frequently demonstrate greater environmental awareness and application (Darling-Hammond *et al.*, 2020). The classroom application is divided into five categories that convert intangible concepts of "application" into tangible manifestations of professional capital (NAEYC, 2019). They are confident in classroom design decisions, adaptability to learner needs, integration of instruction with the environment, responsiveness to feedback, and reflective practice.

Although the relationship is neither consistent nor deterministic, empirical research indicates that initial preparation and cumulative experience both influence confidence in classroom design decisions (Fonsén, 2023; Hamre & Pianta, 2021; Stronge *et al.*, 2011; Boyd & Phillips, 2021). Higher education levels are somewhat positively correlated with global classroom quality metrics, according to systematic reviews of teacher qualifications and early childhood environment quality (NAEYC, 2019). Other research recognizes that systemic limitations frequently restrict teachers' ability to apply theoretical knowledge, regardless of qualification, and that highly qualified teachers report low confidence when posted to resource-poor or unfamiliar settings (Hamre & Pianta, 2021; Stronge *et al.*, 2011).

Another area where literature both supports and challenges the added value of experience and formal qualification is adaptability to learner needs. Research indicates that seasoned teachers are better at adapting activity structures, noise levels, and spatial arrangements to children's behavioural cues (Fonsén, 2023). However, it has been

reported that years of experience alone are not a trustworthy quality indicator due to weak and inconsistent associations (Theobald, 2025).

The integration of instruction is another use of the classroom setting. Instead of viewing the environment as a static milieu, the most experienced ECE teachers intentionally incorporate environmental features into their pedagogical strategies (Boyd & Phillips, 2021). Children's engagement increases when teachers align learning centres, displays, and manipulatives with contemporary educational objectives. Nevertheless, teachers' ability to enact these integrated practices does not always result in a direct qualification or experience gradient (Theobald, 2025).

It is becoming more widely acknowledged that a crucial aspect of how teachers' professional capital is expressed in classroom environmental decisions is their responsiveness to feedback, whether it comes from learners, peers, supervisors, or caregivers. Teachers who regularly participate in peer observation, coaching, and feedback are more likely to modify learning centres, seating arrangements, and visual aids to better align with the evolving needs of their learners (Gore *et al.*, 2023). However, access to opportunities for high-quality feedback varies and is not significantly correlated with years of teaching experience or individual qualifications (Simoncini *et al.*, 2025; Boyd & Phillips, 2021).

One of the most important ways to connect experience, education, and the application of classroom environment knowledge is through reflective practice. Reflective practice has emerged as a fundamental mechanism linking experience, qualification, and the application of classroom environment knowledge. Reflective practitioners are more likely to identify and address patterns of off-task behavior, movement bottlenecks, or underutilized classroom areas in early childhood settings, redesigning space and resources appropriately. However, workload and systemic pressures frequently squeeze out reflective opportunities, so if reflection is lacking or superficial, teachers may gain years of experience without appreciably improving their environmental competence (Gore *et al.*, 2021; Boyd & Phillips, 2021).

These empirical findings support a qualitative follow-up investigation into how teachers' environmental practices appear in actual classrooms and how contextual and systemic factors either amplify or mitigate the impact of experience and qualification.

4. Statement of the Problem

Although Ghana is dedicated to enhancing foundational learning through better ECE pedagogy and classroom settings, contextual realities present a conflicting picture, and persistent problems with classroom inattentiveness are still evident in a number of areas, including the Asuogyaman District. Therefore, in order to manage this situation by generating and sustaining the attention and engagement of learners in the district, there is a need for veteran teachers who are more qualified and have accumulated experience over the years.

However, a quantitative study conducted in the district by Oppong Frimpong *et al.* (2025) found no statistically significant differences in teachers' knowledge or application of classroom environmental strategies based on their years of teaching experience or professional qualification. From the study, whether teachers held SHS certificates, diplomas, bachelor's degrees, or master's degrees, and whether they had taught for less than a year or more than sixteen years, their environmental practices were largely similar. This finding contradicts long-established educational assumptions that experienced or higher-qualified teachers possess superior environmental competence and raises compelling questions about the deeper contextual, systemic, cultural, or pedagogical factors that may have neutralized the impact of the experience and qualification.

