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Caribbean Early Childhood Educators, Primary Educators, and Student Teachers' Perceptions of Visual Literacy and Visual Images Across the Curriculum

Monica Yvonne Hines-Graham
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Monica Y. Hines-Graham

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Walden University
2026

Abstract

Caribbean Early Childhood Educators, Primary Educators, and Student Teachers'

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by

Monica Y. Hines-Graham

MA, Nova Southeastern University, 2011

BS, University of the West Indies & Edna Manley College of Visual and Performing

Arts, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

February 2026

Abstract

The problem that was addressed through this study is the gap in knowledge about the integration and evaluation of visual literacy and visual images across the curriculum of early childhood educators, primary educators, and student teachers, despite it being a requirement for teachers in the Caribbean education system. Grounded in Hall and Hord's concerns-based adoption model, the purpose of this study was to explore the perceptions of early childhood educators, primary educators, and student teachers with the integration and evaluation of visual literacy and visual images across the curriculum. For this basic qualitative design, semistructured interviews with 12 participants from one early childhood center, one primary school, and one teacher training institution in the Caribbean were conducted. Thematic analysis using open and axial coding revealed four themes which indicated the participants: (a) relied on their personal learning, (b) were innovative in teaching practices, (c) were desirous of advanced training, and (d) expected future improvements in training and infrastructure. Results suggest that teachers' perceptions of visual literacy and an interactive learning environment of visuals and objects can foster creativity in teaching and learning. With ongoing, targeted professional development that supports teachers in integrating visual literacy and imagery into the curriculum, positive social change may occur as children's classroom experiences become more visually enriched, fostering well-rounded individuals who are equipped to navigate and contribute to an increasingly visual society.

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Dedication

This study is dedicated to my mentor, Dr. Nadine Althea Theda Scott. She was an educational consultant, leader, visual arts educator, principal, lecturer, researcher, curriculum developer, conference/ events planner, art critic, textile designer, television presenter/producer, and union leader/presenter. In addition, Dr. Scott was a professional and scholar determined to erase all the stigmas surrounding the Visual Arts as an academic subject in schools across the Caribbean region.

She has been the catalyst in ensuring that the fraternity of the visual arts is current and active. As a chief examiner of the Joint Board of Teacher Education, she organized training and development programs for teachers every semester. Dr. Scott left behind a legacy that is currently the foundation for visual arts education. She introduced Discipline-based art education, an approach to art education that draws upon four art disciplines: art production, art history, art criticism, and aesthetics, and was instrumental in implementing resources and technology in the visual arts classroom. The discipline-based art education structure marked the beginning of integration in Jamaica's education system.

The power to change the world is in my hands. I will use the resilience gained throughout this Ph.D. journey to make an impact on the world. Thank God for the life lessons. I embrace the depth of human experience as her life's work unfolds, marked by years of dedicated service. May her soul rest in peace.

Acknowledgments

I express gratitude to my Lord and Savior, Jesus Christ. With His presence, I find the strength to overcome any challenge; without Him, my endeavors would lack meaning. I extend heartfelt thanks for His unwavering support, which empowered me with the confidence and sustenance needed to complete this program successfully. His guidance and love have been instrumental in shaping the person I am today.

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To my mother, Lurline Hines, you are nothing short of amazing. Your assistance and encouragement were pivotal in helping me complete the dissertation, and I now consider you a cherished friend. Thank you, Mom, for being a tremendous blessing throughout this journey.

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Chapter 1: Introduction to Study

Visual media for cultural expression in learning is a source of reimagining education for sustainable development (Arur & Sharma, 2022). From a Caribbean perspective, education for sustainable development (ESD) is sometimes displayed in the resilience of the region's education system, specifically in implementing teacher professional development opportunities (Bissessar, 2023; Fischer et al., 2022; Roofe & Ferguson, 2018). Education for sustainable development (ESD) was a feature of policy initiatives and educational programs at the World Summit on Sustainable Development in Johannesburg (Von Frantzius, 2004), where member states of the United Nations reaffirmed an education system based on learning for sustainable development (Firth & Smith, 2013). This study was done to support the concept of ESD, which seeks to establish a long-term solution to the creation of learning that enables knowledge, values, and skills for individual and collective participation in local and global decisions to improve the quality of life without damaging the planet for the future (Firth & Smith, 2013). To ensure the sustained delivery of environmental education for sustainable development, Caribbean countries developed five programs, namely: (a) teacher professional development, (b) curriculum development and implementation, (c) national public awareness, (d) community learning, (e) resources and practices. This change aimed to establish integrated learning outcomes within the national curricula and align the country globally through professional teacher development (Bruns & Nelson, 2024; Ferguson, 2020; Sparks & Tomko, 2023).

Children in Jamaica's early childhood and primary education system, the largest English-speaking Island in the Caribbean, are exposed to ESD infused in the New Standard Curriculum (NSC). The values of education for sustainable development began with the NSC's emphasis on developing skills in communication, collaboration, critical thinking, and creativity through the integrated curriculum in grades 1-3 and the discrete curriculum in grades 4-6. (Ministry of Education, Youth & Information, 2017). The NSC projects four core values: culture and heritage; tolerance and respect; inclusivity, social justice, and democracy; and sustainable development.

This study explored practical solutions to support the change process required to improve education for sustainable development by examining the value of visual literacy in learning, instruction, and innovation. The NSC emphasizes three standards: (a) create and develop, (b) plan and design, and (c) appreciate and respond (Clark, 2022). For example, a grade 3 teacher may use a block-printing activity to teach mathematics, language arts, and integrated studies, using these three standards. The teacher could take the students on a nature walk to observe the geometric shapes in the environment, including squares, rectangles, circles, and triangles. The students could then use these shapes to create stories that the teacher would record inside the classroom. The students could also use these shapes to print a placemat for their meals; building on the integrated STEM framework to impact student outcome as described by Roehrig et al., (2021). The teacher would have used the integrated grades 1-3 curriculum.

The NSC goal is to improve students' academic performance from grades 1 to 9 in public schools. Consequently, the curriculum unit of MOEYI has instituted a change in

the curriculum that will shape the national and economic structure. This change requires the teachers to understand the fundamental mantra that “Every Child an Learn, Every Child Must Learn” (Hylton & Hylton-Fraser, 2022; Roofe, 2021). This must be maintained while the teachers apply language of art to facilitate learning through innovation and integration

The primary focus of this study was to investigate teachers’ perceptions in early childhood education, primary school education, and student teaching. Specifically, the study assessed the visual materials used across the National Standards Curriculum (NSC) in various subject areas, with a focus on the creative arts domain. Within the context of the NSC, teachers play a pivotal role in ensuring the fulfillment of educational expectations. The responsibility extends beyond mere instructional tasks to encompass both the teaching process and the continuous summative evaluation of students’ learning outcomes (Sperry & Scheibe, 2022). Sperry and Scheibe (2022) state that the teacher should decode or deconstruct the visual message using a dialectical process while collectively constructing or encoding shared meaning.

The selected early childhood education and primary school teachers were exposed to ways of illustrating and emphasizing concepts and ideas across the curriculum using images, as required by the NSC. The results of this study will provide information to assist teachers and teacher trainers in equipping them to lead their learners in the critical reading and interpretation of visuals, both online and face-to-face. Visual aids and animated visual sequences have provided teachers with tools to develop students’ cognitive, affective, and psycho-motive skills and evaluate the students’ performances for

assessment records from early education to the secondary levels (Achieng, 2016; Bugdayci & Cetinkaya, 2022; Mond & Weir, 2022; Rachmavita, 2020; Sheu & Ijaiya, 2016).

This chapter introduces the study, beginning with the background followed by the problem statement. The purpose and extent of the study will be explained, supported by research questions (RQs) and the conceptual framework. This chapter also highlights the study's nature and definitions of terms and phrases. Finally, the study design, assumptions, scope and delimitations, limitations, and significance are presented.

Background

The Ministry of Education in Jamaica is advancing toward a distinctive teaching and learning environment, transforming the learning landscape by categorizing, critiquing, conceptualizing, and collaborating on resources to help students “become critical thinkers, lifelong learners who can play an active, responsible role as citizens and should value their heritage and culture” (MOEYI, 2020, p. 4). Scholarly literature indicates that one objective underlying the design of this new learning environment is to equip learners with visual awareness applicable to real-world situations (MOEYI, 2016a). These visual awareness experiences are intended to develop curricular and content standards that align with new technologies and the educational needs of online learners. In exploring the scope for creativity and productivity, Shivers et al. (2017) suggest that incorporating skills in perception, interpretation, and expression requires teachers to use the writing-through-visual-literacy approach to engage learners. This suggestion could be adopted by teachers in the Caribbean.

Studies conducted on teachers' experiences implementing the NSC and student teachers' experiences with the NSC revealed problems related to a lack of skills and understanding, stemming from inadequate training and preparation. As a result, the rollout and implementation of the NSC in 2016 in the Caribbean territory have not yet yielded the expected results (Mayne & Dixon, 2020; National Standards, Curriculum & ICT Tools Teachers' Workshop, 2016; Scott, 2020). In addition, the advent of COVID-19 created a demand for teachers to teach and students to engage in deep technology in the form of e-learning (Alhammedi, 2021; Daher et al., 2022; Neuman & Powers, 2022). The knowledge gap addressed by the study affects the implementation of the NSC and, ultimately, its achievement of objectives.

During the pandemic, early childhood education was considered less suited to distance learning and suffered greatly (Neuman & Powers, 2022). In light of this, Loerts and Belcher (2019) have argued for prioritizing the preparation of the early childhood system to address future shocks. Others have said that there is a need for teachers to focus on the generation of children at the early childhood and primary levels progressing through a visually stimulating educational system (Naida et al., 2024) to satisfy the NSC objective "to demonstrate creativity by incorporating illustrations (visuals and images) as they communicate a new perception of knowledge approaches" (Chisholm & Whitmore, 2018, p. 44).

Although some research has been conducted on visual literacy and integration, more needs to be done on the institutional training of teachers in the field and student teachers in teacher-training colleges (Hurley, 2022). W. W. S. Lee and Yang (2023) have

reported that teachers' qualifications and environment do not influence students' poor performance, while Javed and Akhter (2024) suggested that teachers upgrade their skills and collate evidence from new literature and resources to satisfy new educational insights.

