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Exploring Outdoor Education Practices and Students' Development - Teachers' Perceptions in Liberian Schools

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Abstract

Education is the bedrock in building a strong, vibrant, and sustainable nation. However, the traditional classroom teaching approach remains the foundation of education in Liberia, and integrating outdoor learning presents challenges. This limitation makes it harder for students to learn and develop both intellectually and holistically. The study investigates the impact of outdoor education (OE) on students' academic performance, social interaction, and personal development. It identifies barriers to the effective implementation of outdoor education, including opportunities for incorporating outdoor learning. Data were collected from six teachers using a qualitative research methodology and were analyzed thematically. Findings reveal that outdoor education strengthens students' ability to work collaboratively, think independently, nurture creativity, regulate emotions, and achieve better learning outcomes. Yet, the teacher-centered approach, limited resources, and lack of structured support hinder its practice. Despite these challenges, teachers are willing to integrate outdoor learning. The study emphasizes the importance of integrating outdoor education into the national curriculum and strengthening teacher professional development in outdoor pedagogies to ensure its effective implementation.

Keywords: Conducive Learning Environment, Environmental Responsibility, Experiential Learning Initiatives, Innovative Pedagogical Approaches, Outdoor Education Initiatives. Place-responsive pedagogy, Place-Based Education

Abbreviations

EPOSEA: Environment, Pluralism, Organization, Social, Economic, and Agent

OE: Outdoor Education

PBE: Place-based education

Definitions of Study Terms

Conducive Learning Environment: A space outside the classroom that supports active and engaging learning.

Environmental Responsibility: Caring for nature and preserving our surroundings wisely.

Experiential Learning Initiatives: Learning by doing activities through real-world experiences.

Innovative Pedagogical Approaches: New and creative ways of transferring knowledge/outdoor activities to learners.

Outdoor Education Initiatives: Teaching and learning activities done outside of the traditional classroom.

Place-Responsive Pedagogy: A learning strategy that links learners with their surroundings.

Pro-environmental behaviors: The way students act to take care of and preserve their surroundings

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James S. Bedell

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1.0. Introduction

If students are given the chance to apply concepts in practical, experiential scenarios and move them from one place to another, outdoor learning can support traditional classroom learning. From the standpoint of experiential learning, the OE supports students' academic and personal development (Becker et. al, 2017). OE will have an even greater impact if it tackles the sustainability issues and persistent misunderstandings, ensuring the expanding corpus of information that offers genuine understanding. It may be possible to improve educational outcomes and lessen the gap between theory and experimentation by combining traditional teaching techniques with outdoor learning. The lack of infrastructure and resources, the lack of opportunity for teacher training programs, cultural impediments, and structural issues in the educational system are some of the reasons why OE has not been successfully incorporated into Liberia's educational system. The study's conclusions are important because they support Liberia's strategy of broadening its academic offerings in order to improve student performance, engagement, and learning.

Learning outdoors increases students' motivation and engagement, which benefits their health and wellbeing (Bølling et al., 2018; Passy et al., 2019). In order to encourage school science teachers to overcome the difficulties they encounter when teaching a variety of science courses outdoors, a cooperation and support initiative was carried out in Denmark. The project's objectives were to strengthen situational interest in science education learning experiences and promote a good pedagogy (Baehrenhold & Hald, 2022). Due to their high levels of nonlinearity, the implements that could have produced the objectives were not mentioned.

I chose to look into a subject that focused on the study's unique focus, more especially, the one that drew my interest as a potential topic for further investigation. In order to identify the key concerns that could direct futures efforts to close the conceptual and practical gaps in the outdoor education idea in Liberia's educational system, this study conducts a qualitative investigation of OE in that country. Therefore, more research is needed in this area. Interestingly, by contextualizing the effects of OE on learning within an ecosystem of the environment, educators and policymakers are poised to create fresh and creative implementation strategies based on the realities of students today.

1.1. Aim/research questions

1.2. Aim of the study

The study examines how teachers perceive outdoor education and its impact on students' academic success, personal growth, and socioemotional development in Liberian schools. It aims to identify barriers to its implementation and provides recommendations for incorporating outdoor education and learning into Liberia's national curriculum.

1.3. Research Questions

• How do teachers think being outdoors impacts student learning in Liberia?

• What difficulties do teachers encounter when trying to use outdoor education in Liberia?

• What are teachers' ideas on including outdoor learning in Liberia's standard curriculum?

1.4. Background of the Study

According to teachers, OE enhances learners' beliefs, personal emotions, and academic excellence. It also underscores consistent, experiential techniques for outdoor learning and the structure of green school buildings. With this method, teachers and learners collaborate in natural environments, and there are lesson activities that cannot be executed in a classroom setting. The continuous implementation of place-based education (PBE) in inquiry learning can encourage students to understand and relate to the natural settings and culture of New Hampshire. Nonetheless, introducing OE into the curriculum of Liberia has not been established, although studies indicate that OE enhances student engagement and academic progress (Dyment & Potter, 2015). The study focuses on the benefits and barriers that hinder the incorporation of OE in Liberian schools, including benefits for social relationships, learning, and personal growth. The study examines the existing challenges and introduces outdoor learning into the national curriculum with PBE and environmental sustainability. This research will inspire teachers to associate practical, experiential issues with field learning.

1.5. The Context of the Research

Liberia's educational system, like many in Sub-Saharan Africa, faces persistent organizational challenges that limit students' participation, performance, and holistic development. Conventional, teacher-centered classrooms dominate, leaving little room for outdoor learning, despite evidence that it enhances critical thinking, creativity, teamwork, and emotional well-being (Fägerstam & Blom, 2013; Brussoni et al., 2015; Passy et al., 2019). Students in rural and semi-rural areas in Liberia often face additional challenges, such as a lack of resources and motivation. This study highlights the value of outdoor learning, examines teachers' perceptions, identifies challenges, and explores strategies for integrating outdoor education into existing lessons, using place-based education (Beames, 2015) and experiential learning theory (Kolb & Kolb, 2009). Liberia's rich biodiversity and limited instructional facilities make nature-based learning a practical approach to connecting education with the environment, with insights from international studies, such as outdoor learning in Scandinavia (Bølling et al., 2018), guiding potential educational reforms.

The research investigates how teachers' perceptions of outdoor education influence students' socioemotional development, personal growth, and academic performance in Liberian schools. It identifies barriers to implementation and offers recommendations for incorporating outdoor learning into the national curriculum, demonstrating how this approach can enhance motivation, achievement, and overall development while making education more practical, engaging, and contextually relevant.

2.0. Literature Review

2.1. The Context and Scope of OE

Outdoor learning often extends beyond the boundaries of conventional classroom instruction by promoting student participation, concentration, and responsibility. A notable example is the Danish model, Udeskole, which has demonstrated higher student motivation and engagement at the national level (Baerenhold & Hald, 2022). Beyond increased engagement, Udeskole also strengthens social relations, reduces behavioral problems, and fosters a sense of belonging. Research further indicates that outdoor education enhances students' health and academic growth while fostering love for the environment and responsibility toward others. Ajiboye and Olatundun (2010), for example, found that Nigerian pupils exposed to outdoor environmental activities with discussion significantly outperformed their peers in knowledge of environmental issues. Similarly, Borchers et al. (2014) demonstrated in Côte d'Ivoire that extra-curricular outdoor environmental education programs enhanced knowledge and shaped positive attitudes toward nature, with older pupils benefiting even more. This confirms that outdoor learning serves both cognitive and affective dimensions of student development.

Low-income outdoor initiatives provide additional insights into the transformative potential of such approaches. Gruenewald (2003) argues that place-based pedagogy enables marginalized learners to connect with their communities in cost-effective and meaningful ways. Ajiboye and Olatundun (2010) reinforce this perspective by demonstrating that Nigerian primary school pupils exposed to outdoor activities coupled with guided discussion significantly improved their knowledge of environmental issues compared to peers taught solely in classrooms. This indicates that outdoor learning is an optional enrichment, and a critical tool for improving academic outcomes and empowering learners. Donkoh et al. (2022) further highlight that in Ghana, lifelong learning initiatives linked to sustainable development are essential to address persistent environmental degradation, showing the necessity of embedding outdoor and environmental education into national agendas to meet Sustainable Development Goals (SDGs). These findings collectively underline that outdoor learning is pedagogically effective and socially equitable and environmentally necessary.

In Sub-Saharan Africa, however, outdoor education is still at a very early stage despite the region's wealth of cultural knowledge and environmental diversity. Liberia, where this study is concentrated, offers a particularly strong case for OE, given its rich biodiversity that can be harnessed to build critical skills such as problem-solving, emotional regulation, collaboration, and responsibility in subjects like science and geography. Yet, OE cannot reach its potential without teacher training and a shift from teacher-centered to student-centered pedagogy. Teachers' perceptions matter greatly here: Oloninisi (2024) found that while Nigerian primary school teachers are aware of outdoor instructional practices, overloaded syllabi and classroom demands limit their ability to implement them. Similarly, Ayaga and Okaya (2020) show that in Kenyan preschools, the quality and adequacy of the outdoor environment strongly predict children's social, emotional, and cognitive outcomes, underscoring the need for policy support and infrastructure. As Sobel (2020) emphasizes, experiential learning in natural environments builds self-confidence, enthusiasm, and ecological literacy, fostering responsible citizenship. Together, these studies suggest that outdoor learning has transformative potential in Liberia, where integrating biodiversity-rich contexts into education could prepare students for academic achievement and for sustainable, community-oriented futures.