The quantitative analysis by itself was unable to explain the emergence of these patterns. The beliefs, values, contextual barriers, and classroom practices that underlie teachers' environmental behaviours cannot be explained by numbers. The mere lack of statistically significant results does not imply that experience or qualifications are unimportant; rather, it indicates the existence of a complex interaction between individual competencies and structural realities. In order to investigate teachers' lived experiences across a range of professional qualifications and experience levels, as well as how they interpret, negotiate, and implement environmental strategies in the face of these realities, a qualitative case study was required.

This study was therefore positioned to inquire into the contextual realities surrounding the ECE teachers' knowledge and application of the classroom environment in the Asuogyaman District, to complement the earlier quantitative study, deepen understanding, interpret contradictions, and establish corroborations and triangulations.

4.1 Research Questions

From the review of the literature, the following research questions were formulated to guide the study.

1) What knowledge do ECE teachers possess about the classroom environment?
2) How does teaching experience affect ECE teachers' knowledge and application of the classroom environment?
3) How does professional qualification influence ECE teachers' knowledge and application of the classroom environment?

5. Methodology

5.1 Research Design

To investigate the lived experiences, interpretations, and environmental practices of ECE teachers in the study area, this study employed a qualitative research approach and a case study design, which is an in-depth investigation of a bounded system, an individual, group, setting, or phenomenon within its real-life context (Yin, 2018). Given the blurred nature of the boundaries between phenomenon and context, the use of this design was to

understand this contemporary issue of why teachers with different experiences and qualification levels exhibited similar environmental practices. The use of this design was justifiable because it allowed the integration of interviews and observations to yield complete and nuanced data. By producing detailed explanations that complemented the previous quantitative analysis, the design equally supported the follow-up nature of this study.

5.2 Participants and Sampling Procedure

The study's population comprised all 141 ECE teachers in the Asuogyaman District. The district operates seven educational circuits, and research suggests that when cases are contextually bound, qualitative sampling should be guided by naturally occurring administrative clusters (Creswell & Poth, 2018). With the permission and help from the circuit supervisors, a school was purposefully identified and selected from each circuit, and the seven participants were selected based on the demographic characteristics of the quantitative data.

Maximum variation sampling was used to capture environmental practice diversity. The two main factors that guided this were years of teaching experience and professional qualification. Seven participants were then chosen to represent the entire spectrum of experience and qualification categories, as well as the seven circuits. The sample size (seven) resonates with qualitative standards, which emphasizes depth over breadth, especially when each participant represents a distinct experiential category (Creswell & Poth, 2018). Four classrooms representing experience and qualification were also selected for observation. The distribution of participants is presented in Table 1.

Table 1: Participants' Distribution

Circuit	Pseudonym	Professional qualification	Years of teaching experience
Akosombo A	Mrs Abu (P4)	Master's	7 years
Akosombo B	Ms. Anyimah (P6)	Master's	20 months
Anum Boso	Madam Sarah (P3)	Diploma	10 months
Apegusu	Mr Yimana (P7)	Degree	2 years
Frankadua - Asikuma	Mr Tekyi (P2)	Diploma	15½ years
Gyekiti	Ms Adusa (P1)	SHS	1 year
Senchi	Madam Esinam (P4)	Degree	18 years

5.3 Data Collection Tools and Procedures

A semi-structured interview guide and an observation guide were the two data collection instruments used in this study. Interviews examined participants' perceptions of the environment, attentiveness, beliefs, classroom arrangement decisions, and reflections. Permission was first sought and received from the district education office. After this, the schools and potential participants were purposefully identified with the help of the ECE Coordinator, circuit supervisors and the headteachers. The participants were subsequently contacted based on their years of teaching and professional qualifications.