The views of Dr. Clover Hamilton-Flowers, Assistant Chief Education Officer in the Curriculum Unit of the Ministry of Education and Youth, offer a valuable perspective on the challenges and solutions in Jamaica's educational system. Dr. Flowers' reaction to the recommendations from Professor Orlando Patterson, chair of the Jamaica Education Transformation Commission, aligns with Pezzano's study (Pezzano, 2022), offering insights into the complexities of educational reform and the role of teaching methodologies in academic performance.

Background Context

The Jamaica Education Transformation Commission (JETC) presented a comprehensive evaluation of the Jamaican education system, delivered by the commission's chair, Professor Orlando Patterson, to identify challenges and propose strategies for improvement (The Jamaica Education Transformation Commission, 2021). The report emphasizes that the effective operation of schools relies on contributions from multiple levels of leadership, including policy governance, operations management, parental involvement, student participation, and community engagement (Henry, 2023; The Jamaica Education Transformation Commission, 2021; C. Thompson, 2022).

Dr. Hamilton-Flowers, Assistant Chief representing the curriculum unit in the Ministry of Education and Youth, highlighted the critical role of teaching methodologies

in influencing student performance (Powell, 2023). Her position suggests a correlation between the methods teachers employ and students' observed levels of academic achievement. Dr. Hamilton-Flowers argues that ineffective or inappropriate teaching methods can significantly contribute to poor academic performance (Powell, 2023). This view underscores the importance of pedagogical strategies in education, suggesting that how the material is taught can be as crucial as its content.

Building on Patterson's report, Powell stated that Dr. Hamilton-Flowers underscores the need for teachers to creatively use the NSC to overcome challenges. Dr. Hamilton-Flowers charged teachers to tailor the NSC's application to students' learning profiles to enhance performance, given the NSC's design as a comprehensive educational framework in Jamaica meant to cater to individual learner needs (Powell, 2023). Dr. Hamilton-Flowers emphasizes adaptable and innovative teaching methods through creative NSC implementation. Consequently, the Minister of Education, Youth, and Information, Hon. Fayval Williams (Jamaica Information Service, 2022), initiated a summer creative challenge for youth and adolescents to raise awareness through competitions in the creative and fine arts. A similar initiative was launched in other Caribbean islands as a policy through sensitization efforts (Blackman, 2022). However, the effectiveness of the Ministry of Education's response may be questionable, as noted by Thompson and Beene (2020), advancing visual literacy standards will impact librarians, educators, and scholars in meaningful ways. The integration of visuals and other new learning styles therefore suggests that schools will rely on leadership at various levels to function.

Dr. Hamilton-Flowers' approach highlights the importance of addressing individual learner needs and acknowledging diverse learning styles, backgrounds, and abilities. She advocates for tailored teaching methods to enhance academic outcomes, which carries significant implications for education practice and policy in Jamaica. This includes teacher training and professional development, with a focus on prioritizing diverse and innovative teaching methodologies. Moreover, it calls for a reassessment of how the NSC is implemented in classrooms, advocating a more student-centered, adaptive approach.

Dr. Hamilton-Flowers' response to the Jamaica Education Transformation Commission's recommendation highlights the pivotal role of teaching methodologies in educational success. By advocating for the creative and individualized application of the NSC, she emphasizes the need to adapt teaching practices to meet the diverse needs of learners. This perspective addresses immediate concerns in Jamaica's education system and contributes to the broader discourse on educational reform and the dynamic nature of teaching and learning in the 21st century.

This study focused on the role of visual literacy in cognitive development and its integration into early childhood and primary education, addressing a critical and evolving area in educational pedagogy. Grounding this study is the work of Krejci et al. (2022), who underscore the effectiveness of creativity in enhancing learners' cognitive development, and Henze (2016), emphasizes the necessity of visual literacy for new educational paradigms, providing a solid theoretical foundation. The premise established by Krejci et al. (2022) is that visual literacy is not just a skill but a powerful tool for

cognitive development. Their work suggests that visual literacy goes beyond the ability to think, learn, and express oneself in a visual language. As Henze (2016) noted, the educational landscape is shifting, necessitating the development of new literacies, including visual literacy. This shift is partly driven by the digital age (Casillas Martín et al., 2020), where visual information is predominant in communication and learning.

The purpose of this qualitative study was to explore the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. This involves understanding teachers' current attitudes towards using visual aids and artifacts in the classroom and how these can be evolved to embrace a more visually centric approach. The study highlights the importance of multimodality in education, particularly in the arts. It is grounded in the premise that learning is not a one-dimensional process; integrating various modes (visual, auditory, kinesthetic, etc.) can create a more engaging and effective learning environment.

A critical aspect of this study was investigating how student-teachers can be prepared to integrate the visual arts across various subjects in the curriculum. This will involve training in the visual arts and innovative pedagogical strategies that effectively integrate visual arts with other subject areas. The anticipated outcome of this study is a set of actionable recommendations for teacher training programs emphasizing visual literacy. Additionally, the study could contribute to policy discussions on curriculum design and professional development among educators beyond its immediate scope. This study could have broader implications, potentially influencing how visual literacy is

perceived and integrated into educational practices, highlighting its role in enhancing cognitive development across various age groups and educational contexts.

The study may contribute to the field of education by highlighting the importance of visual literacy in cognitive development and exploring innovative ways to integrate it into early childhood and primary education. By shifting teachers' perceptions and preparing them to use visual tools effectively, this study intends to enhance the teaching and learning process, making it more effective and aligned with the demands of the 21st-century educational landscape.

Problem Statement

The NSC, introduced in 2016, requires the integration of visuals and digital learning from early childhood through the secondary level (Mayne & Dixon, 2020; National Standards, Curriculum & ICT Tools Teachers' Workshop, 2016). Despite it being a requirement, teachers have not been consistent in planning lessons that incorporate visuals or conducting proper evaluations of the use of visuals due to insufficient use of graphic literacy skills (Becker, 2020; Shepherd, 2020; Toleuzhan et al., 2022).

Studies have explored the effects of visual literacy in teaching at all levels of the education system, indicating that the problem is current, relevant, and significant to the discipline. These studies include previous research findings from extensive studies on the importance of visual literacy for both trained teachers and student teachers. Several authors (DeCapua, 2023; Gillies & Rafter, 2020; Huilcapi-Collantes et al., 2020; Ruiz-Gallardo et al., 2019; Styles, 2023; Westwood, 2018) have discussed the effect of a

blended learning course of literacy and visual literacy for in-service teachers and student teachers in early childhood and primary education. The problem that was addressed through this study is the gap in knowledge about the integration and evaluation of visual literacy and visual images across the curriculum of early childhood educators, primary educators, and student teachers, despite it being a requirement for teachers in the Caribbean education system.

Purpose of the Study

The purpose of this qualitative study was to explore the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. Focused on Caribbean educators, the study specifically examined perceptions of (a) how visuals are integrated across the curriculum, (b) the impact of visual literacy training on their teaching practices, and (c) the ways visual imagery and visual language are used within the subjects they teach. By targeting stages of concern (SoCs), the study sought to understand teachers' attitudes toward adopting visual literacy, thereby offering insights for improving educational practices and meeting curriculum standards. The study's potential impact includes advocating for increased integration of visual literacy in teacher training programs, enhancing educators' knowledge base, and improving learning experiences across various subjects.

Research Questions

The central RQ for this study was as follows.

RQ: What are early childhood educators, primary education, and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?

Three sub-questions (SQs) were crafted to steer the interview protocol and address the central question:

SQ1: What are early childhood educators, primary educators, and student teachers' perceptions of the integration of visuals across the curriculum?

SQ2: What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?

SQ3: What insights do early childhood educators, primary educators, and student teachers offer regarding using visual imagery and visual language in the subjects they teach?

Conceptual Framework for the Study

The conceptual framework of this qualitative study centers on the SoCs, an element of the concerns-based adoption model (CBAM), which serves as a guide to understanding teachers' apprehensions regarding change as they integrate and evaluate visuals in early childhood and primary education curricula. In this study I explored the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. The focus was on understanding teachers' perceptions,

adoption of change, readiness for new ideas regarding integrating visual literacy into the curriculum, and their response to this integration.

This study's framework is rooted in Hall and Hord's change theory (1987) and CBAM. Key elements within the framework include the theoretical foundations of visual learning, visual literacy in early childhood and primary education, integration strategies, evaluation practices, barriers to implementation, and pedagogical implications. Chapter 2 will elaborate on the study's framework, with an emphasis on reviewing CBAM and the SoCs.

The (CBAM), developed by Hall (1974), was the framework used to explore and map the application of SoCs. This tool is ideal for diagnosing researchers' needs and assisting change facilitators in enhancing the implementation process. Torres et al. (2023) regarded the SoCs as one of the implementation bridges designed to establish a relationship between the CBAM and the change process. This study uses this framework to highlight its collaborative role in facilitating effective change management and implementation strategies, just as other researchers have done previously (see Al Masarweh, 2019; Bell-Wilson, 2023).

The questions also guide the qualitative approach, which employs in-depth interviews to gather comprehensive insights into participants' experiences and attitudes toward visual literacy integration. Overall, the framework shapes the study's direction by ensuring alignment between research methods and the objective of comprehending the role of visual elements in early educational settings.

Nature of Study

The reason for choosing a basic qualitative research design for this study is based on the inductive approach inherent in qualitative methodology, as explained by Leedy & Ormrod (2015). It is the most suitable method to thoroughly explore teachers' and students' perspectives and experiences regarding the integration and assessment of visual elements in early childhood and primary education curricula. This research design focuses on participants' interpretations of their experiences and avoids researchers' preconceived notions about what participants might feel or how they interpret phenomena, as noted by Creswell (2013) and Merriam and Tisdell (2015). Using a qualitative approach aligns with the philosophical foundation of constructivism. According to Merriam and Grenier (2019), the basic qualitative method is best suited for this study because it allows for in-depth exploration of complex phenomena. In qualitative research, data collection usually involves group or one-on-one in-depth interviews (Caelli et al., 2003; Francis, 2019; Leedy & Ormrod, 2015; Merriam & Tisdell, 2015). It is especially effective for examining individuals' detailed perspectives and lived experiences, which is essential for understanding the subjective aspects of integrating and evaluating visual elements in education (de Ruiter & Bers, 2022; Leedy & Ormrod, 2015; Sullivan & Strawhacker, 2021). The qualitative paradigm also offers flexibility in data collection and analysis. This adaptability is vital when exploring phenomena where variables are not easily measurable and where participants' context and personal experiences are central.