2.1.0. The Theoretical Framework of OE

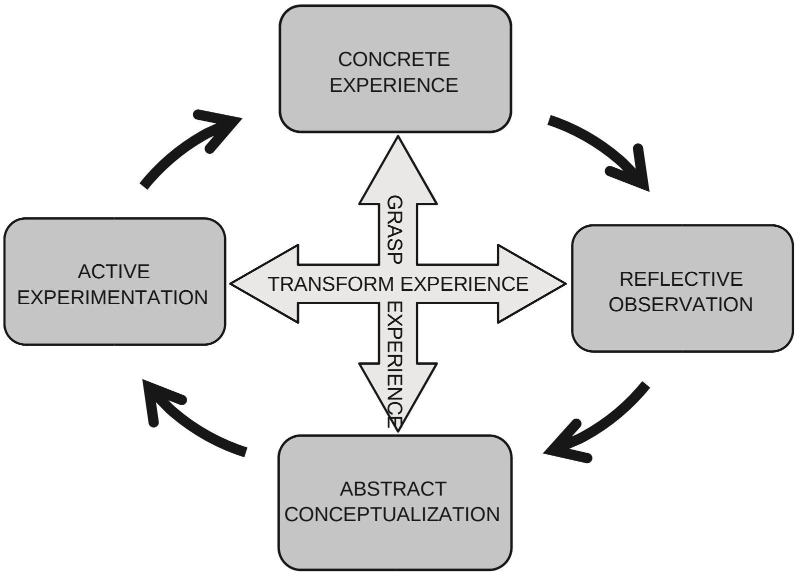
2.1.1. Experiential Learning

Experiential and outdoor learning are increasingly recognized by teachers as valuable components of education that enhance engagement and holistic learning. Outdoor education (OE) operationalizes Kolbs' experiential learning model, which consists of four elements: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb & Kolb, 2009). Teachers recognize that these elements provide a structured framework for guiding students' exploration and active participation in learning through direct engagement with their environment. In the study area, Liberia, Jappah and Smith (2022) highlight that teachers in post-conflict settings value innovative teaching strategies, including outdoor learning, as essential for rebuilding education systems and enhancing student engagement. Similarly, in Nigeria, Oloninisi (2024) reports that teachers are aware of the importance of outdoor instruction but face challenges such as syllabus constraints and classroom demands that limit their ability to implement these activities comprehensively.

Teachers recognize the connection between outdoor learning and practical skill development. In Kenya, Ayaga and Okaya (2020) observed that teachers see outdoor environments as crucial for promoting children's social, emotional, and cognitive growth. However, they note that teachers often perceive inadequate resources, limited space, and a lack of formal guidelines as barriers to effectively utilizing outdoor activities. In Ethiopia, Waktola (2009) found that teachers in teacher-training colleges acknowledged the importance of outdoor environmental education but expressed concern about its declining presence in curricula, inadequate factual knowledge, and insufficient training. These studies emphasize that teachers' perceptions, confidence, and preparedness decisively influence the implementation of experiential and outdoor learning practices.

Furthermore, teachers' attitudes toward outdoor education are influenced by cultural, infrastructural, and policy contexts. In Ghana, Hayford (2020) found that teachers with positive attitudes toward physical and outdoor education were more willing to incorporate such activities, while curriculum overload discouraged others. South African teachers similarly reported that understanding the design and use of outdoor learning environments for sensory and motor stimulation is crucial for effective teaching (Nel et al., 2017). In Côte d'Ivoire, Borchers et al. (2014) suggest that teachers' engagement in extra-curricular environmental programs positively shapes their perception of outdoor education and motivates them to involve students in exploring the natural settings. Collectively, these studies indicate that teachers perceive outdoor learning as valuable but highlight the need for supportive training, adequate resources, and curriculum integration to enable effective implementation. Kolb's Experiential Learning Cycle offers a practical framework that teachers can rely on to structure, plan, and implement outdoor learning activities in a manner that is both organized and student-centered. See diagram below.

Figure 1: The Kolbs' Experiential Learning Cycle



Source: Kolb & Kolb. (2009)

2.1.2 Place-based Education

Teachers' understanding of PBE is critical to how outdoor learning is implemented and valued in schools. According to Beames (2015), PBE connects learners with their natural surroundings as part of their identity, but it is teachers who interpret and translate this idea into practice. In Liberia, where challenges such as inadequate waste management, poor sanitation, and deforestation significantly impact everyday life, teachers do not perceive outdoor learning as a means to make lessons more relevant to local realities due to lack of OE. Teachers' knowledge influences whether they integrate activities like mapping neighborhoods, observing the environment, or guiding students through field tasks. Studies indicate that when teachers recognize the potential of outdoor spaces, they view them as opportunities for problem-solving and critical thinking rather than as distractions from traditional instruction (Ajiboye & Olatundun, 2010). As Borchers et al. (2014) observed in Côte d'Ivoire, participation significantly increased environmental knowledge and positively influenced attitudes towards nature, but the role of the teacher in shaping how students engage in these experiences was central. Thus, teachers' perceptions of PBE determine the learning environment and whether local challenges are used as entry points for teaching.

Teachers' perspectives also reveal the tensions and opportunities in linking PBE with sustainable education. Oloninisi (2024) found that Nigerian teachers are knowledgeable about outdoor activities, but emphasis on the syllabus and classroom activities did not allow them to practice them, indicating that structural constraints can limit even positive attitudes. Similarly, in Liberia, teachers' training and preparation are central in shaping how teachers understand and apply outdoor methods (Jappah & Smith, 2022). Teachers who view outdoor learning as fostering responsibility and motivation among students align with theories such as Self-Determination Theory (Brown & Ryan, 2015), but their interpretations influence training, curriculum pressures, and available resources. Donkoh et al. (2022) argue that lifelong learning is essential for achieving sustainable development, suggesting that teachers themselves need continuous exposure to environmental education to deepen their understanding.

Sobel (2020) posits that PBE seeks to ground learning in local phenomena and students' lived experience, emphasizing the role of culture, storytelling, and ecological context in shaping teaching practices. Teachers who adopt this perspective can guide students in locally relevant activities, such as water testing, wildlife observation, or community clean-up campaigns, not as direct prescriptions from theory, but as practices that reflect their understanding of how PBE connects learning to place. Therefore, teachers' knowledge of PBE in Liberia is less about reporting direct outcomes and more about how they interpret, adopt, and navigate outdoor learning within the realities of their communities.

2.1.4. Telling Stories Outdoors

Telling stories has been around for centuries and is an early method of education used by indigenous people, where they sit outdoors to teach their inhabitants how to care for their households and environment. Storytelling hasn't gained prominence and is neglected, but teachers apply it recreationally in traditional classroom settings creating excitement and motivation among learning. Yet, it is an emerging and most popular educational approach to outdoor learning, especially in the Scandinavian countries. It motivates students to think critically and participate fully in democratic processes. Biesta (2011) emphasizes the importance of subjectification as it encourages learners to engage less in acquiring knowledge than in listening. When students use storytelling outdoors, they tend to challenge difficult lessons, employ different approaches, and learn with ease without hindrance, applying various methods in grasping lessons being taught through their experiences.

Biesta (2020) emphasizes that to learn, one must take risks, cope with uncertainty, and develop adaptability. Storytelling supports students with a learning platform that brings intellectual and emotional value to the class. When students narrate stories about their surroundings, they gather sufficient knowledge and can distinguish between right and wrong when they read narratives that challenge them to consider many viewpoints. Uhrqvist et al. (2021) developed the EPOSEA model advocating for the sustainability of various perspectives, personal experience, and action. Being change agents, the stories help students connect environmental issues with the events occurring in society and the economy. Interestingly, stories contribute to raising awareness about the place and responsibility among students.

According to Sandell and Ohman (2013), narratives of nature help learners in connecting abstract concepts of sustainability with scenes they already know. Using this exercise helps pupils relate to nature and make it a place they care about rather than just something they are aware of. According to Fagerstam (2012), students' enjoyment during outdoor learning depends on how their teachers performance. When stories and lessons are conducted outdoors, students can connect, get stronger, become independent, and cease just observing nature. Realistic story ideas are always easy to manipulate and enable OE to teach more. As explained by Hill and Brown (2014), learning with experience in OE offers an understanding of a sense of place. The examples of funny stories about the same locality can contribute to establishing a bond with the latter and developing a positive attitude towards nature. According to Waters (2017), telling stories increases our understanding of natural surroundings, inspiring us to be mindful of the learning process.

The sense of place requires the practice of sustainability in an environment. Kudryavtsev et al. (2012) assert that strong place-based ties are the root cause of pro-environmental behaviors and actions. Through the use of storytelling, students become more aware of environmental aspects and begin to comprehend their ecological, social, and cultural significance. Uhrqvist et al. (2021) design an EPOSEA model that offers students the chance to make connections between various aspects of sustainability. It empowers students to care for and take responsibility for their environment. OE promotes storytelling to bolster ethical, emotional, and cognitive engagement. Immersion in compelling tales that combine environmental knowledge with both individual and group experiences enhances students' critical thinking and transformative learning. This educational strategy creates a platform to learn holistically and creates an opportunity for students to become environmentally conscious citizens, aligning with current educational objectives of sustainability and participation in learning that involves everyone outdoors. See the EPOSEA diagram.

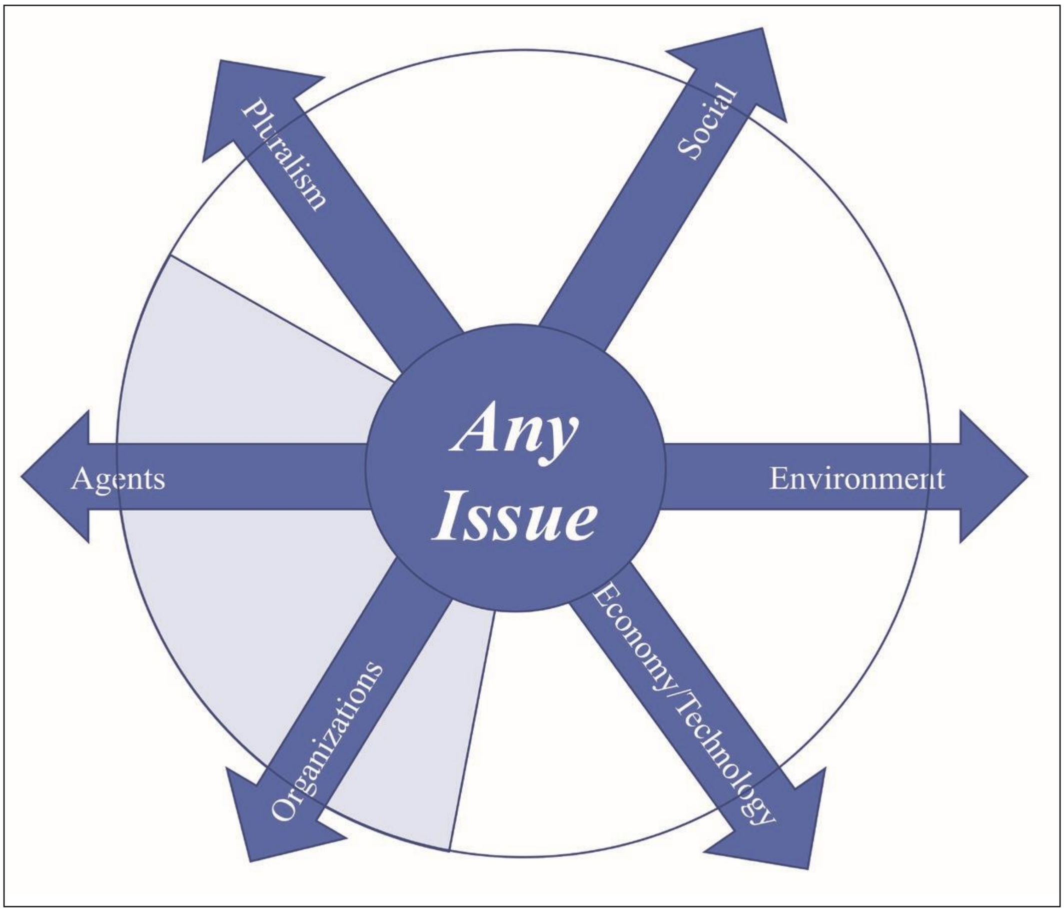


Figure 1 2: The Six Dimensions of EPOSEA

Source: Uhrqvist et al. (2021)