Each interview lasted roughly thirty minutes at the participants' convenience and availability, and they were also audio recorded with participants' permission.

The classroom observation captured authentic behaviours of a full lesson, which related to environmental set-up, instructional space, material use, safety precautions, routines, learner movement, class control, environmental print, and interaction patterns. Interviews were conducted after the observation, unless the participant indicated otherwise. The intention was to corroborate, triangulate, or contradict what was observed in the lesson delivery and the participants' responses from the interview session. Informed consent, anonymity, confidentiality, voluntary participation, and flexible scheduling were among the ethical considerations observed in the data collection procedures.

5.4 Data Analysis

The thematic procedures described by Braun and Clarke (2019) were followed in the data analysis. Both inductive and deductive coding were applied to the transcriptions of the interview data. To triangulate results, observational notes were incorporated into the coding procedure. To find convergences, divergences, and context-specific patterns, emerging themes were compared among participants and among the data sets. Trustworthiness principles in the form of confirmability, credibility, transferability, and dependability were maintained throughout the data analysis procedures.

6. Analysis and Discussion of Findings

Findings from the classroom observation and the interview are presented and discussed in the next section. For the sake of anonymity, participants have been represented with just letters and numbers in the interview quotes, and their pseudonyms are used for the vignette as presented in Table 1. First, the interview responses

6.1 Research Question 1: What Knowledge do ECE Teachers Possess about Classroom Environment?

Five interconnected knowledge domains were identified through the findings. These include the physical design, environmental print, accessibility and safety, the environment as a teaching tool, and cultural significance. They all showed different degrees of conceptual understanding in terms of experience and qualification. The patterns are consistent with Bronfenbrenner's ecological theory of the classroom microsystem as a direct developmental influence and with the larger body of research on environmental competence in ECE contexts (Barrett *et al.*, 2019; Bergen, 2015; Theobald, 2025).

Theme 1: Understanding of the Physical Environment

Participants' responses highlighted varied degrees of understanding concerning how the physical layout affects children's learning experiences. Some of them are captured thus:

> *"I know that the physical layout influences how children interact and learn. I always organize centres to support different learning goals."* (P5)

> *"I'm not sure how furniture placement really affects the children, but I keep the tables clean and aligned."* (P3)

> *"I intentionally arrange learning areas to foster collaboration and engagement, using learning corners and thematic displays."* (P4)

This theme reveals a spectrum of knowledge based on teaching experience and educational level. The findings established that highly qualified and experienced teachers demonstrated sophisticated spatial literacy by purposefully setting up centres to promote cooperation and inquiry. In line with Vygotsky's theory of structured environments that scaffold learning within the Zone of Proximal Development, classroom observation verified intentional zoning and movement pathways. These results support empirical awareness that experience refines teachers' instinctive judgments regarding environmental arrangement (McClelland *et al.*, 2019; Manning *et al.*, 2017).

On the other hand, less experienced teachers had procedural rather than conceptual knowledge. Although their classrooms were tidy, they lacked pedagogical intentionality. This is consistent with research showing that less experience frequently results in environments that prioritize compliance over child-centred design (Yang & Gong, 2025). However, it was clear from the findings that even teachers with very little training showed signs of developing awareness when using labels and flashcards. This suggests that environmental competence is not entirely determined by human capital (Hargreaves & Fullan, 2012).

Theme 2: Knowledge of Environmental Print and Visual Stimuli

On this theme, visual literacy and environmental print emerged as important components of teachers' knowledge. The responses suggested that environmental print was more effectively used by experienced and better-educated teachers. For example:

> *"I incorporate letter and number charts, colour codes, and visual instructions. These are learning tools, not just decorations."* (P7)

> *"Visuals are essential. I rotate charts and flashcards regularly to maintain interest and link to lessons."* (P4)

"I use a few wall charts, mostly gifts from NGOs. I don't really plan their use. I try to use them when I think they can be used." (P1)

Experienced and more skilled teachers purposefully used visuals by rotating charts, incorporating storyboards, and connecting print to instruction, as was evident through the findings, and Theobald's (2025) emphasis on environmental print as a literacy scaffold is supported by this. They described deliberate use of visuals to reinforce concepts and sustain learners' engagement. Perhaps these teachers understood environmental print as an instructional tool embedded in everyday routines.