Other qualitative research approaches, as described by Creswell (2013), were examined to determine the most suitable research tradition. These include narrative research, which explores an individual's life story; phenomenological research, aimed at understanding the essence of experiences; grounded theory, which aims to develop theories grounded in field data and participant perspectives; ethnography, focusing on the description and interpretation of a culture-sharing group; and case study research, providing detailed descriptions and analysis of one or more cases. None of these approaches was considered appropriate for the current research study.

When considering other research approaches, the quantitative method was also evaluated but was ultimately deemed unsuitable for this study. Quantitative research focuses on testing hypotheses and using samples and statistical analysis to produce results for a target population (Creswell & Creswell, 2017). Incorporating and evaluating visuals in education involves exploring new or underexplored areas with limited research (Merriam & Tisdell, 2016). A qualitative approach is better suited to examine these areas in depth, offering rich and detailed insights that might not be revealed through a quantitative method. Because the focus is on teachers' and student teachers' perspectives, a qualitative design is appropriate since it highlights participants' voices and experiences, allowing their views and insights to shape the findings. This approach supports the goal of developing theories in an area that may lack a comprehensive theoretical framework. Using qualitative methods, the study can contribute to the development of theories related to visual literacy and its application in early education.

The core phenomenon examined in this study is the integration and assessment of visual literacy in early childhood and elementary curricula. This includes understanding how visual tools and resources such as images, videos, diagrams, and interactive media are incorporated into teaching practices for young learners, aligning with the basic, generic, and descriptive approach discussed by Caelli et al. (2003). The study focused on two main areas: integration of visuals and using of visuals. The integration of visuals refers to the way visual elements are embedded within instructional processes, as described by Magolda et al. (2023). It involves analyzing teachers' strategies and methods for incorporating visuals into the curriculum, considering the appropriateness of these tools for early childhood and elementary education. Evaluating visuals involves assessing how effectively visual elements enhance learning outcomes. It involves investigating the methods teachers use to measure the impact of visual tools on student engagement, understanding, retention, and overall educational development. Drawing insights from teachers and student teachers, the study explored the challenges, benefits, and pedagogical implications of using visual literacy in early education environments.

The methodology of this study involved collecting qualitative data from teachers and student teachers through interviews. Subsequently, the gathered data were systematically documented, coded, and subjected to thematic analysis. This method offers in-depth insight into the experiences and perceptions of integrating visual elements in early childhood and primary education curricula.

Definitions

The terms that follow were used in this study.

Critical thinking skills: The ability to analyze information objectively and make reasoned judgments. Critical thinking involves evaluating sources such as data, facts, observable phenomena, and research findings (Doyle, 2019).

Visual literacy: The ability to be critically engaged with images. In higher education, it is the ability to measure teaching strategies and visually reflect learning experiences (Guglietti, 2023).

Perceptions: facilitating a way of thinking by prior knowledge, engendering probabilistic undertakings. Perception stimulates sensory responses and requires additional information (De Lange et al., 2018).

Pre-service teachers: Students in a teacher education program at a college or university. They prepare for professional-level teaching positions (Lowe et al., 2017).

Social network site: Allows users to (a) create a personal profile, (b) generate a list of online connections, and (c) view and interact with a stream of frequently updated information (Verduyn et al., 2020).

Assumptions

This study is based on several critical assumptions that, while believed to be accurate, cannot be demonstrated within its scope. These assumptions are essential as they underpin the study's validity and meaningfulness. The first assumption is that participants will provide honest, accurate, and reflective responses to the interview questions. The second assumption is that integrating visual literacy into the curriculum is a relevant and significant pedagogical approach in early childhood and primary education. The third assumption is a shared understanding among participants of what

constitutes visual imagery in education. The fourth assumption is that visuals will have a significant impact on early childhood and primary education learning outcomes. The final assumption is that every participant will contribute a distinct perspective rooted in personal experience, encompassing background, training, self-reflection, and years of teaching. This assumption is crucial for the broader application of the study's conclusion.

These assumptions are necessary as they provide a foundation for research design and help frame the interpretation and generalization of the findings within the broader educational context. They are integral to the construction and interpretation of the research findings. Acknowledging them helps in understanding the scope and limitations of the study, guiding its implementation, and interpreting its outcomes.

Scope and Delimitations

The research problem is a potential knowledge gap and skill deficiency that presents a need for exploration, which may be more comprehensive than the scope of the study. This research problem is relevant due to its impact on the scope of the NSC's vision for educational development at all levels. It could have been expanded to include other concepts and theories. Related aspects of the study, such as technological advancements, curriculum changes, development of critical thinking skills, or integration across the curriculum, could have been included. Additionally, the study of visual literacy in the curriculum could have explored visual awareness acquired through years of experience and exposure, such as annual workshops in professional development. However, these were not included in this study, which focused only on visual literacy and its integration into early childhood and primary education curricula.

The target population for this research was limited to teachers in the education system and student teachers experiencing challenges in utilizing visual literacy skills in early childhood education and primary education schools, affecting the integration of visuals across the curriculum. The study excluded teachers who selected visual arts education in primary education or visual arts in early childhood education as electives in college. The study was not designed for teachers with artistic skills but for those challenged and expected to incorporate innovative pedagogical practices to achieve creative learning.

To engage the trained and student teachers in this study, the ethical guidelines for conducting qualitative research were followed. These teachers were selected from public schools and preparatory schools in urban communities. Given that some teachers were from a lower socioeconomic area, while others were from an upper socioeconomic community, their backgrounds may differ, which could influence their responses to the interview questions and the research findings.

Making contact to create a mutually convenient schedule was a challenge. All the teachers and student teachers are gainfully employed with additional after-school activities. Interviews could not be scheduled during work time, and after work, the distance they travel to work was another consideration. This affected the scheduled time for some interviews and the participants' mental state to give their best when they are tired and have to prepare their lessons for the next day, among other chores. I had to arrange flexible timetables and sometimes change the meeting times by an hour or two. There were instances where the participant was late, and the time scheduled ran out

before the interview ended. This level of participant responsibility is a considerable limitation of the research findings.

Another delimitation is maintaining dependability, like transferability. All the participants have unique teaching experiences and educational levels. I had to maintain a single data collection method and ensure that the IRB-approved conditions and procedures for the qualitative study are upheld throughout all interviews. This level of consistency is necessary to achieve data reliability.

The data retrieved from the participants are significant, as they represent a sample of the teaching population. The data must be treated in general terms and may not be applicable beyond the Caribbean. The participants' responses must be treated as evidence of the existence or nonexistence of the problem the RQ seeks to address, and therefore, the data must be transferable. It is therefore imperative that the data accurately reflect the participants' genuine responses and not be modified in any way.

Limitations

As Creswell (2013) noted, the qualitative researcher should acknowledge the potential limitations of the study, considering not only constraints within the study but also external circumstances beyond the researcher's control. The first limitation of the study is design. The study was conducted with a limited and homogenous group of participants from a single geographic region using qualitative methods. As such, whether the findings can be applied to other areas is uncertain. The accessibility of online teaching infrastructure varies across contexts, exacerbating the lack of visual literacy training in some areas. Scott (2020) mentioned various experiences and challenges that

teachers in the system face at all levels. The reliance on self-reported data makes it difficult to verify the accuracy of participants' accounts regarding the effectiveness of the phenomenon. This limitation could be a source of bias in the study.

The tools and procedures used for data collection created another limitation. The interview questions previously written by the researcher could be limited to responses the researcher prefers. Such interview questions were reviewed to prevent this limitation. Another limitation may be that, in addition to the difficulties some teachers may face with adopting the NSC, they may have needed more training for integrating visuals into the early education and primary curriculum, even during the orientation sessions in 2016 (Mayne & Dixon, 2020; National Standards, Curriculum & ICT Tools Teachers' Workshop, 2016; Scott, 2020). This may hinder the transferability of this study's results.

Another limitation is preserving the quality of the study by managing bias. Lacey and Nunkoosing (2022) suggest that bias can be projected from either the sample or the researcher's perspective. Bias can be evident when the researcher seeks participants with this kind of experience to satisfy the information the researcher needs. Bias affects reliability and validity in a qualitative study (Creswell, 2013; Shenton, 2004). To achieve objectivity rather than neutrality in the study, researchers may present a paper skewed towards the information the researcher wants to see and say about the data. Creswell and Creswell (2017) and Werder et al. (2022) suggest that researchers must control bias in question development, sampling, and interpretation. They also caution against allowing their own beliefs, values, and opinions to negatively impact the study.

Significance

There is a general thrust in the Ministries of Education across the Caribbean region to produce better teachers with skills in creative learning and critical thinking. A former Minister of Education identified this gap during his term in office (Reid, 2015), noting the need for qualified, competent, and zealous teachers with the requisite knowledge and academic skills to adopt a positive approach to teaching mathematics and the sciences (Reid, 2015). The findings of this study could contribute to the education system in the Caribbean region by enhancing the efficiency and innovative edge of teachers in early and primary education, both locally and regionally.

This study can also contribute to the broader literature on education and, specifically, to the training of primary education teachers in the language and skills of visual literacy. Overall, the study will contribute to positive social change by addressing the gap in literature. In this age, when learning through innovation and instruction is becoming the norm, this research will deepen trainers' and trainees' knowledge in teacher education about the importance of visual imagery to learning across the curriculum. It is designed to help these teachers embrace the benefits of interactive learning, both synchronously and asynchronously, and to develop the skills and confidence required to implement the NSC at the early childhood and primary levels.

The potential implications of this qualitative study may positively impact on the pedagogical practices of the teacher training college. The findings will be shared with the college, which may inspire social change to affect the curriculum structure when training and upgrading teachers and preparing them to be relevant in 21st-century teaching and

learning. Student-teachers with some experience using visual images and technology in literacy contexts (Becker, 2020) would benefit from the findings of this study.

This study is significant in exploring ways teachers can integrate visuals into the curriculum through social learning and networking (Valtonen et al., 2020). This research can create social change through integration and collaboration in learning and the execution of learning. Visual literacy in the curriculum is a positive way to influence greater mastery of multiple intelligences. The findings of this study can also inform how other subjects, hence other disciplines, are taught to promote critical thinking in many professional spheres.