The EPOSEA tool features three components on the right, while the other three components on the left of the model are designed to improve student performance in outdoor learning. When students engage in learning outdoors, they are motivated to think critically when tackling challenging problems and to make sound judgments about their environment. Students learn in real-world situations, inspiring them to study, develop self-control, and build resilience in nature (Brown & Ryan, 2015). Mannion and Lynch (2016) argue that a place-responsive education facilitates easy learning when integrating theory and practice. Applying the EPOSEA approach in learning helps students address critical issues in school and their careers.

2.1. Teachers' Perceptions of OE

How teachers perceive outdoor education matters, as their perspectives influence how OE works in schools. Their views are often shaped by professional education, past work experience, and cultural background. Teachers who are well-trained and knowledgeable in outdoor lessons are more open to teaching in natural settings. Fägerstam (2012) explains that such training equips teachers to organize activities that foster students' mental, social, and emotional development. Teachers who have previously engaged in outdoor activities are also more confident and comfortable teaching outdoors. In regions with a long history of OE, integrating outdoor practices into classroom teaching is stress-free. It supports a broader shift toward PBE, encouraging students to pay greater attention to their surroundings (Mannion et al., 2013; Gruenewald, 2003).

Beyond individual backgrounds and traditions, the wider system and school culture significantly shape teachers' ability to engage with outdoor education. Passy et al. (2019) and Bølling et al. (2018) note that rigid curricula and limited support from school leadership often hinder teachers, even those who are supportive, from implementing outdoor learning. The emphasis on assessment and testing may further discourage educators from using outdoor settings (Beames, 2015). Nonetheless, strong systems and support can make OE a regular practice, with some schools integrating outdoor activities into their daily operations. Working as part of a cooperative team also helps teachers sustain these practices. Wheelan (2016) highlights that students are motivated when working in teams, while Jucker and von Au (2022) emphasize that learning in natural settings allows students to develop skills by discovering knowledge independently.

2.1.1. Teachers' Views on the Impact of OE

Most teachers recognize that outdoor education (OE) is illuminating and that when lessons are implemented in the natural settings periodically, students become motivated, focused, and gain knowledge to the fullest. Fägarstam and Blom (2013) and Bølling et al. (2018) argue that students can better learn and understand science and mathematics outdoors than in the classroom. Teachers noticed that students are more motivated when engaged in outdoor activities, which promotes critical thinking and knowledge development due to the connection with the environment the students are exploring. This context encourages them to connect classroom learning with issues they encounter in daily life. As a result, students gain knowledge by experiencing the world around them, focus more on the subject being taught, and develop a greater interest in learning. Many teachers explained that OE strengthens academic engagement and supports students in improving themselves, interacting with others, and enhancing their performance.

Teachers also observed that outdoor education contributes to group work, leadership, and problem-solving. Becker et al. (2017) and Bølling et al. (2019) emphasize that engaging in outdoor activities regularly fosters students' growth and development, with teamwork in outdoor settings enabling them to relate better to peers and feel encouraged to participate further. Teachers reported that such experiences create a new and physically engaging learning atmosphere, making students enthusiastic and involved. This helps classrooms develop into more supportive spaces for learning. From teachers' perspectives, OE provides opportunities to build students' thinking skills, support emotional regulation, and enhance communication. In doing so, it equips students with skills that are valuable both at school and in their personal lives.

2.1.2. Teachers' Perspectives on Challenges in Implementing OE

Teachers perceive OE as a valuable approach for learning, though many face challenges in implementing it. In Liberia, teacher training in OE is limited, leaving many teachers uncertain about teaching outdoors (Jappah & Smith, 2022), who note that trained teachers are scarce in Liberia and in many post-conflict settings. Teachers reported that a lack of clear guidelines and resources makes them hesitant to plan outdoor activities (Becker et al., 2017). Funding shortages in schools prevent the creation of outdoor programs and the procurement of necessary materials, which discourages teachers from designing outdoor activities. Planning outdoor learning requires sufficient time and adaptation to rigid curricula, which many teachers find difficult (Passy et al., 2019). Safety concerns and unpredictable weather add to the challenges, with teachers expressing concerns about ensuring students' security during outdoor activities (Brussoni et al., 2015).

Studies conducted in Africa echo these perspectives. For instance, Nigerian teachers expressed that although they know about outdoor activities, emphasis on syllabus and classroom demands did not allow them to practice them (Oloninisi, 2024). Kenyan teachers similarly highlighted the importance of the outdoor environment for learning but indicated that inadequate facilities and space restricted their capacity to implement outdoor approaches effectively (Ayaga & Okaya, 2020). In Côte d'Ivoire, teachers involved in extra-curricular environmental programs observed that participation significantly increased environmental knowledge and positively influenced attitudes towards nature (Borchers et al., 2014), showing the positive perspective of teachers when opportunities for outdoor engagement exist. In Liberia, teachers also noted the need for professional development in environmental education, emphasizing that the shortfall in qualified teachers contributes to delays in achieving universal quality and equitable education (Jappah & Smith, 2022). These studies collectively highlight that while teachers recognize the value of OE, systemic constraints, lack of training, and inadequate infrastructure remain key barriers from their perspective.

2.1.3. Teachers' Suggested Strategies for Integrating OE

Teachers who implement OE frequently suggest strategies to improve the curriculum and facilitate access to outdoor learning in schools. Fagerstam and Blom (2013) emphasize that teachers should take the lead in designing and organizing outdoor learning activities that are contextually relevant and tailored to learners' needs. Accordingly, teachers are encouraged to create activities that align with the school environment and engage students actively. Addressing teacher preparation challenges is critical; mid-career training and professional development in outdoor teaching methodologies equip teachers to effectively implement OE programs when provided with adequate support and instructional resources (Passy et al., 2019). In Liberia, where the education system was severely disrupted by years of civil conflict from 1989 to 2003, Jappah and Smith (2022) note that trained teachers are scarce in many post-conflict settings, limiting schools ability to adopt innovative teaching approaches. Strengthening teacher training in Liberia is therefore essential for teachers to confidently develop and implement outdoor learning activities.

Collaboration among teachers, schools, and policymakers is another recommended strategy to integrate OE successfully. Education stakeholders can advocate for policies mandating the inclusion of OE in the national curriculum, supported by adequate budgets and flexible learning options. Sharing models of successful outdoor programs, such as the Danish system, demonstrates that the integration of outdoor activities across the curriculum motivates students and enhances academic outcomes (Bærenholdt & Hald, 2022). When teachers are given continuous collective support, outdoor learning programs are more sustainable and impactful. Jappah and Smith (2022) further argue that post-conflict education recovery in Liberia requires government to develop innovative models to improve education systems, prioritizing key components that enhance quality and learning gain, highlighting the importance of structured teacher training and multi-level collaboration. In this way, schools can create meaningful, engaging, and varied outdoor learning activities for students.

3.0 Method

This study used constructivist qualitative research methods because social interactions are the source of both knowledge and meaning (Cohen et al., 2017). OE perception among teachers in Liberian schools is explored through qualitative inquiry, as it provides a detailed description of their experiences, beliefs, and challenges with OE. To analyze students' academic outcomes, personal growth, and social skills, researchers primarily use semi-structured interviews. When the right strategy is applied, it guides the interview questions and allows participants to share their thoughts (Brinkmann & Kvale, 2008). According to constructivism, both the researcher and the participant learn new things through interactions, which are a central part of these interviews.

3.1. Participants/Sample

Six teachers were selected through purposive sampling to capture varied perspectives on outdoor learning in Liberia. Teachers from diverse educational levels were selected, and one male and one female were selected from each school to maintain gender balance and to reflect different teaching approaches. Although the participants embark on their teaching careers at early and many lacked formal training at the outset, they had undergone periodic in-service teacher training during their career. This reality reflects the wider context of post-war Liberia, where Jappah and Smith (2022) note that the civil crisis left the education sector with a severe shortage of trained teachers. Despite these constraints, in-service training programs became a cornerstone in building teacher capacity, and the teachers who participated in this study had acquired considerable professional development through such efforts.

Over time, these teachers accumulated substantial teaching experience, with participants having taught for more than seventeen to twenty years, which enabled them to provide rich insights into how outdoor learning is practiced and perceived. Their responses were shaped by a combination of early challenges in entering the profession untrained and the subsequent opportunities for professional growth that in-service training provided. This duality positioned them as highly knowledgeable and reflective teachers, whose perspectives were both informed by practical realities and enriched by continuous learning. In line with Bryman (2016), the intentional selection of participants with diverse experiences and demographic balance enhanced the credibility of the findings, ensuring that the study captured varied voices on the implementation, challenges, and significance of outdoor learning across different educational contexts in Liberia.

The table contains details of participants selected for the data (Age and Experience).