Less experienced teachers, however, often used wall charts and decorations in static or ornamental ways, suggesting limited awareness of their pedagogical potential. One participant admitted to using visuals, "mostly gifts from NGOs", without integrating them into lesson delivery. This implies that teachers lacked sufficient training in intentional visual design and so preferred viewing displays as decorations.

It is interesting to note that despite having little experience, the observation suggests that some more recent teachers with degrees showed strong visual literacy. This suggests that a degree can make up for a lack of experience (Manning *et al.*, 2017). However, this is only feasible in situations where contextual limitations are controllable.

Theme 3: Awareness of Safety and Accessibility

Responses that emerged from this sub-theme suggested that safety and accessibility were recognized by all participants, but understanding varied in depth. Participants responded that:

"I check daily for loose items or anything sharp; safety is my top concern." (P2)

"Children should feel safe, so I organize materials to prevent accidents and allow easy access." (P5)

"I follow the checklist from my supervisor, but I don't know the reason behind all of it." (P3)

Understanding of safety and accessibility was common across experience levels with varied depth. Although their levels of comprehension varied, all teachers acknowledged the importance of safety. While less experienced teachers followed checklists without possibly comprehending the reasoning behind them and often relied on external guidance, seasoned teachers implemented safety precautions proactively. This reactive approach suggests procedural compliance rather than proactive engagement with safety concepts. The more seasoned teachers embed safety and accessibility principles into their daily routines, constantly checking for hazards and ensuring free movement. This shows how experiential knowledge enriches practice.

There is a disconnect between awareness and implementation, as evidenced by the sharp contrast between the structured safety protocols and the observation of protruding nails in some classrooms. This discrepancy is consistent with research demonstrating that safety procedures are frequently inconsistent in environments with limited resources (Gore *et al*., 2023; Theobald, 2025).

Theme 4: Knowledge of Classroom Environment as a Learning Tool
Per the participants' responses that emerged from this sub-theme, an advanced understanding of the classroom as a pedagogical tool is evident in experienced educators, especially those with higher education than the newer teachers, who often lack this conceptual framework. Participants' responses are captured thus:

> *"I treat the environment as the third teacher; it supports exploration and learning."* (P4)

> *"The classroom can teach if well set up. I use displays and centres to guide inquiry."* (P6)

> *"I don't know how the room can teach. I do most of the teaching myself."* (P3)

Experienced teachers recognized the environment as "the third teacher," employing it as an active medium for exploration and inquiry. They structured displays and learning centres to stimulate discovery, echoing Reggio Emilia's philosophy. Meanwhile, inexperienced teachers are assigned to do most of the teaching themselves. This reveals a limited recognition of environmental affordances for self-directed learning. The sociocultural theory that environmental tools mediate cognitive development is substantially supported by these patterns (Vygotsky, 1978).

Theme 5: Cultural and Contextual Relevance in Classroom Setup
Teachers' ability to contextualize their classrooms culturally marked another distinction. Participants' responses, as gathered from this theme, are presented below:

> *"I use local materials and integrate cultural symbols to make the environment relatable."* (P)

> *"I normally use what I get from my headteacher and other teachers; I haven't thought about including local themes."* (P1)

> *"I include Ghanaian folktales, drums, and kente cloth to decorate and teach. They are better able to relate to what is being taught."* (P5)

It can be inferred from the data that experienced teachers often localized their environments to reflect children's lived realities to enhance engagement. They intentionally used local materials such as Ghanaian folktales, kente cloth, and drums to

create culturally responsive spaces. These practices, as was observed during the lesson delivery, potentially strengthened children's sense of identity, belonging and engagement. Experienced teachers' incorporation of Ghanaian artifacts demonstrates alignment with the literature on culturally responsive pedagogy (Simoncini *et al.*, 2025; Boyd & Phillips, 2021).