Summary

Chapter 1 outlined the study background, problem statement, purpose, RQs, conceptual framework, and research nature. It included definitions, assumptions, scope, delimitations, limitations, and the significance of the study related to integrating visual literacy into the teacher training curriculum. This approach may enhance teachers' ability to plan and deliver lessons in the NSC to achieve the required learning outcomes for children by creating artistic activities that support the learning process in traditional academic subjects (Green-Mitchell, 2021). Understanding this better could provide a stronger foundation for developing high-quality training that supports integrating visual literacy as a course of study for in-service teachers and student teachers in early childhood and primary education.

Chapter 2 will detail the conceptual framework and the research on visual literacy, visual literacy education, and the impact of visual literacy on the future. The

review of existing literature provides a basis for this study and illustrates the research gap that exists, despite the emergence of creative learning in the education system

Chapter 2: Literature Review

This basic qualitative study examined the need for appropriate training in visual literacy skills for Caribbean early and primary education teachers and student teachers to impact their capacity to engage in the required integration and evaluation of visual arts across the curriculum. This training affects their ability to effectively integrate and evaluate visual arts across the curriculum. It highlights a significant gap in the preparation of Caribbean early childhood and primary education teachers and student teachers. Visual literacy skills are essential today, as they enable individuals to interpret, analyze, and create visual messages effectively. Incorporating visual arts throughout the curriculum can boost students' critical thinking, creativity, and overall learning experience. Exploring the experience of early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum, aligns with the opinion of Roofe.

According to Roofe (2021), graphical images are a form of language; therefore, visual literacy is a competency that helps teachers understand the intended messages (S. A. C. Collins, 2020). Teachers who are trained will be able to devote more attention to collaboration (Brown & Savić, 2023; Yan et al., 2023) as they explore the use of visual literacy as a multimodal tool for developing the critical thinking skills they lack.

The observation by Shepherd (2020) regarding the limited inclusion of visual literacy training in teacher preparation programs and the subsequent impact on teachers' competence in the area is a significant concern in contemporary education. This gap affects the utilization of visual literacy in the classroom and reflects broader issues

related to integrating technology and creative methodologies in education. Shepherd's findings indicate that teacher education programs do not adequately address visual literacy. This oversight can lead to a lack of confidence and competence among teachers in integrating visual literacy into their teaching practices. The lack of formal training in visual literacy results in limited use of visual aids and technologies in the classroom. This deficit can hinder teaching effectiveness, especially in a digital age where visual information is critical to communication and learning.

Educators have discussed improving critical reading skills by emphasizing creativity in using images for intercultural learning in schools (Brown & Savić, 2023). This approach supports the application of visual literacy, aligning with the emerging trend of shaping the learning process to include creating, analyzing, using, and critically sharing visual information (Krejci et al., 2020; Thomas-Laing, 2024). In this context, visuals play a vital role in conveying information, especially in Jamaica, where most books used in schools originate from other cultures. Jamaican teachers are challenged to supplement the pictorial aspects of their culture, incorporating visual literacy practices into lessons. This has created concern, as they recognize the need for professional training for the elementary school system (Asiri, 2020; Brown, 2021). With the current emphasis on project-based and problem-solving learning, along with the integration of science, technology, engineering, and mathematics (STEM; Yan et al., 2023) and science, technology, engineering, arts, and mathematics (STEAM; Belbase et al., 2022; Cook & Bush, 2018), teachers in early childhood and primary education are encouraged to be innovative in their methods (Ata-Akturk & Sevimli-Çelik, 2023; Powell, 2023). Powell

reported on how Dr. Flowers, the acting chief education officer in Jamaica's Ministry of Education, responded to the recommendations from the Professor Orlando Patterson-chaired Jamaica Education Transformation Commission (JETC) report (The Jamaica Education Transformation Commission, 2021; C. Thompson, 2022), suggesting that tailoring the application of the NSC to students' learning profiles will improve performance.

This chapter reviewed literature on the importance of proper visual literacy training for Caribbean early and primary education teachers and student teachers. This training affects their ability to effectively incorporate and assess visual arts throughout the curriculum. Early childhood and primary teachers face the challenge of translating words into drawings, which requires skills in reading, writing, and integrated visual creation (Benoit, 2019; Forsyth, 2023; Hartsell, 2021; Korona & Hathaway, 2021). Mnguni (2019) emphasized that the absence of a universal theory of visual literacy hampers educators' ability to develop and access visualization skills, especially when teaching biology using the visual-semiotics model to improve students' viso-semiotic abilities. Eutsler (2021) highlighted the insufficient focus on visual literacy in teacher training while emphasizing the importance of preparing pre-service early childhood teachers to interpret design in teaching. Eutsler's point is very important to this study.

Equally important to this research is the study by Domínguez Romero and Bobkina (2021), which examines the importance of critical and visual literacy in digital learning environments that use multimodal learning objects and flipped classroom models. Their findings support another point raised here: that a learner-centered approach

helps students confidently apply assessment methods and express their understanding. The researchers emphasized that students need to independently interpret digital texts and visuals while developing the visual literacy skills necessary to decode images in online contexts. These ideas significantly influence current education systems and are a key focus of this study. However, there is a lack of research on programs that train teachers to incorporate visual literacy, indicating a gap in the literature. The Patterson report also highlighted the value of integrating digital coding techniques into early childhood education as part of STEAM and social-emotional development (The Jamaica Education Transformation Commission, 2021).

The first part of the literature review explains search strategies and the conceptual framework for this study. It focuses on key concepts related to (a) visual literacy in teacher performance, (b) teachers' general understanding, (c) teacher training curricula, and (d) the need for visual literacy in schools. The review will discuss the gap, highlighting a significant deficiency in 21st-century teacher training in a Caribbean nation. The conceptual framework connects theory with teachers' concerns, examining the relevance of these concepts to the study. It aims to support the understanding of visual literacy concepts and their alignment with educational system needs. The review will also emphasize the importance of training teachers to meet the needs of children in early childhood and primary education. Selected research will explore integrating visual literacy across the curriculum and teachers' perspectives on its goals to boost student engagement, creativity, and innovation. The chapter will conclude with a summary of

significant themes and gaps identified in the literature, setting the stage for the qualitative research approach outlined in Chapter 3.

Literature Search Strategy

The literature search for this study was conducted using databases. The strategies included sources from Walden University Library's databases (Dissertation & Thesis from Walden University Library, Proquest Central, and ScholarWorks Proquest Dissertation & Thesis) and Walden University's qualitative research resources, as well as Google and Google Scholar, Ebscohost, Academic Search Complete, and dissertations and reports from researchers sponsored by UNESCO, ERIC, and SAGE. During this search, the use of the following terms produced substantial results: *visual literacy, critical thinking skills, modal model, visual perceptions, visual language, pre-service teachers' awareness of visual literacy, social networking, visual awareness, integration of imagery in teaching and learning, teacher's perception of visual literacy, teachers' lack of skills in visual literacy, teachers' perception of visual literacy in the curriculum, visual literacy in early childhood education, visual literacy in primary education, visual imagery integration and concerns-based adoption model (CBAM)* were used. Other search terms included *SoCs functions of visual literacy across the curriculum, visual literacy in the NSC, expectation of teachers using the NSC, teacher attitude towards visual images in teaching across the curriculum, analysis of imagery, instructional visuals, visual interpretation, curriculum standards, curriculum analysis, Collaborative learning, asynchronous learning, decoding visuals, encoding visuals ICT and visual literacy in*

early childhood education, ICT, visual literacy in primary education, and training teachers in visual literacy.

The literature review focused on previous studies and reports about integrating visual literacy into teacher education to better understand the nature and levels of integration within the education system (Ávalos, 2023). Then, concepts such as blended learning, teacher perception, student-teacher perception, graphic images, visual perception, and the digital learning environment became relevant. Finally, evolving terminology expanded the scope to include STEM, innovation, creativity, and pedagogical delivery. For current information, the selected literature primarily consisted of research conducted over the last ten years (Swann et al., 2017). Additional sources included the Journal of Visual Literacy, the Journal of Art Libraries of North America, and the International Visual Literacy Association, as well as works on visual literacy instruction in academic libraries (Fullmer, 2019).

Conceptual Framework

The CBAM) formed the conceptual framework of this study because it describes the process by which an educational institution adopts an innovation, views adoption as a developmental process system, and considers it a resource system (Hall, 1974, p. 5). This framework is appropriate for this study because many other countries have successfully applied it. For example, it addressed teachers' concerns about STEM education in Hong Kong (Lau & Jong, 2023; Polat, 2020). CBAM was used to examine teachers' primary concerns about STEM in primary and secondary schools. The results showed that

teachers had high levels of concern across all STEM stages, and training was the main suggestion to address these concerns, indicating the use of the (SoCs).

In this study, my purpose was to explore and describe the experiences of early childhood educators, primary educators, and student teachers as they incorporate and evaluate visuals within the curriculum. In examining the issue of inadequate training in visual literacy for Caribbean early childhood and primary teachers and student teachers, I reviewed J. Brown's (2022) findings, which suggested the problem of funding as another factor for the lack of training, which affects teachers' ability to integrate and assess visual arts effectively across the curriculum. The CBAM (Hall, 1974) aims to "build and test effective products to prepare teachers for careers in the nation's schools." Chang and Peterson (2018) conducted a study, and in their report of the findings, they mention an earlier study by Hall that focused on teachers' classroom behavior and helped student teachers become aware of individual needs and develop personal strengths. This qualitative study seeks to understand the perceptions of early childhood and primary education, as well as student teachers (Chang & Peterson, 2018), regarding the challenges of integrating and evaluating visuals in the curriculum.

For this qualitative study, the heart of the conceptual framework is the SoCs component of CBAM (Hall & Hord, 1987). This aspect of the CBAM was chosen because of its capacity to identify the problems with integrating visuals into the curriculum. The concept addresses a typical set of sequential concerns and shows progression in implementing innovation in the education system (Hall & Hord, 1987). This model was used to explore SoCs of the teachers (Concerns-Based Adoption Model,

2023; Cross Francis et al., 2020) in the early childhood and primary education system, as required by the Ministry of Education (Powell, 2023). Applying the CBAM will help determine the various levels of the teachers' and student teachers' concerns.

Studies That Used CBAM Successfully

A study inspired me in the Philippines, where the researchers adopted the CBAM, impressed the government agency, and fostered professional development activities among teachers, encouraging teamwork and collaboration (Magallanes et al., 2022). I carefully noted their use of the CBAM's concerns questionnaire to assess teachers' concern levels, which resulted in two distinct profiles. Hardy (2011) also referenced the formal testing methods used to address teachers' concerns within the early childhood education sector in the Philippines, especially focusing on incorporating arts-related activities into teaching practices. These studies greatly influenced the direction of this research as I explored the gap between the creative initiatives needed across various education ministries during educational reform and the concerns of teachers worried about implementing these changes that will affect students' lives (Magallanes et al., 2022).