Teacher Category	Age (Years)	Experience (Years)
Preschool Male	35	18
Preschool Female	40	22
Primary Male	38	19
Primary Female	42	27
Secondary Male	45	28
Secondary Female	50	30

3.2. Data Collection

For this study, I collected the necessary information using semi-structured interviews. With this approach, I gathered the views of teachers about outdoor education. The interview questions addressed the three key questions and created a platform for participants to share their views. A semi-structured method is ideal in qualitative research to ensure the researcher fully understands the opinions of the participants (Brinkmann & Kvale, 2008). In light of this, I examined the specifics of the teachers' responses, made followed up with inquiries, and responded to any questions I came across, all of which helped me gain a deeper understanding of the participants' experiences. In order to document every aspect of the teachers' viewpoints, I recorded the interviews for two hours, each lasting twenty minutes, based on the participants' agreement. Three days in a row were used for the interviews, taking into account the participants' comfort levels and availability. By concentrating on what people have experienced, it functions similarly to qualitative research.

3.4. Data Analysis

I applied the thematic analysis described by Braun and Clarke (2013) to analyze the qualitative data after I had finished collecting the data. For its ability to locate, study, and summarize qualitative data in the form of patterns, thematic analysis was chosen. Using this method, it was possible to closely analyze the responses of participants, which helped me identify what students experience in OE and what difficulties they face when applying to OE programs. Analyzing both the content and the context of lived experiences was necessary to ensure the topic was identified during the research process. Below is an illustration of the data analysis.

With the help of this qualitative method, I went through the responses of participants step-by-step. In addition, using it helped me organize and adapt the findings so they were valuable for achieving the study goals. The adaptable nature of thematic analysis enabled me to analyze the participants' perspectives and achieve the set research goals. Because of this format, which was both reliable and adaptable, the results accurately reflected the views and experiences of teachers in OE in Liberia. I spotted insights that were concealed in this practice, which helped me identify problems that I would not have noticed otherwise. On the other hand, by going through this process, I was able to discover previously concealed concepts that have altered my viewpoint regarding the matter.

Familiarization with the Data: Initially, I dived into the data, carefully examining the interview transcripts and then proofreading them again. It was necessary to quickly review the responses and study the details in the texts to grasp exactly what participants had said. I jotted down important information and detailed the main points in the text that I needed to understand the research questions. Braun and Clarke (2006) argue that spending more time on data is important because it enables the researcher to identify information that could point to important patterns or surprises. Identifying each dataset was necessary to develop a thorough understanding of the data, which then helped reveal important insights. In addition, studying the data this way helped me understand the data. I spent sufficient time reviewing my original thoughts and feelings, which informed the analysis.

Generating Initial Codes: I familiarized myself with all aspects of the data before starting to code, which meant finding and labeling sections that would help answer the research questions. I used manual coding to identify and sort each data segment by category, which made it possible to measure the data in smaller groups. This structure arranged the segments into groups called themes, which organized the data systematically and affirmed that every code reflected what the segments said. The coding stage in qualitative research, as Saldana (2016) explains, allows researchers to arrange and understand the collected data holistically. It highlights the key role of development in raising places from courses to communities. I kept an open mind to the possibility of other codes appearing, which gave me more flexibility as I worked on coding.

Searching for Themes: Once I had the data clear in my mind, I coded to spot information that matched the research questions and set that information apart with labels. I processed the data and labeled each part with a code to measure it. Eventually, information was sorted into main themes using this framework to guarantee that themes were arranged and coded correctly. Analyzing data using coding is considered a central part of qualitative research, according to Saldana (2016). It highlights the major role that such services play in our community. Allowing the idea that new codes might appear helped me make adjustments to the coding process.

Reviewing Themes: To confirm that the themes aligned with what I found in the data, I took time to analyze it carefully during this phase. I verified during this step that the themes described the entire dataset and still agreed with the coded extracts. I grouped themes that were alike, further broke up larger ones into smaller themes, and added new themes that emerged in the reviews. Topics covered by little or no evidence were also not included. In other words, access to data is what makes a difference. To get a better result, it is crucial to repeat the exercise several times, as this immensely strengthens understanding. A careful review process is key to making sure findings are reliable and valid (Nowell et al. 2017). So, the survey ensures that the information reflects what members experienced. I returned to the first gathering of data to investigate if the participants' earlier responses represented the themes.

Defining and Naming Themes: Having refined the themes, I then assigned a name to each one to accurately describe its meanings. This resulted in naming these themes clearly with strong descriptions so that they reflected the research questions. During the same time, I jotted down clear explanations of each theme and its role in reaching the research objectives. Easy-to-understand terms and names were required to convey the results to those receiving them. Braun and Clarke (2006) stress clarifying themes guarantees their connection to the study and helps in a better interpretation of the statistics. To present the data accurately, I explored how each theme related to the others.

Producing the Final Report: The final step was to organize the outcomes in a report, and I analyzed them as clearly and directly as possible. The final report should clearly state the research outcomes (Braun & Clarke, 2006). I arranged the research findings in order and supported them with appropriate information. I used several direct quotes and examples from the data to highlight the themes and back up the results. This way of presenting data assures the research is seen as fair and credible. I combined the main ideas and connected them to outdoor education practices and student development in Liberia, ensuring the research play a valuable role in existing discussions. Nowell et al. (2017) state that the last step of thematic analysis is to combine the data in a way that explains the themes and links them to related research. The credibility of the study was maintained in the report by preserving participant confidentiality and accurately reflecting participants' responses. I was able to produce a final report that met all the goals and was also ethical. The findings of the study provide a detailed understanding of how outdoor education is delivered in Liberia.

3.5. Ethics

Respecting and protecting participants were essential, and ethics always guided the research process. A consent letter was sent to teachers and policymakers, stating the study's target, how to participate, and that they had the option to end their participation at any time. It meant the participants had all the data needed to inform their decisions. School leaders helped identify all teachers who met my criteria to be selected to participate in the research interviews. I contacted those identified individually and selected six teachers with vast experience in teaching. In this light, the selection process was fair and transparent, welcoming teachers from diverse backgrounds to solicit their opinions on outdoor education. All identifying details about participants were removed from the final report, which ensured a secure environment. The participants were reminded they could choose to end the procedure if they didn't feel comfortable, which helped support their health and rights. When conducting the study, ethical guidelines were considered throughout the research involving respondents, keeping the work fair and protecting participants (Swedish Research Council, 2017). Support was provided during and after every interview by addressing follow-up questions that clarified doubts and guaranteed that participants' rights were respected.

3.6. The Quality Aspects of the Method

The methodology used in this study is designed in a strong manner that ensures the results are accurate and reliable. Its strong point is that participants are purposively chosen based on their experience outdoors. This method ensures that only those with vast knowledge of OE respond to gather valuable results and instruction. Bryman (2016) explains that purposive sampling is a form of non-probability sampling where participants are selected strategically because they are particularly informative or relevant to the research questions. Since outdoor education is so complex in Liberia, it is crucial to involve educators with vast knowledge to participate in the study, as they bring various viewpoints. Semi-structured interviews are another key advantage, as they permit the identification of a detailed account of participants' views without giving strict instructions. As Brinkmann and Kvale (2008) state, semi-structured interviews enable researchers to analyze what participants experience and discover more targeted insights. It helps them openly discuss and find unexpected subjects, which makes this approach especially valuable in qualitative research.

Applying thematic analysis further raises the standard of the study. Braun and Clarke (2013) outline a structure for conducting thematic analysis that helps researchers identify and report patterns in data. The thoroughness of the conclusions is strengthened by using their six-step procedure. I gained a detailed understanding of the participants' perspectives by studying the information, classifying it, and identifying the patterns. All of this was necessary to draw concrete conclusions. In the study, considering ethics was also highly central. Researchers feel comfortable when making their decisions and maintain anonymity when gathering data. Ethical data collection approaches promote the quality of data and help create trust.

3.7. Reliability and validity of the Research

Various techniques were employed, ensuring the results were valid and reliable. Those with experience in outdoor education were selected using purposive sampling, which created data with richer and better organization (Bryman, 2016). Semi-structured interviews allow participants to express their opinions while following a set of questions ensuring the data is accurate and creating a clearer picture of their experiences Brinkmann & Kvale, 2008). Thematic analysis - a six-step process by Braun and Clarke (2006), identified essential patterns and themes in the data relatively. Educators with diverse backgrounds and experiences ensure the results are more reliable (Bryman, 2016). Confidentiality, informed consent, and other ethical aspects made the participants feel confident about joining and assured that their responses were sincere (Swedish Research Council, 2017). All of these decisions improve the quality and trustworthiness of the study results.

3.7. Limitations of the Method

Although the method chosen for this study has advantages, it is crucial to recognize that its limitations may affect the outcomes. Considering that only six participants from three schools within three counties in the southeast to represent the entire population, the sample is limited, as it may not accurately capture the experiences and voices of all teachers and stakeholders in the education sector in the study area, Liberia. Given that the responses were from a handful of respondents and not many educators in the field of OE in Liberia, the results are limited to that sample. Consequently, the study could fail to capture essential differences and details (Bryman, 2016). Additionally, seeing the results that other participants share and knowing my own opinion could introduce bias during the final analysis. Subjective views by the researcher may cause aspects of the data to be highlighted more while others are overlooked, even unintentionally (Saldana, 2016). Because participants have prior experience, they might focus more on traditional methods and less on innovative approaches in outdoor education. Braun and Clarke (2013) note that the researcher's values, assumptions, and theoretical commitments inevitably shape the analysis, highlighting the need to consider the researcher's influence on data interpretation.

As a result of these limitations, it is central to remain mindful while interpreting the findings. Analyzing the results with a larger and more varied group could provide a clearer understanding of outdoor education approaches in Liberia. Including more participants would strengthen the study by offering a wider range of viewpoints and richer information. Being aware of these limitations provides a gateway for a more careful and balanced consideration of the study's outcomes and ensures that conclusions drawn are more robust and reliable.

4.0. The Analysis of the Research Findings

The analysis of this study followed Braun and Clarke (2013) approach to thematic analysis, which involves the six steps of analyzing research data. This method was chosen because it provides flexibility in interpreting participants' perspectives while ensuring systematic rigor. According to Bryman (2016), qualitative research emphasizes the meanings individuals attach to their experiences, making thematic analysis particularly suitable for exploring teachers' perceptions of OE in Liberia. The findings indicate that OE is almost absent in practices, with most teachers relying on conventional, teacher-centered approaches, similar to trends across Sub-Saharan Africa, where educational systems face persistent organizational and pedagogical challenges.