Due to their inadequate experience, constrained by limited resources, lack of cultural awareness or reliance on outside resources, novice teachers seldom use cultural resources. They rather depended on externally provided materials, seldom integrating local relevance into their design. This reflects the importance of contextual understanding alongside pedagogical knowledge. This subtlety demonstrates how contextualization practices are influenced by the interaction between sociocultural and experiential capital (Hargreaves & Fullan, 2012).

Findings from research question 1 indicate that knowledge of the classroom environment among ECE teachers ranges from basic procedural awareness to advanced pedagogical sophistication. The discussion establishes a distinct gradient showing that deeper conceptual knowledge is developed through experience and qualification, reaffirming that both experiential learning and formal training are instrumental in shaping comprehensive environmental knowledge in ECE settings. This shows that teachers' knowledge varies significantly but that structural conditions mediate its expression. This adds qualitative depth to the previous quantitative finding of no significant differences.

6.2 Research Questions 2 and 3: How do teaching experience and qualification influence ECE teachers' application of classroom environment?

The five subthemes, re-stated as confidence, adaptability, instructional integration, responsiveness to feedback, and reflective practice, describe how teachers apply their knowledge based on their training and experience, as revealed through the interview responses and the vignette. Strong triangulation and intricate relationships between background, experience, individual agency, and contextual barriers are revealed through the findings. first the vignette.

6.2.1 Vignettes of Classroom Practice

Four classrooms were purposefully selected to represent the 4 categories of professional qualification and years of teaching experience. Thus, the classroom of a participant who was less experienced and less educated, a participant who was less experienced but highly educated, a participant who was highly educated and more experienced, and a participant who was more experienced but less educated, were selected for the classroom observation. Every vignette was an ECE classroom session that included, among other things, environmental knowledge, safety, the use of materials, learner engagement, cultural relevance, responsiveness, and reflective practice.

Vignette 1: SHS Graduate with One Year of Teaching Experience

The KG1 classroom was modestly furnished; wooden desks were arranged in clusters of four. The teacher for this class, Ms. Adusa, was a 21-year-old SHS graduate. She introduced her literacy lesson with a familiar local rhyme *Kyekyekule,* to excite the children. Her learning objectives were drawn from the curriculum, and they were to help children identify the beginning sounds of common objects. She used a set of hand-drawn flashcards. Despite her limited experience, she showed a notable awareness of environmental print by pinning labels like "marketplace", "hospital" and "fruits" around the classroom.

Ms. Adusa moved around the classroom to monitor learners when they were on task and knelt beside groups to ask questions. When she asked the question "What sound begins a *ball*?", she encouraged learners to touch objects in their environment that matched the sound. The children excitedly pointed at the "bag" of their friends. Her class control looked gentle but effective.

Conversely, her spatial arrangement lacked defined learning centres. In terms of safety, protruding nails on some desks went unnoticed. Her reflective capacity was promising. After the lesson, she expressed concern that the class size and the smaller number of learners in the class made it easy for her to organise her class.

Vignette 2: Diploma Holder with Seven Years of Experience

Mr. Tekyi delivered a numeracy lesson on counting objects up to 20. With fifteen and a half years of experience, he confidently arranged the class into a semi-circle to enhance visibility. His room was decorated with colourful number charts and learner-made drawings, which reflected his strong understanding of environmental print.

He started the lesson with a rhythmic clapping pattern of "One, two, buckle my shoe" rhyme. He used bottle tops and sticks as manipulatives so that each learner could touch and count items. His questioning technique was strategic and transitioned from simple recall to more complex prompts. "What number comes just before 9?" is an example.

Mr. Tekyi balanced his class control and used transitions smoothly. He anticipated restlessness and incorporated brief movement breaks. Safety checks were evident, as sharp objects were stored away. He optimized ventilation by opening both doors and all the windows. Mr Takyi's experience is demonstrated through his lesson delivery.