Li et al. (n.d.) applied the diagnostic aspect of the CBAM framework to demonstrate how instructional approaches can be personalized, helping teachers embrace educational changes. Al Masarweh's (2019) findings on the identified stages pinpoint the primary concerns of faculty members about the use of m-learning in Saudi Arabia and indicate other stages that could serve as benchmarks for future comparisons of the research site amid changes in policy, technology, and practices. Applying the SoC may

yield insights into teachers' worries, attitudes, and perceptions in the Caribbean and Jamaica's early childhood and primary education systems. However, Insanally (2018) conducted research showing that the problem in the Caribbean education system may lie in the need to prepare teachers, among other professions, for the future through sustainable development.

CBAM for Informational Concerns

In my study, I explored teachers' perspectives on integrating visual literacy into the curriculum. I examined how the applications outlined in one main RQ and three SQs based on the SoCs, might influence those perspectives. "Teacher education program has its roots in teachers' personalities and classroom behaviors, which correlate with success in their teaching careers, education faculties, student teachers' individual needs, and standards of training in national and international perspectives" (Sultana, 2015, p. 153). This could benefit teachers' professional development, preparedness, and exposure to visual literacy at the early childhood and primary education levels. Tunks and Weller (2009) used the CBAM to guide the design and implementation of a program focused on teachers' concerns about and engagement with innovative projects, as well as changes in teachers' perceptions and practices resulting from the innovation. Kewalramani and Veresov (2022) studied how children conceptualize and create meaning in science through multimodal creativity, which is also relevant to my study. The SoCs, based on CBAM, play a vital role in assessing and addressing teachers' concerns, attitudes, perceptions, and efforts to accomplish required tasks. Specifically, teachers who lack the necessary skills may become self-focused on learning new programs and worry about

their job performance (Insanally, 2018). To identify individuals' reactions to the change process, this study will use the SoCs during data analysis. In a study I reviewed, four skills were selected to organize data, ultimately supporting change facilitation and helping teachers understand and monitor the educational change process (Fitriati et al., 2024). In a developing situation, specific support to target the skills must be what the teachers need. Kasepalu et al. (2024) noted that the success of such implementation depends on those most affected within the institution. This is also true of CBAM's success. Therefore, applying this model is ideal for understanding perceptions in early childhood and primary educators, as well as student teachers' views regarding the integration and use of visuals in the curriculum.

Asiri (2020) selected the CBAM framework of research to examine the concerns of elementary school teachers because it “describes, explains, and predicts probable behaviors throughout the change process” (p. 11). These features of the framework support the qualitative approach used in this study, which involves a systematic method of collecting and analyzing data (Grivet et al., 2021). Additionally, the CBAM can help verify the knowledge and experience gained through networking and collaboration focused on visual literacy (Beene et al., 2020; Cardoso et al., 2019; Jackson, 2020; Tumanyan & Huuki, 2020).

The Process of Change

In my study, I ascertain that in early childhood and primary education, teachers and student teachers are encouraged to incorporate visual literacy into the strategic planning and implementation of lessons across various subjects within the curriculum.

(Colandene (2023) found that teachers must understand what visual literacy is, be exposed to its applications, and be able to understand students' visual reading skills. The CBAM can facilitate the change process by accommodating methods of evaluating and studying change (Hall & Hord, 2006). The CBAM seems most suitable for achieving the desired results because it is flexible in adapting to situations and accommodating individual concerns (Hall & Hord, 2006). Table 1 shows how the SoCs will address teachers' concerns and provide information to effect the required change in teachers' performance.

Table 1

Description of CBAM SoC

Patterns	SoC	Definition	Expression
Impact	Refocusing	The focus is on the exploration of more universal benefits from innovation.	I have some ideas about it, and it is something that works even better.
	Collaboration	Focuses on coordination and cooperation with others Regarding the use of innovation.	I am concerned about what I am doing with my co-workers are doing.
	Consequences	Focus on the impact of innovation in the immediate sphere of influence	How is my use affecting my students?
Task	Management	Attention is focused on the processes and tasks of using innovation and the best use of information and resources.	I seem to be spending all my time getting materials ready.
Self	Personal	The individual is uncertain about the demands of innovation, and his/her inadequacy to meet those demands, and his/her role in the innovation.	How will using it affect me?
	Informational	A general unconcern of the innovation and interest in learning more about it "is indicated. The person seems to be unworried about them concerning the innovation.	I would like to know more about it.
	Unrelated Unconcerned Awareness	There is little concern about innovation.	I am concerned about some other thing.

Note. Reprinted from "Stages of concern of medical faculty toward competency-based medical education in India: A multicentric survey," by Mahajan et al. (2022), *International Journal of Applied and Basic Medical Research*, 12(2), p.

The SoCs have a well-established reliability and validity framework, making them valuable for this research. This model clarifies change and provides tools for assessing individuals who want to adopt new ideas, when the government takes the lead in creating a conducive teaching and learning environment and material resources. (Mupfumira & Nyaruwata, 2021). Hall and Carter (2018) highlight the ongoing challenges of using the SoCs to explore the subjective aspects of change. CBAM remains widely used across schools, organizations, and research settings. These tools are commonly employed to help leaders, evaluators, and researchers understand, track, and guide the complex process of implementing innovative practices.

CBAM, whether from the perspective of the teacher in the field or that of the student-teacher, can reduce the gap between visual literacy skills and teachers within the education system. It may provide tools to evaluate the use of educational technology while enhancing the level of concerns that will add value to the learning process once adopted in the future within educational settings (Al Masarweh, 2019). However, it may be challenging for trained teachers to engage the CBAM and utilize classroom facilities to practice visual literacy skills. The use of the SoCs tool may impede the implementation as the teachers address their concerns about the new educational standard (Lau & Jong, 2023). However, as stated by Hall and Hord (2006), personal connections inevitably influence change as they encompass the emotions and perceptions of individuals (Hall & Hord, 2006). This is a possibility if teachers embrace the innovative use of visuals in their lessons (Chen & Huang, 2019), and there is a likelihood of integrating visual literacy more seamlessly into their teaching practices. As Hall and Hord (2006) highlighted,

teachers' concerns play a pivotal role in this process. These concerns can be effectively gauged through tools like SoC. Yu and Mi (2023) advocated for a model where teachers undergo training on a given innovation and are subsequently tasked with integrating it into their instructional approach.

Yu and Mi (2023) emphasized that, due to innovation, school leaders should expect improved proficiency and academic progress from teachers who implement new creative methods. As Powell (2023) noted, the 5E lesson plan used by teachers lacks a key element: the interpretation of representations in subjects such as science and geography. Powell stated that this omission hinders the development of critical thinking, scientific knowledge, and meaningful discourse, as Gillies and Rafter (2020) highlighted. Similarly, Yu and Mi (2023) observed that this progress is often overlooked in teachers' evaluations. As I explore integrating and innovating visual literacy to promote curriculum change, I found the findings of Costa (2019) indicated that innovative teachers can easily incorporate the language of visual literacy into engaging and pedagogical actions. I was particularly interested in Shepherd's (2020) point that the issue is that teachers have not received training in the language of visual literacy, and as a result, some struggle while others lack confidence in effectively integrating this language.

Mahajan et al. (2022) noted that the CBAM includes three diagnostic dimensions: SoCs, Levels of Use, and Innovation Configurations. The SoCs ideally explore individuals' reactions, feelings, perceptions, and attitudes toward implementing an innovation, aiming to understand the effective, practical, affective, and behavioral aspects of change (Mahajan et al., 2022). I also noted the point they made that teachers can

actively promote visual literacy if they know how to. Their suggestion that a course can be designed in teacher training institutions to introduce students to visual literacy in their first year supports the recommendation of this study.

Scavarelli et al. (2021) suggested that social interaction in the learning environment, when incorporated with constructivism and social learning theory, can create a practical educational framework. The results of their study showed positive development in the interaction between physical and virtual environments, which constitute the learning environment since COVID-19. Doleck et al. (2021) aimed to validate the effectiveness of social learning networks in discussion forums using video lectures in a MOOC setting. Their findings support self-optimizing discussion forums that emphasize social learning online. Kumar and Sharma (2021) examined the potential for higher learning outcomes with increased satisfaction and competence through digital learning platforms. Their finding was that web-based instructions promote learning that is authentic and self-directed, which indicates the options available for training of the early childhood, primary educators, and student teachers by the education ministry or learning institutions.

The Levels of Use, the second component of CBAM, concentrates on behaviors and individuals' responses to innovation, addressing performance and implementation levels from various perspectives (Mahajan et al., 2022). Innovation Configurations, the third dimension of CBAM, offer a visual depiction to educators of how innovation should be evident in the classroom. It describes both the expected and undesired aspects of implementation. Implementing Innovation Configurations requires a school-based team,

time for data collection, field testing, and adjustments as needed (Bereczki & Kárpáti, 2021; Bowen, 2017; Mahajan et al., 2022).

Studies That Inform This Study

The results of previous studies revealed a significant impact on teachers' concerns about innovative instruction during the SoC implementation. A study by Lau and Jong (2023) addressed the concerns of teachers in the primary and secondary school system in Hong Kong about the relatively new educational phenomenon of science, technology, engineering, and mathematics (STEM) education, which is now a global trend in education. Lau and Jong used the CBAM as the theoretical framework to examine teachers' concerns about the STEM model. Having acquired the teachers expressed concerns about STEM education and identified a profile of teachers based on the response patterns of their concerns, the CBAM was used to process the change in the school curriculum (Hall & Hord, 1987, 2006). The CBAM study used a representative sample of 337 teachers selected from primary and secondary schools. Online and self-reported surveys were used to collect data, and private class analysis was used to profile the teachers' concerns.

Literature Review Related to Key Variables and/or Concepts

I conducted a literature review organized under headings for clarity. The review covered the visual literacy program, its impact on the Jamaican education system, and supporting evidence for the importance of visual literacy in early childhood and primary education, along with the need to include visual literacy in the curriculum. During the COVID-19 pandemic, teachers' pedagogical roles were adapted to fit the online

environment. Reviewing Al Balushi et al. (2022) literature review, 34 relevant empirical studies conducted over two years showed that (a) social media's innovative capabilities facilitated the shift to fully online learning, (b) most students are receptive to others' perspectives, (c) the absence of a clear policy limits effective social media use in teaching, and (d) questionnaires were the most common data collection method (Berg et al., 2019), highlighting the importance of monitoring and analyzing data as valuable sources.