Interestingly, the findings revealed that teachers neither understood nor practiced OE in a structured manner, except for occasional field trips intended for recreational purposes. This was a surprising outcome, as it demonstrates that OE has not been formally embedded into teaching methods despite its potential benefits. Yet, teachers observed that students who participated and performed poorly in their classroom activities tended to perform better than those who performed well indoors when engaged in outdoor recreational experiences. They further noted that such students demonstrated stronger collaboration skills, worked more effectively with peers, and often took leadership roles during outdoor group activities. These unexpected observations suggest that even unstructured outdoor exposure may foster critical social and developmental skills, reinforcing the argument that OE can complement academic learning when integrated intentionally.

The findings also resonate with broader research from West Africa. For instance, Borchers et al. (2014) found that extracurricular environmental education in Côte d'Ivoire positively impacted students' knowledge and attitudes, while Jappah and Smith (2022) highlighted the growing need for experiential and sustainability-oriented learning in Liberia. Studies in Ghana and Nigeria have similarly shown that outdoor and experiential learning foster student engagement and skill development, aligning with the Liberian teachers' observations in this study. Thus, while OE remains underdeveloped and largely misunderstood in Liberia, the analysis underscores both its untapped potential and the urgency of teacher training and curriculum integration to transform these isolated, recreational practices into meaningful pedagogical strategies.

4.1.0. Theme 1: Understanding of OE

Teachers perceive and understand outdoor education differently and presented their definitions the way they understand it. Almost all the respondents encounter hardship to establish what outdoor education is. From all indications regarding the teachers' definitions, it is vividly clear that teachers had no idea about OE and don't have the requisite skills to develop clear strategies for actually applying OE in the environmental settings.

4.1.1. Subtheme: Teachers' Readiness and Confidence

Within this theme, a subtheme emerged regarding teachers' preparedness and confidence. Many teachers expressed uncertainty in designing and delivering OE, reflecting gaps in both training and professional development. Their confidence levels often depended on prior exposure to experiential learning and the availability of resources.

Isak said that he was not entirely in favor. Saying,

"Uh, as a way to give students a means to stress legs, I feel that outdoor education requires taking students outside." But, to me, taking children outside is not much different from taking them out to have fun among themselves, or to perform exercises during school hours." (Isak, personal communication, April 20, 2023).

Because teachers are uncertain about OE and lack of outdoor education development, it is often thought of as a different kind of vacation instead of an educational opportunity.

However, Kwia admitted that the topic has been unclear and confusing. Saying,

"From what I observe and believe in my own understating for years in the teaching field, outdoor education tries to gives students ways to learn outside of the classroom, but I'm not sure what actually it is and how it is implemented to transmit knowledge to students in the teaching/learning process. Maybe sometimes, it could be implemented successfully provided teachers simply take students on a farm to observe and touch the various crops while they are communicating and discussing about the various plants that come in their way." (Kwia, personal communication, April 20, 2023).

This feedback suggests that it is crucial for schools to create opportunity for teachers to spend sufficient time in nature within the learning environment of every school.

Even though teachers expressed uncertainty about outdoor learning, they believe it is encouraging and can be integrated. Although they have not learned about it formally, their explanations demonstrate they want to find out more about it. Nora described outdoor education as spending time with the neighborhoods, but she disclosed that her school does not have land space that can accommodate outdoor learning activities. She stated,

“It is not about what we offer. Are adventure schools for students in the wilderness? In my view, it happens best when learners experience their environment personally. However, no real program exists for that. They go outside of the classroom exercising among themselves by playing kinds of games like hop-sketch, jumping ropes, playing football, singing songs and telling riddles for enjoyment and entertainment while waiting school resume lessons.” (Nora, personal communication, April 22, 2023).

This implies that teachers need support and guidance to conduct outdoor program activities successfully in nature.

Jeremy’s view was different, because he linked OE to real-world uses, although he was not optimistic about the methods being taught: He said

“And so, I think outdoor learning is the same as conducting experiments in science lessons outdoors using different kinds of methods in practice to create excitement and fun. I am afraid I don’t know the answer to your question.” (Jeremy, personal communication, April 21, 2023).

The fact that this response highlights the role of training suggests that the respondent knows the instinctive opportunities in OE. The respondent is prepared to take on professional development in OE provided the opportunity is given. When acquire the skills, he can substantially and successfully implement outdoor activities without hindrance.

Emma and Lily shared uncertainty similar to other teachers. Although Emma understood she was untrained, she thought that spending time outdoors would allow students to move around physically. She said, "Every time I think about outdoor education, it occurs to me as a great way to move students outside of our traditional classroom instead of having them stay in class the whole day. Although we might assume it is important, we have not been formally taught anything about it." (Emma. Personal communication, April 21, 2023).

However, Lily, who stated that she had no prior knowledge of the concept, was completely unfamiliar with it saying that

"Our curriculum is scheduled in the way it doesn't allow teachers to take their students outside most often for other activities, but the school daily schedule provides space for recess to take the students outside in the school yard or campus to have break or lunch. They go outdoors, gather under shady trees, and sing together while swapping stories with each other. Others run around for fun. It is beyond my imagination to tell you whether teaching in an open space in our surroundings can make students to learn or not. Perhaps, it will take months to actually understand and establish the reality of outdoor education." (Lily, personal communication, April 22, 2023).

The responses gathered from the teachers speak volumes and suggest that they don't understand what OE is, thus lacking understanding of OE, and don't possess the skills required to design and implement outdoor program initiatives effectively and efficiently. This demonstrates that teacher professional training and institutional support are crucial in schools to integrate outdoor education into their teaching. This aligns with Jappah and Smith (2022) who argue for the need of teacher professional development to improving learning in post-war Liberia, since well-prepared teachers create better learning outcomes and support rebuilding the education system.

4.2.0. Theme 2: Perceived Impact on Students

All six teachers observed students preferred outdoor activities, but their views on learning from these activities were not the same.

4.2.1. Subtheme: Student Engagement and Learning Styles

This related subtheme highlighted that OE supports various learning approaches that influence the way students respond to learning outdoors. Teachers observed that some students were more focused and motivated outdoors, while others needed structured guidance. This reflects how OE creates opportunities for differentiated learning, though it requires careful planning to sustain focus and participation.

Isak was unsure if the students' learning was improved, but he noticed that students were more active and involved outside of classrooms. Saying.

"Most students see being outside of the classroom as an opportunity on a daily basis. When we make them to get used to going outside the class, they will often violate the regulations of the school to go out at their wise, even when they are restricted not to do so, So, I can say spending time in nature can help learning, but I am uncertain to figure out strategies that teachers can use to create such learning in nature." (Isak, personal communication, April 20, 2023).

In support of this concept, Kwia made the observation that students were more curious when they were in outdoor settings: Lamenting that.

"Is it true that they, indeed, are more attentive to their surroundings while they are outdoors? Students like to touch objects and can be curious of knowing what the features entails. I believe that seeing and touching objects in the open space can help them develop retentive memory." (Kwia, personal communication, April 20, 2023).

In other words, even if outdoor education is not formally taught, students will usually pay more attention to their environment which we can make useful in education.

Nora was of the opinion that students who had difficulty concentrating in the classroom could benefit substantially from participating in outdoor education in particular. In her explanation

"I believe that there are other exercises unknown to me that can make students to focus on learning outdoors when the lessons are planned and organized. Those students who move around the classroom much of the time. They may become less anxious when learning outdoors." (Nora, personal communication, April 22, 2023).

Nora describes strategies that various learning techniques use through outdoor education activities. At the same time, Jeremy said he was more suspicious of what was being claimed,

".Hmmm, I'm really confused how to respond to you. Uh most often when students are outside for learning, they don't pay keen attention to details. They mostly focused on playing to entertain themselves rather than learning. They get started without worrying about what to do. If we were trained in the right way, it would probably be helpful." (Jeremy, personal communication, April 21, 2023).

There is truth to the concern since organized events are needed instead of unstructured free time for outdoor education to work effectively.

Emma saw potential behavioral benefits, noting

"Uh…uh, it could play a role in discipline. Sometimes, students ignore what is being taught in class, but when they handle tasks on their own outdoors, they pay more attention." (Emma, personal communication, April 21, 2023).

Lily thought outdoor education might benefit students by allowing them to converse more, saying,

”but, but, I feel like outdoor education encourages students to speak up more. Not every kid is very talkative in the classroom, but they tend to share thoughts when they are out with the school group." (Lily, personal communication, April 22, 2023).

4.3. Theme 3: Implementation Challenges of OE

As potential challenges, teachers realized that space, fixed coursework, lack of training, and limited resources could make implementing OE difficult. Isak mentioned that they did not have enough space for activities that involved going outdoors: he stated.

"Our school is not very big. Not enough space is available for other actions. For sure, if there is land space available around our school vicinity, we can try to implement lessons in outdoors even if we don’t have the skills to do it." (Isak, personal communication, April 20, 2023).

Despite the challenges involved in implementing outdoor learning, teachers see the possibility of conducting OE effectively. According to Kwia, who said he didn’t like how rigid the curriculum was, states,

"The way the curriculum is structured limits teachers’ potential to carry out other activities. Certain activities not listed on the course outline are not used. The curriculum requires teachers stick to it. Since it is difficult to integrate outdoor learning in our nearby environment, it seems not feasible to address this problem." (Kwia, personal communication, April 20, 2023).

Since this kind of response reflects the need for new teaching methods, policymakers should encourage educational actors to effect changes to support these alternatives.

Nora stated that training was a major concern for her, saying,

"I have no idea how to teach outside because we were not trained for that area of the classroom. If they want us to carry it out, they ought to demonstrate how to do it." (Nora, personal communication, April 22, 2023).

Jeremy pointed out there were not enough resources and Lily cared about what parents thought which were two concerns that both had.

4.4. Theme 4: Potential for Curriculum Integration

Regardless of the challenges, some teachers included outdoor activities in the subject areas of science and math. The observed over years those subjects can be taught outdoors using resources in nature. Isak came up with the following idea:

"Perhaps in the field of science, students could maybe observe plants or conduct small experiments outside." (Isak, personal communication, April 20, 2023).

As Kwia stated, she believed that it could be useful in mathematics.

"Math could benefit from this. In math lessons outside, teachers encourage students to use ropes, tapelines and sticks as tools or any available materials to measure objects rather than simply writing down numerical figures. I have been using this strategies to achieve learning objectives for years now." (Kwia, personal communication, April 20, 2023).