Vignette 3: Master's Holder with Seventeen Years of Experience

Although her classroom was overcrowded, Mrs. Abu still managed to keep it well-resourced. She showed mastery of instructional environment integration. Her phonics lesson incorporated multisensory stations, like picture-matching, letter-tracing and sand trays. Mrs. Abu's deep theoretical knowledge was arguably evident in her use of Universal Design for Learning principles, where learners chose their preferred stations. She differentiated tasks and provided visual aids. Safety was impeccable; materials were neatly arranged, and pathways were clear, although restricted.

All these notwithstanding, she overcontrolled the classroom environment, which limited children's spontaneous exploration. She frequently rearranged learners who deviated slightly from instructions. She exclaimed that, given the number of children in the class, her decisions were the most appropriate to ensure that every learner benefited from the lesson.

This implies that higher qualifications and experience are extremely valuable in the application of theoretical knowledge. Yet, they do not always yield optimal environmental practice in the midst of systemic challenges.

Vignette 4: Degree Holder with Two Years of Experience

Mr. Yimana's KG2 class was filled with materials like bottle tops, empty cans and boxes, counters, and locally made charts. His lesson was on creativity, which he started with a call-and-response rhyme, "Teacher says draw, children say yes I can draw!". He organized a flexible seating arrangement with mats on the floor to allow children to work in groups.

Mr. Yimana showed a strong understanding of environmental stimuli. To improve predictability and reduce distraction, he used pictorial schedules, daily routines, and colour-coded charts. He also encouraged children to move freely between tasks.

However, his reflective practice revealed that he sometimes prioritizes aesthetics over safety, placing colourful charts near open windows where they could fall. It can be argued from his lesson that younger teachers trained in modern methods could show strong environmental awareness, although they could fall short in applicability due to experience. Responses from the interview, presented in line with the sub-themes, follow this vignette.

Theme 1: Confidence in Classroom Design Decisions

Responses that emerged from the analysis of both the interview and the observation indicate that confidence in the classroom setup correlates strongly with experience. Novices often relied on external validation, while experienced teachers applied intuition informed by years of trial and error, highlighting the transformative effect of time-in-practice. Here are excerpts from their responses:

> *"I've developed a system that works over time; I know how to rearrange the room for different activities."* (P7)

> *"I always ask my headteacher before changing anything in the room because I don't want to go wrong."* (P3)

> *"I can now quickly set up learning corners that stimulate curiosity and reduce distractions."* (P4)

It can be inferred from the responses that experienced and more qualified teachers exhibited strong self-assurance in organizing classroom spaces, having developed routines grounded in years of experimentation. Teachers with more training and experience made independent design decisions aligned with pedagogical intent, often showing intuitive confidence by rearranging spaces according to children's behavior and instructional goals. This suggests that decisional capital is strengthened through practice (Stronge *et al.*, 2011).

Veteran teachers were observed to make independent decisions, while the less experienced teachers sought validation from supervisors before implementing changes, reflecting uncertainty and dependence. According to Hargreaves & Fullan (2012), this may indicate low decisional capital. The hesitation of less experienced teachers indicates limited autonomy, which could emanate from insufficient mastery of environmental design principles. However, the discovery from the vignette that some degree holders with little experience showed moderate confidence highlights the fact that while formal training increases confidence, experience is necessary for mastery.