I looked at how social media has become part of people's lives and how it is used intensively for academic purposes at various levels daily (Gil-Fernández & Calderón-Garrido, 2022). I ascertained that the desires of the early childhood and primary teachers studying online, is typical of teachers at the same level in Spain where they frequently used various social media platforms for educational purposes, such as finding classroom activities and innovative ideas, and engaging in social networking. Sulasmi (2022) did a study to analyze the learning process of public elementary schools in Indonesia. The focus was on teachers' use of technological devices, especially their proficiency in operating, designing learning media, and utilizing digital media as a learning tool. The results showed that technological devices as learning tools were first used during the COVID-19 pandemic, which allowed teachers to acquire proficiency in operating a variety of diverse devices for transferring educational materials, utilizing visual, auditory, and audio-visual modalities. Sulasmi also stated that all other social media platforms are now being used as teaching platforms, including WhatsApp. This practice was adopted globally.

I explored the concept of digital storytelling in a recent qualitative study.

West et al. (2022) created a storytelling community in an early childhood institution. The children learned to use their cultural backgrounds to gain social and emotional experiences. The digital storytelling strategies in literacy are suitable for these children (Chung, 2020). Using a qualitative approach, combined with descriptive data analysis and interpretation, it was concluded that digital storytelling is a form of learning in early childhood that enhances children's oral communication and their interactions with friends and teachers. One of the skills highlighted was the children's ability to look at a picture in a book and participate in a discussion. This is one of the features of visual literacy that I found particularly prominent in teaching at the early childhood and primary levels. Current research examines the benefits that programs provide to children, enhancing their cognitive and social-emotional development (Harris-Mortley, 2019). As it impacts teachers, visual literacy will be examined through teachers' perspectives on integrating it (Whren, 2022), including the benefits and challenges of this type of learning, which influence the learning environment.

Finally, I identified literature that explored the need for professional training in visual literacy and the institutionalization of this training, noting the requirement for a course to be developed in teacher training institutions, as confirmed in studies done by Dyak et al. (2022), Miller and Hunt (2022), and Skender (2022). This review will include a current literature search that will support the concept that mastering visual literacy is essential for learners to confidently compete to create and critically analyze media, use, and share visual information effectively (D. Statton Thompson et al., 2022; Vanderlip

Taylor & Buchman, 2022). I endorse the point that teachers must provide refreshing and interactive ways to engage students while fostering critical thinking and analysis through visual literacy across the curriculum (Wissner, 2022). One researcher reported that teachers who used the Program for International Student Assessment positively perceived the new tool as effective in critical thinking. It could be beneficial to incorporate it into their teaching practices. This overview of each section would include (a) visual literacy in education, (b) the impact of visual literacy on educators, (c) teachers' perspectives and attitudes towards visual literacy integration, and (d) visual literacy and professional training.

Visual Literacy in Education

The International Visual Literacy Association (IVLA) was founded by Fransecky and Debes in 1972 to promote the voice of visual language. It has grown through the efforts of dedicated individuals interested in various aspects of visual literacy in education and communication (Lehman, 2015). John Debes introduced the idea of visual literacy based on concepts and practices from children's personal experiences with visual literacy at that time, which have evolved over the years (Fransecky & Debes, 1972; Miller & Hunt, 2022). According to Meeks et al. (2020), teaching and learning visual literacy initially occurred within the arts but later shifted to librarians, who marginalized visual literacy as an academic discipline. Over time, as visual literacy became recognized as a vital skill for 21st-century learners, art librarians have advocated for its full integration into academic institutions (Meeks et al., 2020). Fransecky and Debes (1972) stated that the "concept and practice of visual literacy affect all learners on all educational

levels, from preschool through adult continuing education” (p.5). There is always a demand for change in education to foster innovation, create more child-centered classrooms, and increase opportunities for learners. These researchers viewed visual literacy as a movement aimed at teaching children to become more visually aware, better informed, and more intellectually capable than previous generations. Fransecky and Debes (1972) suggested that visual literacy is ideal for stimulating learning and teaching by implementing new educational concepts. G. Çelik (2022) added that the existence of visual communication through smoke signals and images on cave walls in ancient history demonstrated the early development of media and visual literacy, highlighting their importance to human history. Firat et al. (2022) argued that as civilization advances, so does the need for literacy in recognizing and interpreting visual patterns and graphics. This evolution is leading to fundamental techniques for conveying information and collecting data.

Visual literacy is essential in education to prepare learners to interact and integrate with the learning environment (B. A. Brown, 2021). Hence, governments embarked on developing multimodal learning resources, emphasizing the importance of visual literacy in education, problem-based learning, and visual arts in teaching, and the significance of various descriptors in shaping educators’ responses and strategies to enhance student learning experience.

Visual literacy has become increasingly vital in education, especially for assessing teaching and learning processes. Teaching this skill requires capabilities in

fostering critical and creative thinking using various technologies. The following are key points in the process based on recent research.

- **Problem-Based Learning:** Alrajeh (2020) emphasized the importance of problem-based learning in equipping students with academic skills. This method combines students' needs, strengths, interests, and preferences with research and expertise. It entrusts teachers with creating an effective learning environment.
- **Teaching through Visual Arts:** Becker (2020) proposed a teaching method mainly aimed at kindergarten to second-grade students. This approach uses visual arts as a teaching tool, likely incorporating visual elements to enhance learning.
- **Key Descriptors:** These terms related to visual literacy in education should be included in teacher training for the assigned tasks. They cover teaching methods, interdisciplinary approaches, teacher collaboration, and educational environments, helping teachers prepare and adapt their teaching strategies to meet their students' specific needs.

Teachers can capitalize on children's strengths by using an interdisciplinary, literature-based approach to teach kindergarten through grade two students through visual literacy (Becker, 2020). With visual literacy skills, educators acquired the dispositions that enabled them to build and develop learners, as well as the requisite visual literacy skills to adequately transform learners for the new age (Asiri, 2020; Carter, 2018). Güney (2019) discussed the effects of visuals, visual literacy, visualization, and multimedia

design strategies. He discussed visual memory, which he associated with visual literacy, learning, thinking, and communication. D. Yan and Li (2023) use the term “information age” when referring to the combination of teaching modes with production, theory, and practice. Yan stated that this practice must begin by providing access to visual communication in college professional training. He further stated that teachers must demonstrate competence in visual literacy to practice in schools that attempt to explore it. Some researchers argued that incorporating immersive learning will likely invigorate any subject using visuals (Barbre & Tolbert, 2021).

Visual Literacy in Early Childhood and Primary Education.

According to their study, S. M. Cardama and Sebastián (2019) suggested that online interaction has created a potential metacognitive horizon for learners. Tsene (2022) proposed that comics and graphic novels not only tell the tales of superheroes but also transform knowledge. The importance of using pictures and images to overcome cultural and language barriers by fostering critical thinking, creativity, and empathy has been increasing across all sectors of society. From a teacher’s perspective, Tsene (2022) emphasized the ability to teach media literacy, noting that comics can be turned into practical media literacy tools through multimodal literacy. Fisher (2023) additionally emphasized the need for teachers to be equipped to manage this multidisciplinary field, where immersive media overlapped with computer science, visual arts, design, and storytelling. The ideas of building capacity, ensuring accessibility, fostering inclusion (Fisher, 2023), and the situation of children in Athens who are excluded from digital

transformation (Tsene, 2022) resonated with me, especially when I thought of schools in rural and remote areas in the Caribbean that faced similar challenges.

Kalogiannakis et al. (2022) examined the role of intelligent screen technologies and digital learning in the early childhood and primary environment, and the diversity in parents deciding and sustaining the experience of the children using ongoing themes. This parental involvement of inequity and understanding, beliefs, values and different models of educational arrangements were particularly noticeable during the COVID-19 pandemic. There were growing concerns with the parents' mediated strategies that varied from culture to culture in the digital games played by the children. Similarly, there were concerns about the choices in digital games and the quality of protection the parents were able to provide, which could result in them accessing and exploring non-educational material. In reviewing this research in early exposure to digital learning I made reference to the emerging field of STEM, robotics, and mobile apps on young children's learning and development and the role of the teacher in the transformed learning environments, which revealed various aspects of teacher under unexpected circumstances and put forward new suggestions to integrate technology-based practices in early childhood education. Despite the challenges of change and transformation, they supported the need to equip all citizens "with the necessary competencies to use digital technologies critically and creatively.

Cunningham et al. (2023) suggested that the education system should adopt a creator's mindset rather than that of a technological consumer in this changing world, based on their work related to apps, robotics, and STEM. They referred to the ability to

decode and code, which is fast becoming a fundamental skill that children as young as four years old can engage in. They claim that evidence shows that even children as young as four can engage in core computational thinking skills, provided they work with developmentally appropriate tools that support learning, under supervision.

Colwell and Hutchison (2018) and Pratika et al. (2024) encouraged the use of Twitter as a networking tool to support the development of reading skills. They promote online interaction as an essential way to explore the potential of visual learning, fostering partnership, creativity, and innovation to attract active network users. Barbre and Tolbert (2021) and Clark (2017) also identified visual literacy initiatives, such as creating comics, as effective methods for teachers to engage students in learning and incorporate visual literacy into a transformational learning environment. This approach will allow students to learn by deriving meaning and applying interpretive value and aesthetics to images. They studied the effective use of comics in the classroom and found that this learning tool is increasingly accepted in general education settings.

Some related research supporting visual literacy referred to the new generation of students as digital natives. Kesharwani (2020) was specifically concerned about how digital natives would learn in the new era of information, mainly when teachers review information about visual literacy in the education system. The ability of teachers to interpret or create meaningful imagery is a concern. B. A. Brown (2021), in his research, examined the effect of language and culture on science education. He argued that best practices in teaching science and technology should be emphasized in educational institutions responsible for developing programs that, due to the nature of the courses,

would rethink how technology is used to support science teaching. B. A. Brown regarded teachers as vibrant young minds whose potential for learning must be maximized as they embrace STEM education by understanding how to use available resources to make science visible to students. Influenced by culture and language, B. A. Brown (2017) regarded relevant modes of communication as essential for improving science learning. Understanding the nature of the problem will provide a basis for exploring communication methods that are educationally accessible, as outlined in the CBAM/SoC framework. There are opportunities to connect teachers' inability to assess visuals in the education system with aspects of Bandura's social learning theory and Jones' concept of network learning, drawing on the literature and the study's context. Clarifying teachers' capacity to extend visual literacy beyond the classroom, especially in a visually saturated environment, is a significant concern (S. M. Cardama & Sebastián, 2019; Kędra & Źakevičiūtė, 2019).