On a different note, teachers emphasized that implementation, training, and support from the government should evolve gradually. It is unquestionable that if the appropriate steps are workable, OE can improve learning in Liberia. In this way, teachers realized that OE can increase learning, but they lack adequate training and know-how to make it work effectively in their natural settings. Some teachers noticed that limited facilities, and sticking to the same lessons and cultural views are the issues they express concern about. It would be interesting and encouraging to monitor teachers who acquired new pedagogical skills to try out fresh ways of teaching while they are given the support. Adequate teacher professional development, modification of school policies, and institutional support are integrated into OE, which will foster their enthusiasm and success.

4.5.0. Theme 5: OE and Environmental Awareness

Respondents observed that OE aims to educate students outside of school and in various community locations, which allows them to witness and participate in learning. They believed that this approach to teaching would help students to better grasp the impact of human activities and climate change in our environment and encourage them to act responsibly and develop ownership for environment.

4.5.1. Subtheme: Community Involvement in OE

Within this theme, a subtheme focused on community involvement. Teachers described how collaborating with local communities enriched environmental learning, provided practical exposure, and reinforced shared responsibility for sustainability.

Jeremy said.

"I have not experienced outdoor learning in my life time yet, but I think it could help students in some ways like being aware of their neighborhoods, caring for it and thinking about how to protect it. When students observe pollution or see residents felling trees in their environments, they are more likely to want to intervene." (Jeremy, personal communication, April 21, 2023).

Lily continued.

“If we take our students outside to learn, they see how their actions and that of others affect the surroundings and schools. If people observe how their communities have been affected by human activities, they can be encouraged to maintain it properly and find ways to sustain it." (Lily, personal communication, April 22, 2023).

Emma said.

"Teaching our students outside of the classroom enable them to observe the community well and feel responsible to keep it protect and preserve for next generations. When they are outdoors and experience problems that affect their surroundings, they could feel pressured and compulsory to find amicable solutions to address the problems." (Emma, personal communication, April 22, 2023).

5.0. Discussion

The study identifies significant gaps in how outdoor learning is applied and understood within the Liberian education system. These gaps highlight significant challenges such as limited institutional support, cultural perceptions of learning, and the pedagogical capacity of teachers. While teachers recognize that OE enhances motivation, personal development, and academic performance, barriers such as scarce resources, rigid curricula, and inadequate teacher preparation restrict its full implementation in Liberia. Christie et al., (2015) emphasize that effect outdoor learning depends on cultural context, institutional support, and teachers' confidence, reflecting the realities observed in this study. Importantly, these findings resonate with the Liberian context where the education sector continues to recover from conflict, making issues of teacher preparation and institutional reform even more demanding.

Six teachers from three counties in Liberia were interviewed, and their perspectives shaped the findings. Five core themes were identified, alongside three additional themes that emerged from them, which deepen the understanding of the effects, challenges, and promising approaches to outdoor learning in Liberia. Teachers' lack of confidence and training (Theme 1) limits their ability to design outdoor lessons, while students' enthusiasm for outdoor activities (Theme 2) demonstrates unidentified potential. Structural barriers such as limited space, fixed curricula, and insufficient resources (Theme 3) further constrain practice. Yet, opportunities for curriculum integration (Theme 4), particularly in science and mathematics, and the role of outdoor learning in fostering environmental awareness and community involvement (Theme 5), show promising pathways forward. Mannion et al., (2013) argue that outdoor pedagogy is understood through teachers' experiences, highlighting the importance of increase research to include students' perspectives more directly. Similarly, Fägerstam (2014) notes that teachers' perceptions significantly influence how outdoor learning is organized and its educational potential realized.

The findings show that OE has the potential to improving learning, but structural issues such as scarcity of resources, curricular flexibility, and teacher professional development must be addressed for outdoor learning to be effective. Edward-Jones et al., (2018) highlight that schools can adopt strategies to overcome systemic barriers and support outdoor learning. In the

Liberian context, this suggests that rural teacher training institutes, curriculum designers, and policymakers need to work collaboratively to embed outdoor pedagogies into the national education framework. Addressing these challenges, OE can move from being an underutilized concept to a practical approach with benefits for both teaching and learning, promoting students' holistic development and engagement with their environment. Future research could expand beyond teachers to include students, parents, locales and education policymakers, offering a more comprehensive picture of how outdoor learning can be adapted to Liberia's unique educational and cultural realities.

5.1. Concept of Outdoor Education

Many teachers misunderstood the concept when they responded to what OE means. In contrast to an integrative pedagogical strategy, most participants viewed OE as only field trips or recreational activities. In Isak and Kwia's view, educators often see outdoor education as a play rather than a medium of learning. The lack of understanding is prevalent in Liberia, but it is similar in other places where OE is just starting to emerge in schools. The SAGE Handbook of Outdoor Play and Learning (Herrington et al., 2017) demonstrates that having a thorough knowledge of outdoor learning is crucial for its effective use by teachers. To improve OE in Liberia, major rethinking and reshaping of the system will be necessary. This lack of knowledge requires an urgent need for professional development focused on the educational benefits of OE. Jeremy is ready to employ new teaching approaches because he believes that discovering things in the natural world is more significant (for example, science projects). Basic concepts are not often implemented in the real world unless guided by educators and structured guidance. Bryman (2016) argues that interviews are the most appropriate tools for these kinds of ideas, though their best results will occur if teachers can use them as teaching tools.

5.2. Student Outcomes and Perceptions

The teachers disagreed on how much outdoor learning influenced academics, despite recognizing its benefits of inspiring more student interest. It also reflects a bigger discussion about whether OE benefits academic learning in education directly. Such programs are recognized by Harvey et al. (2020), who argue that they enhance students' emotional health and participation, which is important for them. Kwia and Nora found that children who played outside could focus better and engage more actively with their surroundings, which supports our argument.

They nevertheless suggested that children might waste more time on play and less on their studies during outdoor activities. They are well-founded because proper outdoor education involves activities that link what is taught with activities outside. Therefore, the setting may excite students, but planning the learning properly prevents the classroom from turning into unstructured play, as Jeremy cautioned. It is worth noting that exposure to the outdoors for learning has real benefits according to research by Taylor and Butts-Wilmsmeyer (2020), who discovered that regular outdoor activities improve children's ability to regulate themselves and think more clearly. Educators notice that it is challenging to integrate these findings into learning, as they lack the local support and knowledge necessary to implement such organized learning in Liberia.

5.3. Challenges in Implementing OE

The lack of funding and training significantly hinders outdoor learning programs in Liberia. Teachers highlighted key challenges, including limited space allocation, heavy course loads, and insufficient professional training. Braun and Clarke (2013) describe the challenges of shifting entrenched educational practices when systems remain limited to traditional classroom approaches and familiar content. Kwia's concern about strictly following the curriculum shows how strict education systems can discourage teachers from adopting innovative approaches in OE. As Chalmers (2013) observes, it is challenging to improve educational systems when conventional methods and familiar content dominate. Similar trends are reported in other West African contexts; for instance, Borchers et al. (2014) established that extra-curricular environmental education in Côte d'Ivoire positively influenced students' knowledge and attitudes, yet required teacher facilitation and support to be effective.

In Nigeria, Oloninisi (2024) notes that teachers acquire knowledge of outdoor activities, but they had constrains of heavy syllabus demands, which prevented them from implementing outdoor activities. In Liberia, Jappah and Smith (2022) emphasize that teacher training and professional development are crucial, as teachers who receive ongoing training are better prepared to interpret, plan, and implement outdoor learning activities in ways that connect classroom content with real-life contexts. Despite these limitations, research indicates that OE can succeed even with minimal funding if teachers understand how to implement it effectively, especially in resource-limited spaces (Ladru & Gustafson, 2018). Simple outdoor activities, such as observing wildlife, or nature walk, can support learning without costly materials, demonstrating that creativity and teacher initiative are central to effective implementation.

Outdoor experiences offer developmental and behavioral benefits for students. Ulset et al. (2017) emphasize the value of learning in natural environments, while Donkoh et al. (2022) argue that teachers' continuous learning strengthens sustainable education initiatives. In Liberia, schools can utilize nearby natural resources to achieve learning goals, indicating that teacher knowledge and innovative practices matter more than funding alone. Similarly, Ajiboye and Olatundun (2010) found that outdoor educational activities improved pupils' environmental knowledge in Nigeria, highlighting the importance of teacher guidance in translating outdoor experiences into learning outcomes. Jappah and Smith (2022) further illustrate that enhancing teachers' skills and confidence through training increases their ability to integrate OE effectively, demonstrating that teacher development is a key factor in overcoming systemic and structural challenges.

5.4. Integrating OE into the Curriculum

Many teachers expressed interest in integrating OE into their lessons, particularly in subjects such as science and mathematics, highlighting their understanding of its relevance to learning. Teachers like Isak suggested that science lessons could involve students carrying out experiments outdoors, while Kwia viewed mathematics as an opportunity for students to measure objects outdoors. These ideas reflect teachers' awareness of how OE can be applied in practice, although implementation is limited. Research in West Africa supports this perspective: Borchers et al. (2014) found that extracurricular environmental education in Côte d'Ivoire increased environmental knowledge and positively influenced attitudes, while Ajiboye and Olatundun (2010) demonstrated that Nigerian teachers' involvement in outdoor activities enhanced pupils' understanding of environmental issues. This evidence shows that teachers' comprehension of OE is crucial in shaping how they can translate curriculum content into meaningful outdoor experiences.

Surprisingly, however, the research revealed that most teachers in Liberia admitted they did not fully understand OE and how to structure it for implementation; they observed striking outcomes when students engaged in outdoor recreational activities. Teachers noted that children who often performed poorly in the classroom showed remarkable improvement outdoors: they interacted better with their peers, took initiative, and even assumed leadership roles in activities. In contrast, students regarded as academically brilliant in classroom settings were less dominant or less engaged in outdoor spaces. This unexpected finding highlights OE's potential to uncover hidden strengths in learners and suggests that outdoor settings provide alternative pathways for personal and social development that traditional classrooms may overlook.

Despite teachers' interest, structural constraints limit their ability to integrate OE fully into the curriculum. Many teachers noted that rigid course structures, heavy workloads, and insufficient training restrict opportunities to implement outdoor activities. Oloninisi (2024) observed a similar trend in Nigeria, where teachers had knowledge of outdoor activities but were constrained by the demands of the syllabus and classroom schedules. In Liberia, Jappah and Smith (2022) emphasize that teacher training is cardinal to developing teachers' capacity to deliver meaningful learning experiences, suggesting that professional development programs are key to enhancing teachers' confidence in using OE. Teachers in my study echoed the need for institutional support, resources, and curriculum flexibility to translate their observations and ideologies into impactful practice.