Theme 2: Adaptability to Learner Needs

It emerged from the responses that more experienced teachers demonstrated flexibility in response to learners' behaviour and learning needs and frequently modified classroom setups in response to learners' engagement, behaviour, or developmental needs. Novice teachers, on the other hand, demonstrated rigidity either from lack of knowledge or uncertainty. Participants' responses that relate to this theme are presented in the following statements:

> *"When I realise that the children are struggling, I modify the environment to help them overcome the problem."* (P6)

> *"Sometimes I see children bored, but I'm not sure what to change. I just do some try and errors."* (P1)

> *"I switch materials and visuals and even lesson delivery, depending on the children's responses to lessons."* (P4)

From the responses, adaptability emerged as a hallmark of experienced and higher-qualified teachers. In response to learner cues, skilled and knowledgeable teachers adaptively changed routines and layouts. This resonates with the adaptive environmental practices described by Fonsén (2023). However, beginners turned to strict routines or trial and error. This supports research demonstrating that repeated exposure to actual classroom dynamics increases adaptability (Hamre & Pianta, 2021).

One noteworthy and intriguing finding was that a more qualified teacher with comparatively fewer years of experience had outstanding theoretical comprehension but found it difficult to adapt practically because of contextual limitations. This supports the

idea that structural barriers cannot be overcome by qualifications alone (Hamre & Pianta, 2021).

Theme 3: Integration of Instruction with Environment
This theme reveals how experience enables teachers to blend the environment with curriculum delivery effortlessly. The following responses are suggestive:

"Every lesson has a visual or physical element tied to the environment." (P6)

"Sometimes I use the posters to help with lessons, but not always." (P3)

"The classroom arrangement supports the themes I teach every week." (P2)

According to the results, despite spatial limitations, more qualified participants were able to successfully integrate instruction. They consistently aligned environmental features with lesson content, using visuals and spatial arrangements to reinforce instructional goals. Their statements reflected strategic integration. More experienced teachers also incorporated centres, manipulatives, and visual aids into their lessons. It follows, therefore, that even with limited experience, training in modern ECE techniques improves instructional or environmental integration. In contrast, beginner teachers perceived instruction and the environment as separate or as distinct things, indicating fragmented practice. This demonstrates how experience plays a part in the integration of instruction.

Theme 4: Responsiveness to Feedback
The responses suggest that the capacity to receive and respond to feedback, whether formal or informal, was more prominent among experienced and qualified educators, who understood the dynamic nature of classroom environments. Under this theme, participants responded thus:

"I adjust based on learners' reactions and sometimes involve them in decisions." (P7)

"I've developed a habit of asking children what they enjoy in the room, and I do that for them." (P2)

"Children's behaviour tells me whether the setup is working or not." (P5)

Seasoned educators demonstrated proactive responsiveness to both formal and informal feedback by making modifications based on the learners' input. The responses suggest they incorporated learners' opinions, adjusted based on observations, and viewed feedback as a developmental tool. This aligns with the view on reflective responsiveness (NAEYC, 2019).

The less qualified teachers, on the other hand, seldom looked for learner perspectives and instead waited for top-down instructions to act upon administrative instruction, suggesting less ownership of the space and lower agency in professional reflection.

The findings, however, revealed that relatively less experienced participants demonstrated responsiveness to the needs of learners, which lends credence to professional qualification. This denotes that teacher disposition acquired through training can influence reflection in addition to years of service.

Theme 5: Reflective Practice

After analysing participants' responses, it appeared that reflective practice was deeply embedded in the routines of experienced teachers and not that of the novice. The following responses were representative of the theme.

> *"I'm not sure what I should be reviewing about my classroom. I allow a set-up to be there for some time."* (P1)
>
> *"After every term, I redesign the layout based on learner interaction."* (P2)
>
> *"I don't keep records of what setup worked or not. I normally forget."* (P7)
>
> *"I keep a journal to track how students respond to different setups. This informs what I do and the kind of set I have to put up."* (P5)

The responses suggest that reflective practice was a defining trait of experienced teachers, who systematically reviewed classroom effectiveness through journals or periodic layout revisions. This is in line with Hargreaves & Fullan's (2012) decisional capital. This introspection informed future decisions and improved learner engagement. This, however, was absent or underdeveloped among less experienced teachers. The responses suggest that novices rarely reflected, with one even admitting to forgetting what setup worked or not. This supports the ecological viewpoint that teachers' perceptual awareness of environmental cues is expanded through experience.