The network learning concept will enable teachers to access emerging educational information, promoting an ever-evolving digital world that the new generation of learners must be equipped to live in (Young et al., 2019). Navigation of the digital world should be a skill that teachers possess to interpret and create visual media, which is a primary attribute ascribed to persons with visual literacy (Güney, 2019; Schmidt-Wilk, 2019). Research shows that teachers and students communicate in networks by learning to form pictures and understand images, concepts, and screens while thinking about selected subject areas (C. W. Brown & Savić, 2023; D. Statton Thompson et al., 2022).

Furthermore, these concepts and ideas are shared on various platforms using asynchronous and synchronous methods (Pumahapinyo et al., 2022).

Teachers must increase visual literacy through digital learning initiatives through technology-based curricula to ensure academic and lifelong success (Young et al., 2019). In the late 20th century, researchers studied how the Internet would change learning practices (C. Jones, 2010). This study will significantly benefit from research examining teachers' viewpoints on technology or visual aids and their impact on the success of the NSC and the 5E model. Evidence from the research and an in-depth understanding of teachers' perspectives concerning technology or visuals and the impact on the success of the NSC and the 5E model will be vital to this study. The qualitative data collected in this research will be crucial in confirming the relevance of the research topic as a practical endeavor that renders the world perceptible (Flick, 2020). Aguilar et al. (2022) engaged in a study to determine students' learning styles by monitoring, observing, and analyzing the learning process in a classroom using data from the web and social networks. The analysis aimed to enhance students' learning in the social learning network environment, also known as an intelligent classroom.

A comprehensive account of student teachers' experiences with visual literacy within curricula will be strengthened by using a self-regulatory tool like the SoCs to explore their reactions to visual literacy and the technology-driven learning environment (Shively & Taylor, 2023). The social learning theory and the network-learning concept are relevant to each teacher's educational journey for future academic achievement (Younis Masoud Mohammed & Yaqub, 2024). Incorporating visual literacy into the

curriculum of a teacher training institution requires a pedagogical shift. Using the SoCs is pertinent to this change and will support each learner's experience. This transformation depends on integrating images, social media tools, and other networking resources into the curricula. Prior research suggests that students favor teaching and learning strategies that actively involve them in the learning process (Wolf-Branigin & Edmondson, 2021). The social learning theory and the networking concept serve as the framework for visual content, playing a vital role in today's communication through visual literacy. As the networked world continually evolves, visual literacy skills are essential for effective communication in a globalized age marked by social media, mobile technology, and digital advancements.

Visual culture has a significant influence on lifestyle. The social learning theory and network concept are the windows to developing technical proficiency in visual culture through the visual language needed to decode and encode visual messages. Visual culture best illustrates the underpinnings of visual literacy while providing teachers with the training needed to decode and encode images on social media platforms (Casiano, 2021; Imre, 2020; Pavlova, 2021). Pedagogical practices must be changed to connect teachers with the National Standards and Curriculum objectives.

The younger generation is already engaged in social learning informally and express themselves through imagery. This study will use that information to highlight both a conceptual understanding during the learning phase and a content learning phase as learners share knowledge (Ouyang et al., 2022). Learning episodes influence many cultural forms, such as literature, art, film, novels, drama, poetry, and storytelling

(Ahmad et al., 2021). For years, these cultural forms have shared social spaces and are accessed through various networks. Incorporating social learning theory into formal education will transform classroom learning and communication, as students become more involved in the learning and assessment processes.

Jones' network learning concepts (C. Jones, 2010) offer insights into innovative, shareable practices for everyday teaching. They provide various options for students to learn, reflect, and interact. Students can develop skills in decoding and encoding images through an integrated learning approach that enhances knowledge acquisition and application. This method combines activities and technology within the learning environment (C. Jones, 2010). The suggested process for integrating visual literacy into higher education curricula via social learning aims to ensure credibility and reliability while supporting the growth of future professionals. Using social learning to incorporate visual literacy emphasized how university teaching and learning can be achieved by focusing on key learning aspects. Images are increasingly important as meaningful carriers within educational settings (Munday et al., 2017). This fundamental element of 21st-century learning supports social, pedagogical, and cultural development.

Teachers' Perception and Attitudes towards Visual Literacy Integration

In equipping teachers to plan, prepare, and deliver lessons incorporating images, teachers must be cognizant of the increase in prominent images in society and make images meaningful in the learning environment (Munday et al., 2017). Exposure to visual literacy through network and social learning may inform the educational sector of different kinds and levels of teaching strategies and assessment methods. As teacher

training colleges plan within the desired framework, they will likely establish appropriate links among curricula, learning infrastructure, and educational quality assurance policies. Linking is vital to ensure excellent and beneficial practice among teachers and students. With CBAM SoCs, teachers' concerns will be considered when addressing self-efficacy (Kayaduman & Demirel, 2019). Visual literacy is a learning concept that is perceived to have fundamental implications for educational and training changes.

The literature highlights visual literacy as a key feature in innovative imaging used in visual communication within the new approach to teaching in primary schools (Simon et al., 2022). The inevitable changes in the global education sector drive shifts in instructional practices (Dennen & Arslan, 2022). Studies report that visual literacy prepares learners to carefully analyze visual creations with curiosity, skepticism, and analytical skills, enabling them to understand the lesson's intended purpose. Teachers must have the knowledge and skills needed to effectively engage students in learning activities (Dennen & Arslan, 2022). Muñ -Rodríguez et al. (2024) emphasized the importance of incorporating innovative imagery to promote creativity and critical thinking, highlighting the need for teachers to develop new competencies. Additionally, the researchers stressed the importance of professional development training for primary school teachers to create a suitable learning environment and support the innovations they are expected to implement. The literature shows that innovative education stems from visual literacy. The gap indicates that visual literacy fosters creative thinking and can be integrated into curricula at all levels within the conceptual framework to meet the need

for effective communication using diverse technological tools in the new age of teaching and learning (Liu & Yu, 2023).

Transitional Material Connecting the Gap in the Literature

Teachers must plan, prepare, and deliver lessons that incorporate and rate images. Teachers must be cognizant of the increase in prominent images in society and make images meaningful in the learning environment (Munday et al., 2017). Exposure to visual literacy through network and social learning may inform the educational sector of different kinds and levels of teaching strategies and assessment methods. As teacher training colleges plan within the desired framework, they will likely establish appropriate links among curricula, learning infrastructure, and educational quality assurance policies. Linking is vital to ensure excellent and beneficial practice among teachers and students. With CBAM/SoCs, teachers' concerns will be considered when addressing self-efficacy (Kayaduman & Demirel, 2019). Visual literacy is a learning concept that is perceived to have fundamental implications for educational and training changes.

The literature highlights visual literacy as a key feature of the innovative imaging used in the new approach to teaching in primary schools (Benoit, 2019; Simon et al., 2022). Global changes in education inevitably drive shifts in instructional practices (Dennen & Arslan, 2022; Natividad & Abrogena, 2023). Studies report that visual literacy prepares learners to carefully examine visual creations with curiosity, skepticism, and analytical skills, helping them understand the intended purpose from the lesson's perspective. Teachers are expected to have the skills necessary to successfully engage students (Dennen & Arslan, 2022). Muñoz-Rodríguez et al. (2024), supporting the

inclusion of innovative imaging for fostering creativity and critical thinking, noted that teachers expect to develop new competencies. The researchers also noted that primary school teachers need professional development curricula that equip them to create suitable learning environments and to adopt these innovative solutions as part of visual literacy. The gap indicates that visual literacy can be integrated into curricula at all levels within the conceptual framework to meet the need for effective communication using diverse technological tools in the new age of teaching and learning.

Impact on Student Teachers

The digital revolution is now impacting the learning environment for student teachers (Sanh, 2024), who should acquire new technological skills to effectively use smartphones, computational devices, crowdsourcing, and social media to understand and manage learning in this new era (Costa, 2019; Kwet & Prinsloo, 2020). Huê and Hoà (2024) and Alenezi and Akour (2024) suggested that, when comparing traditional teaching and learning methods, visual literacy, virtual technology, and digital skills can significantly boost creativity, even at the primary level. Higher education institutions are implementing “smart” classrooms that will influence both content and teaching methods. There is a strong focus on information networking (Alenezi & Akour, 2024; Kwet & Prinsloo, 2020). The digital learning environment relies on networking, which involves data sharing, exchanging, and integrating new ideas and data profiles (K. M. L. Jones, 2019; Sanh, 2024). and Costa (2019) suggested that institutions have developed “smart classroom” environments that prioritize innovation, combining pedagogical tools and

access to knowledge to enhance visual literacy through creative methods and social media.

Courses are designed to expose student teachers to blended learning and train them to use tools to measure their visual literacy levels (Huilocapi-Collantes et al., 2020; Xie et al., 2021). The new generation of teachers must be skilled in developing image-based abilities while engaging in innovative teaching (Costa, 2019; Rahmatullah et al., 2022). Park and Kim (2022) emphasized that innovative teaching is image-based and requires teachers to use visual language symbolically and to know how to access and manage technology, which, in turn, fosters the necessary level of cognitive development. Teachers need to be able to analyze and interpret visual data (Batur & Özcan, 2020). They should be able to manipulate visual materials, read, create, and communicate visual content, and understand the grammar, syntax, and semantics of visual literacy (Costa, 2019). Visually literate students can leverage social science skills and advance in research (Creswell & Creswell, 2017; Denzin & Lincoln, 2011) within the multimedia world. The emphasis by Ruiz-Gallardo et al. (2019) on the importance of preservice teachers being fluent in using visual teaching tools for instruction across the curriculum is well-founded. It reflects a broader trend in educational methodologies and recognizes several critical aspects of modern education.