Ayaga and Okaya (2020) observed that preschool teachers in Kenya improved children's social, emotional, and cognitive skills through outdoor learning, while Donkoh et al. (2022) in Ghana argued that lifelong learning and ongoing teacher exposure to environmental education strengthen the ability to connect curriculum content with local contexts. Together, these insights illustrate that integrating OE into the curriculum depends heavily on teachers' comprehension, training, and support systems. The surprises noted in my findings also demonstrate that OE can reveal new dimensions of student potential beyond academics.

5.5. OE and Environmental Awareness

Isak pointed out that teaching about the world by taking children outdoors is, according to teachers, one of the best ways to benefit them. Teachers who integrate outdoor learning believe that spending time in nature enhances students' desire to protect the environment and helps them develop practical knowledge. From their perspective, when students are in direct contact with nature while observing biological activities, lessons become easier to understand. Teachers also explained that using outdoor settings to explore issues such as pollution, climate change, and habitat loss makes students more aware of human impacts on the environment. They understand outdoor education as a method that encourages children to participate in conservation, thereby strengthening their awareness and responsibility toward the environment. In their view, involving students in programs - cleaning campaigns, water testing, or tree planting provides learning opportunities and builds critical thinking about environmental and sustainable issues.

Dyment and Potter (2015) support this understanding by illustrating that outdoor education increases sustainability awareness and appreciation for the environment. Teachers in Liberia interpret this evidence as aligning with their own experiences, given urgent local concerns like biodiversity loss, erosion, and destruction of wildlife. Their understanding is that integrating outdoor education into school programs can shape students into environmentally responsible citizens. By emphasizing students' involvement in practical conservation and sustainability discussions, teachers perceive outdoor education as a tool for learning and as a way of preparing communities to cope with environmental changes.

5.6. Role of Community in OE

This theme highlighted teachers' understanding of the role of communities in OE. Both Kwia and Jeremy emphasized that engaging communities can help advance OE in Liberia. Teachers viewed community participation as a means to connect learning with students' sense of belonging and responsibility, while also blending local knowledge and ways of life into practice. This perspective is consistent with Jappah and Smith (2022), who observed that teachers in Liberia increasingly noted that collaboration with local communities can enhance their professional growth and improve contextualized learning. Such understandings suggest that teachers perceived OE as an approach that extends beyond the conventional classroom enriched by cultural and community ties.

Teachers further revealed that communities hold valuable traditional knowledge, such as farming methods, herbal medicine, and natural resource management, which could inform OE in meaningful ways. They understood that involving locales from communities in outdoor activities could bridge the gap between traditional knowledge and formal education, offering students deeper connections to their environment. Linking this to Liberia's environmental challenges, teachers noted that practices such as soil conservation, water preservation, and biodiversity protection could strengthen students' environmental values. Overall, the teachers perceived the community as a co-educator in the learning process, grounding OE in cultural traditions, rituals, and daily practices that help students connect learning more directly with their lives.

5.7. Teacher Preparedness and Confidence

Because they have no training, many teachers in Liberia doubt their ability to apply OE effectively. Teachers' understanding of OE is shaped by their confidence and preparedness, which research shows is directly linked to professional development opportunities. Passy et al. (2019) emphasize that structured training and supervision are cardinal for helping teachers feel capable of beginning outdoor teaching. It supports Bærenholdt and Hald (2022), who describe the Danish *Udeskole* approach, indicating how guidance and experience gradually build teachers' confidence to introduce OE. In Liberia, however, teacher education programs rarely include OE, limiting teachers' awareness of how to design or manage such activities. This limited exposure reinforces uncertainty and the perception that OE is unrealistic.

Evidence from African contexts further illustrates how teacher training shapes understanding. Borchers et al. (2014) Côte d'Ivoire recognize that extracurricular environmental teaching increased teachers' comprehension of how students can connect classroom learning with nature, and revealed teachers' need for training to sustain these efforts. Ajiboye and Olatundun (2010) in Nigeria similarly demonstrated that teachers' involvement in outdoor activities increased their understanding of environmental education and prepared them to guide students effectively. Taken together, these perspectives demonstrate that teachers' understanding of OE is not static, but expands as they gain knowledge, training, and firsthand experiences that allow them to see its relevance and application in their settings.

5.8. Student Participation and Learning Preferences

This study revealed that students in Liberia responded to OE in different ways: some found it engaging and motivating, while others struggled to remain focused. This mixed reaction reflects earlier research. Bølling et al. (2018) observed that learning beyond the classroom enhances motivation, while Illeris (2007) also argued that outdoor activities increase curiosity and interest. In this study, students who actively engaged in OE demonstrated a stronger connection to learning tasks when they were able to see and touch real objects, which made abstract concepts easier to understand, findings similar to those of (Mannion et al., 2013). Likewise, Fägerstam (2012) noted that being outdoors enhances memory retention through sensory engagement, which was also reflected in the students' ability to recall lessons more vividly when taught in natural settings. However, some students viewed OE as a form of leisure rather than academic work, underscoring the need for careful planning to ensure activities are structured and purposeful.

Teachers in this study also observed that while OE created opportunities for exploration and enjoyment, they needed to manage student focus and discipline. Jucker and von Au (2022) posit that planned outdoor activities strengthen engagement, while Quay and Seaman (2016) highlight that structured lessons help teachers reach learning goals—points that align with the strategies teachers in this study adopted. Similarly, Brussoni et al. (2015) linked outdoor environments to risk-taking and self-control, which aligns with teachers' observations that supervision is essential for balancing freedom with discipline. The study further showed that when students were given some level of autonomy outdoors, they displayed greater enthusiasm and ownership of learning, echoing Waters and Loton (2019) argument on autonomy-supportive spaces and self-determination. These connections suggest that while OE creates new learning opportunities in the Liberian context, its effectiveness depends on careful planning, supervision, and integrating students' enjoyment with academic purposes.

5.1.0. Implications

The findings indicate that teachers recognize the significance of OE but face serious challenges in implementing it effectively. Their understanding of OE highlights the importance of connecting experiential learning with curriculum content, yet inflexible teaching structures, limited resources, and insufficient professional development constrain their ability to translate this understanding into practice. Interviews with teachers from three counties revealed key themes and subthemes showing how these challenges manifest in classrooms and how educators interpret their role in facilitating outdoor learning. As Oloninisi (2024) found in Nigeria, teachers may have knowledge of outdoor activities but are limited by syllabus demands and heavy workloads, emphasizing that teacher understanding alone is insufficient without structural support. Similarly, Jappah and Smith (2022) note in Liberia that professional development is central to equipping teachers to translate their understanding into effective practice. Without targeted professional growth, teachers struggle to apply OE methods confidently, restricting students' opportunities to benefit from context-relevant experiential learning.

These results imply that educational stakeholders must rethink policies, curricula, and teacher development programs to support OE. Teachers' perceptions suggest that a flexible curriculum, adequate resources, and structured professional growth are essential to turn OE from theory into practice. Donkoh et al. (2022) in Ghana highlight the importance of lifelong learning and ongoing exposure to environmental education for teachers to strengthen their understanding and instructional capacity. Collaboration among education policymakers, schools, and the rural teacher training institutes is crucial for integrating outdoor learning into Liberia's education system. Addressing these challenges while valuing teachers' understanding of OE, stakeholders can enhance instructional strategies, empower teachers, and ensure that outdoor learning becomes a sustainable and effective component of student education.

5.1.1. Teacher Training and Continued Education

One of its most important findings is that proper teacher preparation and ongoing education in OE are crucial. The study revealed that many Liberian teachers are not well acquainted with

OE. Because many see OE only as field trips and extracurricular activities, it is vital to provide training that highlights its educational value. Herrington et al. (2017) believe that lacking a clear understanding of what OE entails could limit its effectiveness. Teacher preparation programs might help by incorporating experiential learning theory to bridge this gap. Kolb and Kolb (2009) introduced the experiential learning model, which shows how we learn best through hands-on experiences and reflecting on them. Going on outdoor trips allows teachers to learn firsthand what they can apply in their lessons. According to Waite (2020), experiential learning training can boost teachers' confidence and their ability to deliver meaningful lessons. Introducing intrinsic motivation and autonomy into learning is also supported by self-determination theory (Brown & Ryan, 2015). When teachers understand and value OE, they are more likely to integrate it into their teaching. Jeremy and other motivated teachers can benefit greatly from targeted training in teaching methods aligned with the curriculum's goals.

5.1.2. Adaptable and Combined Curricula

Curricular flexibility is essential for OE to support subjects like social studies, science, and mathematics. Many teachers noted that although OE is not widely adopted, they are willing to try it in specific courses where hands-on lessons would be beneficial. It would be possible to include OE if supported by the institution and carefully organized. Technology integration is valuable, as it enables students to gain meaningful learning experiences and achieve educational goals, according to Sando and Sandseter (2020). PBE provides the essential foundation for this type of integration (Beames, 2015). It encourages learning in neighborhoods and communities rather than learning from textbooks.

Subjects that apply a place-based approach can stay relevant and engaging in Liberia because students can learn by doing outdoors. According to Stuler Myhre & Fiskum (2021), outdoor learning and conducting science experiments in nature help students better remember biological concepts. Moreover, constructivist learning theory suggests that students deepen their understanding by actively engaging, rather than passively listening to lectures. Being outdoors for OE encourages students to explore, ask critical questions, and practice their problem-solving skills. More outdoor learning aligns well with the principles of constructivism, which favor active, student-centered education.

5.1.3. Funding and Policy Changes

According to the results, institutional support plays a key role in solving challenges to implementing outdoor learning in Liberia. Some academic issues mentioned by teachers included a lack of proper professional development, strict education programs, and limited resources. These challenges are prevalent in schools across many countries in Sub-Saharan Africa, specifically, where budgets are restricted. According to Cohen et al. (2017), when teachers are supported and have access to resources, it is possible to implement OE in places with fewer resources. Here, the self-determination theory (Brown & Ryan, 2015) plays a crucial role. If the institutions improve the psychological needs of teachers by giving them autonomy, competence, and relatedness, teachers will feel encouraged to use OE methods. Teachers tend to use OE more regularly if they consider policies that respect and encourage them to have their support. Using storytelling as an organizational excellence approach can strongly influence how policies develop. In the opinion of Ulset et al. (2017), storytelling plays a pivotal role in students forming an emotional bond with what they are learning. When teachers and students share their positive experiences in OE, policymakers and education stakeholders may find them more accessible to this kind of policy.