7. Summary

The results of research questions 2 and 3 clearly show that experience improves application, but when contextual barriers are manageable, qualification offers a theoretical foundation that can hasten competence. The earlier quantitative study did not find any significant differences, which appears to be explained by the nuances in the data. Despite differences in training and experience, the systemic limitations eliminate individual variation and result in comparable environmental outcomes for all teachers.

8. Conclusion

The purpose of this study was to investigate why previous quantitative results in the Asuogyaman District did not reveal any significant differences in environmental knowledge and application among teachers with different backgrounds and levels of experience. The qualitative findings show that although teachers' conceptual knowledge and practical proficiency vary greatly, these differences are frequently obscured by structural, contextual, and resource limitations. Deeper pedagogical reasoning, stronger reflective practice, better integration of instruction with the environment, and more culturally responsive setups were all demonstrated by highly qualified and experienced teachers. The less experienced showed signs of growing awareness, but they mainly relied on external guidance and procedural compliance. However, the visibility of individual competencies was diminished by widespread systemic constraints such as overcrowded classrooms and a lack of resources. The study comes to the conclusion that, indeed, experience and professional qualification really count. However, while experience and education are important, their impact is mediated, limited, and occasionally eclipsed by larger institutional and ecological factors. Therefore, in rural Ghanaian ECE contexts, strengthening professional and structural supports is crucial to enabling teachers to become environmentally competent.

9. Recommendations

Given that experience and qualification matter, but their influence is mediated, the following recommendations are made to address the systemic constraints**.**

1) The District Education Directorate and school heads should pair new teachers with experienced mentors for monthly classroom walkthroughs and reflection sessions. This mentorship budding should be institutionalized in all ECE centres as part of teacher induction. Co-teaching opportunities could also be introduced during the first term of posting.
2) Headteachers and school authorities should encourage the use of local materials (cartons, fabric scraps, bottle tops) for environmental print and learning centres because they are less expensive to produce. Every term, community-based TLM fairs should be organized by the district education directorate to exhibit the developed TLMs by the schools. Awards should be instituted and attached to this fair and presented to the school and teacher with the best, attractive, durable, relevant, and easy-to-use materials. This activity should be extended to the national level to instil some competition in the schools and the teachers, and at the same time, augment the TLM deficiency in our schools.
3) The District Quality Assurance Teams, Circuit Supervisors, ECE Coordinators and Headteachers should conduct safety audits focusing on furniture, accessibility, ventilation, and material storage, among other things, every two months. Additionally, teachers should receive training on how to move from following

checklists to proactively identifying and preventing hazards. The audit findings should be connected to the plans for school improvement by the district education directorate. Schools that score very high on the audit results could be commended. It could be a simple letter of acknowledgement and commendation from the District Education Director about the good work being done in the school.

4) All ECE teachers should be required to keep weekly reflection journals, and head teachers and circuit supervisors should support the ongoing Professional Learning Community (PLC) in the schools. Peer-review sessions should be included during PLC, where teachers discuss changes they have made and the impacts they have seen on learners' attentiveness. This same activity could be extended to take place at the cluster of school level, where teachers in that cluster will meet at nearby centres for reviews. At the national level, reflective practice should be incorporated into teacher appraisal frameworks.

Conflict of Interest Statement
The author of this article does not have any conflict of interest.

About the Authors
The author is an astute university teacher with almost two decades of teaching experience at higher institutions. His research interests span adolescent psychology, play-based learning, emotional intelligence, curriculum implementation, child safety and well-being, and quality early childhood education (including teacher quality, assessment, pedagogy, environment, and the use of TLMs). He has published several articles in peer-reviewed journals and has a couple of books to his credit. Samuel Oppong Frimpong's higher educational career began with a Bachelor of Education (Educational Psychology), then a Master of Philosophy (Educational Psychology), both from the University of Cape Coast, Ghana, and finally a terminal degree (Doctor of Philosophy in Early Childhood Education) from the University of Aberdeen in Scotland, UK.

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