5.1.4. Innovation and Distribution of Resources

The findings showed that Liberia is struggling to implement outdoor learning because of a shortage of resources. Teachers were concerned when they lacked outdoor spaces, supplies, and equipment for outdoor learning. Despite this concern, it does not have to prevent teachers from implementing outdoor learning. According to research by Ladru and Gustafson (2018), in the environments where resources are limited, OE can still be a success. For instance, teachers in science classes may use nearby resources such as plants, soil, and water. They can head outdoors to do simple examples of measurement in a math course. The challenge may be solved using approaches from PBE. Schools may integrate OE activities in their nearby environment. The constructivist learning theory highlights that children learn more through hands-on interaction within their surroundings. Motivating teachers to use what they already own for teaching makes OE more sustainable. Involving the community is crucial for getting additional resources. The locales and parents getting involved in outdoor educational activities may help find more resources. Moreover, foreign companies might donate money and supplies to help OE programs in Liberian schools.

5.1.5. How Learning Benefits in the Long Run

Despite the challenges mentioned by the research, OE can enhance student engagement and improve their academic performance. Many teachers have observed that by using OE, students can pay more attention, become more curious, and better solve problems (Harvey et al., 2020). OE could make a difference in Liberia, where integrating outdoor learning is a real challenge. Self-determination theory (Brown & Ryan, 2015) suggests that relatedness, competence, and autonomy are essential to knowledge acquisition and motivation. Students studying in nature through their own experiences are a big motivator for them. Observing how lessons are conducted in natural settings increases students' need to learn. Narratives in OE encourage students' curiosity and make learning easier for students when they experience real-life incidents or scenes from their environment, traditions, or science. Lessons that integrate storytelling and teaching outdoors can improve the way sessions are organized and received by students.

5.1.6. Limitations of the study

While this study presents important understandings into teachers' perceptions of OE in Liberia, it has several limitations. The small sample size of only six teachers limits the generalizability of the findings, as the perspectives of these teachers may not represent those of teachers across different regions (Bryman, 2016). Data collected through interviews may be influenced by social desirability, with participants providing responses that reflect what they hope or believe the researcher wants to hear rather than their true experiences (Brinkmann & Kvale, 2008). Additionally, the use of thematic analysis, while useful for identifying patterns in qualitative data, does not allow for numerical measurement or determination of whether the observed themes are typical across a larger population (Braun & Clarke, 2006).

Another limitation concerns the potential influence of the researcher's interpretations. As qualitative research relies on subjective analysis, my understanding of the data may be affected by personal knowledge and past experiences, introducing the possibility of bias. The study is also limited by its reliance on self-reported data rather than direct observation, which restricts the ability to verify teachers' accounts of their practices and perceptions. Future research could address these limitations by including larger and more diverse samples, combining qualitative and quantitative methods, and incorporating classroom observations to gather a fuller understanding of OE in Liberian schools.

5.2.0. Conclusion

With all factors considered, this study confirms that OE plays a significant role in academic performance and personal development in learning. However, it is crucial to devise mechanisms that address the barriers that prevent OE from functioning effectively in Liberia. These include limited awareness of experiential learning, inadequate teacher training, minimal lesson changes, a rigid curriculum, a lack of funding, and scarce resources. Although teachers are interested in using OE, the absence of proper guidelines and training from their institutions often results in OE as a theory rather than a practical application. Globally, research emphasizes that well-designed experiences and outdoor activities improve OE (Herrington et al., 2017; Harvey et al., 2020).

In Liberia, education must adopt new pedagogical approaches, ensure the availability of necessary instructional materials, and modify the curriculum to incorporate outdoor learning for successful implementation. Liberia can achieve these goals only if it establishes an appropriate educational framework now. Many teachers using OE approaches can implement outdoor learning methods regardless of resource availability. It is crucial to identify what teachers need and ensure OE becomes part of Liberia’s national curriculum. When students participate in outdoor learning, they tend to be highly motivated and find learning enjoyable, creating opportunities for a more open and enriching educational environment.

5.2.0. Recommendations

This list of recommendations is based on the research results to help boost and blend OE in Liberia’s schools. It informs relevant authority in the education sectors to act and legislate policies that embrace the inclusion of OE in the national curriculum that support learning outdoors.

Teacher Professional Development: In further studies, the benefits of OE to Liberian students should be studied. The study was limited to the views of the teachers; it should be conducted with more details to investigate the role of OE in shaping the learning outcomes of students and their abilities to control their behavior and maintain their psychological condition. Since OE may be part of the national curriculum, the revision of the national curriculum and policies, and the preparation of teachers should be discussed. As the problems of lack of rigidity in curricula, teacher development, and proper resources were identified in this study, other studies would be needed to change the system**.**

Curriculum Reform of OE Inclusion: Teaching geography, science, and environmental studies should include OE in the Liberian curriculum. It should ensure that students are engaged in learning that connects them to their environment. To achieve OE, teachers and curriculum planners should liaise with Scandinavians, especially the Swedes, who have vast knowledge and experience in OE.

Increase in supply of Resources: Regardless of financial resources, there is a need to have maps, measuring tools, and first aid kits. It should be the responsibility of the government and its educational institutions to ensure that there are budgets for OE issues concerning the government. The other option can be the provision of instructional resources, such as curriculum tools, sports equipment, or environmental specialists, by schools, the NGOs, and communities by schools.

OE as preparation for Teachers: The Liberian government should ensure OE is an integrated part of all curricula in the four rural teachers' training institutes (RTTI) and university teachers' training programs. Teachers interested in teaching should undergo learning the skills and practical program of outdoor learning before teaching outdoor activities. It is the teachers themselves who acquire the teaching process through teaching practice and should be equipped to begin educating students in the future.

Pilot OE Initiatives: Using a model in a larger group of schools can be realized since initial experimental work in a limited number of schools. These pilot programs would support learning, field visits by students, participation in oriented environmental projects, and physical activity in outdoor learning places. Such activities lead to finding the results that usually show how students participate in school activities and learn more. Implementing successful pilot projects may lead to the expansion of pilot projects in other regions of Liberia.

Collaboration between Local Communities and Schools: To contribute to outdoor learning, all schools should always associate with their natural surroundings. Inhabitants in their vicinity should take responsibility for the community and initiate or create a platform for providing excellent cultural learning experiences. When the community is in the habit of partnering, it enables children to learn how to sustain their neighborhoods, care for, and develop holistically, and exhibit maturity in their community.

Advancement of OE Policy: For the government to recognize the importance of OE and recommend its integration into the education system, a holistic national policy needs to be established. The policy should include strategic plans to achieve the results and set guidelines detailing how to address challenges in implementing OE activities. The guidelines should mandate educators and partners to provide sufficient support and instructional materials to all educational institutions to integrate outdoor activities effectively. Tackling the barriers that impede outdoor learning fosters outdoor education, serving as a vital component in Liberia’s education system, giving our students the opportunities to connect with their environment and develop holistically.

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Appendices

Appendix 1

Consent Form

I am James S. Bedell, currently pursuing a master's degree in Outdoor and Sustainability Education at Linkoping University. I am writing to seek your participation in a research study I am conducting as part of my program. The study comprehensively aims to assess outdoor education initiatives in Liberian schools, analyzing their current status and evaluating their impact on student development. Given your extensive involvement in Liberia's educational community, I believe that your insights would greatly contribute to the success of this research.

Participation in this study involves an interview session, which will be conducted over the phone at a time convenient for you in April. The interview will be audio-recorded solely for research purposes and will not be accessible beyond the study context. Your responses will be anonymized in all research materials to ensure confidentiality and privacy.

Please note that participation in this study is voluntary, and there is no compensation offered. You are free to decline or terminate the interview at any stage without providing an explanation or facing any repercussions.

If you are interested in participating or require further information, please feel free to contact me via phone at +46735771504, email at bedellsundegoe@mail.com, or WhatsApp at +231886535402.

Your consent to participate in this study indicates your understanding and agreement with the research terms outlined above. Your signature below confirms your willingness to take part in the study.

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Participants signature Date

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Participants signature Date

Appendix 2

Outdoor Learning Discovery

Throughout my schooling and undergraduate studies in Liberia, teachers were the custodians of knowledge. We, the students, were listeners and recipients of whatever was being taught in the classroom. When I later became a classroom teacher and education trainer, I employed a similar instructional approach to impart knowledge to young learners and teacher trainees. I adhered to this traditional method for decades until I had the privilege of pursuing graduate studies in outdoor and sustainability education in Sweden. There, I encountered an emerging pedagogical approach that connects people with ecosystems, revealing that practical learning does not need to exclude the natural world, nor does it exist independently of theoretical pedagogy.

This new learning approach opened fresh opportunities for my intellectual growth and educational curiosity, broadening my understanding of new dimensions in my career. I discovered depth through values-based learning and science, which links systems and integrates my theoretical experience with sensitivity to real-world contexts, measured through human art and knowledge. It combines forest-based learning with a structured teaching regime, as described by Beames (2015) and Fagerstam and Blom (2013). Academically, it transformed my conception of teaching, highlighting that outdoor learning is more demanding and enriched by intentional institutional structures, where student learning can be stimulated and enhanced once firmly grounded in disciplinary knowledge.

Appendix 3

Research Questions and Interview Guide

Research Questions and Interview Guide Questions	
Research Questions	**Interview Guide**

• How do teachers think being outdoors impacts student learning in Liberia?	• How do you define outdoor education and what kinds of activities do you teach? • What effects does it have on students' well-being and skill sets? • How do students react to outdoor activities? • Is it possible for outdoor education to enhance conduct or students' academic performance?
• What difficulties do teachers encounter when trying to use outdoor education in Liberia?	• How difficult is it for you to execute outdoor education? • How do you get trained to do outdoor education? • Does your school have the space or resources necessary to facilitate outdoor learning?
• What are teachers' ideas on including outdoor learning in Liberia's standard curriculum?	• How might outdoor education be incorporated into the national curriculum? • How should teachers be prepared for outdoor education? • Can maths or science be connected to outdoor education? How, if at all?

	• What are some ways to incorporate outdoor education into the curriculum?