Stokes and Price. (2017) suggested that Bandura's social learning theory and Jones' network learning concepts provided a strong framework for studying how visual literacy affects student teachers. These theories have qualities that fit with early childhood and primary education systems, which, according to Stokes and Price (2017),

can make learning more engaging and enjoyable, thus boosting student motivation. One of the co-authors, Magolda et al. (2023), of the book “Engaging Images for Research, Pedagogy, and Practice: Utilizing Visual Methods to Understand and Promote College Student Development,” shared her experience with learning visual literacy to introduce the book. She attended a photography conference that offered instructional seminars, photo walks, and critiques. Later, she used her new skills during her vacation. This experience motivated her to promote the use of visual methods in teaching to support college students’ development, as discussed in Arruti and Paños-Castro (2020) and Magolda et al. (2023). Using visual methods, the authors wrote their book as a helpful resource for including visual techniques in the growth of college students.

Magolda et al. (2023) underscored the importance of visual methods in arts-based research and pedagogy. They examined the purpose, challenges, and potential benefits of arts-based research methods and pedagogy, particularly emphasizing the value of visual methods. Incorporating social media into education can stimulate interest and engagement among teachers and students. Bandura’s social learning theory provided a flexible framework for organizing, guiding, and regulating teaching and learning activities. This experience showcased how personal experiences and academic literature intersect to shape one’s perspective and advocacy within specific domains. By applying their newfound skills, individuals contributed to the advocacy for integrating visual methods into college students’ development (Y. Wang et al., 2022). The researchers conducted a study on Smart Educational Learning Strategies in higher education. Leveraging this theory, the study explored the perception of student teachers’ experiences

with visual literacy in the curricula. It investigated student teachers' reactions to visual literacy within a technology-driven learning environment, utilizing Shively and Taylor's (2023) work as a reference. The social learning theory and the network-learning concept are vital to shaping teachers' educational journeys and contribute significantly to their future academic success (Stokes & Price, 2017). Integrating visual literacy into the curriculum of a teacher-training institution requires a shift in pedagogical approach. Using the theory is relevant to change and will validate each learner's experience. This approach will impact the learning environment for student teachers, who should possess new technological capabilities to utilize smartphones, computational devices, crowdsourcing, and social media to understand and administer learning in this new age (Costa, 2019). (Y. Wang et al. (2022) discuss the concept of "smart education" and its potential impact on students' skills and learning experiences. They outline four degrees of student skills associated with intelligent education in many educational institutions. Higher educational institutions are installing "smart" classrooms that will influence content and methodology. There is much emphasis on information networking (Kwet & Prinsloo, 2020). This change is contingent on integrating images, social media tools, and other networking facilities into the curricula. Previous research revealed that students prefer teaching and learning strategies that engage them as active participants in the learning process (Chaka & Govender, 2020; Wolf-Branigin & Edmondson, 2021). The social learning theory and the networking concept are key concepts that provide a visual content window, playing a fundamental role in today's communication through visual literacy. The networked world is constantly changing, making visual literacy skills

essential for effective communication in an era of globalization, social media, mobile devices, and digital advancements.

One of the major influences on lifestyle is visual culture. The social learning theory and network concept serve as keys to developing technical skills in visual culture, through the visual language necessary to decode and encode visual messages. The chosen idea best illustrates the foundations of visual literacy while showing teachers the training needed to develop skills in decoding and encoding images on social media platforms (Ali et al., 2020). Pedagogical practices must be revised to help teachers align with the National Standards and Curriculum objectives.

Impact on Trained Teachers

Educators in the Caribbean region face the challenging task of exploring innovative teaching methods designed to encourage creative thinking across various subject areas (Bullard & Bahar, 2023; Roofe, 2021; Shepherd, 2020). Mullet et al. (2016) have contributed to this discussion by identifying a clear obstacle to effectively teaching creativity based on research findings. Shao and Yu (2025) highlighted the importance of arts education in supporting fundamental human rights and sustainable development. This research suggested that a lack of proficiency in teaching creative self-efficacy is a crucial and common factor in facilitating creativity in education, as Huang et al. (2022) explained.

Huang et al. (2022), Carstensen and Klusmann (2021), and Rubenstein et al. (2018) made an important observation about how teaching creativity influences educators. They argued, “Teachers may not be creative in the school context, although

they may be creative in their daily lives; their innovative performance may not naturally lead to a willingness to implement teaching for creativity” (p. 61). This highlighted a gap between personal creativity and the desire to promote creativity in education (Agustin et al., 2021). Additionally, Lojo (2025) argued that a teacher’s inherent creativity does not necessarily mean they can effectively foster creativity in students, especially within a curriculum that requires such an approach. Cheng (2010) supported this idea, emphasizing that tensions arise in teaching for creativity, worsened by what some teachers see as an inadequate school climate that fails to foster such creativity.

Carstensen and Klusmann (2021) and Rahman and Rahmat (2025) identified that teachers’ personal beliefs regarding the nature of creativity could hinder their ability to teach creativity effectively. This observation suggested that educators’ conceptual understanding of creativity plays a significant role in their teaching methodology. Furthermore, recent studies by Ismailova (2021) and Nwuke and Nwanguma (2024) have observed that both students and teachers face considerable challenges due to the suboptimal utilization of essential elements within the learning environment. These challenges highlight the need for educational institutions to reevaluate and enhance how they facilitate and encourage creative learning and teaching practices.

In a particular Caribbean nation, a workshop was convened to foster critical consciousness among teachers and students, centering on three fundamental areas: cultivating a creative economy, reinforcing cultural identity, and nurturing education and imagination. This initiative aligns with concerns raised in a report by the Caribbean Development Bank, as cited by Shepherd (2020), which warns that the Caribbean could

become the poorest region globally by 2050. Shepherd (2020) argued for the necessity of comprehensive arts education across the region, with the notable exception of musical expressions, where there already appears to be sufficient emphasis. This viewpoint emerges from an understanding that fostering a generation of innovators is integral to economic development. However, researchers have recognized a critical challenge: it is implausible to expect the emergence of such innovators in an economic landscape that lacks an education system that actively promotes and produces creative thinkers. This situation underscores the urgent need for a paradigm shift in educational strategies within the Caribbean, particularly in how creativity and critical thinking are integrated into the curriculum.

There is a consciousness of the creative element in teaching and learning (Rus, 2020). Bullard & Bahar (2023) noted that though most educators agree with the educational development of students' creativity many are confronted with barriers to developing creative skills. The research findings indicated that fostering creativity was rarely regarded as a learning objective, the most common barrier to teaching creativity in kindergarten through K-12 was creativity is lacking in the classrooms. The call is for creative methods to increase student motivation for successful practices in a professional context. According to their research, Bereczki and Kárpáti (2021) highlighted that even experienced teachers face challenges in executing technology-based instructions to enhance creativity. However, the colonial practices that form the foundation of the education system have yet to incorporate non-traditional subjects like the visual arts (Shepherd, 2020). Therefore, creativity and innovation are for students who are not

academically inclined. In Shepherd's study, she conducted a workshop that promoted "learning by doing and from watching others perform, reading others' instructions or descriptions, or listening to others' instructions or lectures" (Shepherd, 2020, p.19). The teachers' responses varied as some felt they were creative, and some were not creative but thought they could learn. However, all the teachers connected creativity to problem-solving and thinking of ideas void of "traditional expectations" (Shepherd, 2020, p. 30).

Farris and Werderich (2019) examined the art of reading, writing, listening, speaking, viewing, and visual representation is the language form that facilitates the process, production, and assessment, Frauts (2019) examined creativity is the key to the development of resilience in Jamaica from historical times to the present, Schwartz (2018) examined the context of visual literacy and asserts that change must be made from a text-based material offered by libraries to content that provides proof or corroborate an argument to advance creativity in new media technologies, internet access, social media, and visual communication., and Rus (2020) examined the exploration and adaption of English for specific purposes in light of the scope of creativity in a learning context, specializing in language of a particular subject using creative methodologies. Therefore, it would follow that teachers in the Caribbean need to learn all language forms required for the education system's diversity level (Ávalos, 2023). Crogman (2017), and resiliance in literacy expressed that diversity will also introduce new vocabulary and concepts, expanding cognitive ability. Learning will also occur due to interaction and observation facilitated through socialization. The new generation of teachers may find it easier to adapt to the new learning concept as they engage in teaching. With exposure to

technology and various social media platforms, it is assumed that these younger teachers will more readily adopt visualization techniques, especially those involving visual communication (Cardama & Sebastián, 2019). Studies have presented visual literacy as an eclectic concept that art educators and theorists use to define human vision skills. From that perspective, this study views visual literacy as an educational experience that encompasses creative, flexible, and subjective experiences within a multimodal environment relevant to academic growth (Blyth, 2018; Shepherd, 2020). Blyth (2018) argues that learners of visual literacy may also demonstrate efficiency in other sensory experiences essential to learning. He believes teachers need to understand visual skills and develop knowledge of observation, inference, and emotional expression. It is contended that teachers must be internally and externally motivated to overcome personal and school barriers caused by central policies. Professional development, he continues, can prevent dilemmas and perceptions that hinder the transformation of the learning environment.

Penuel and O'Connor (2018) argued that teachers need to possess the necessary authority in visual literacy pedagogies demonstrating emerging network concepts and skills. The researchers emphasize the necessity for teachers to embrace pedagogies of multiliteracies, aligned with increasing local diversity and global standards. This acquisition will prepare teachers to design patterns of social futures as well as future workplaces, public spaces, and communities. These experiences appear relevant to the teaching objective of engagement to promote higher-order thinking involving graphical images (Munday et al., 2017). This approach can effectively showcase visual literacy as a

tool that enables learners to interpret, uncover deeper meaning, and form emotional connections to words and images (Reyes & Bishop, 2019).

Incorporating creative learning activities into education highlights the importance of visual literacy skills. Cognition is a crucial aspect of visual literacy for both teachers and students because it involves representing and processing information through the senses. Modality-specific learning is closely connected to modality social semiotics, as both relate to the senses (Harrop-Allin, 2017). Harrop-Allin explained that the positive effects of teacher-educator involvement in fieldwork improve the methods used to gather data on student engagement, including visual, auditory, and written documentation. The research findings can assist teachers by guiding them through the information collected.

Impacting the Teacher Training Curriculum

The reformed NSC in Jamaica's education system, as well as across the Caribbean region, indicates that pre-service teachers should be prepared to incorporate the STEM approach into the 5E model (Jaipal-Jamani & Mayne, 2020; Lumampao, 2023). According to Mejias et al. (2021), Belbase et al. (2022), and Razi and Zhou (2022), the concept of STEM is evolving to include the arts as a vital part of learning across all subjects, leading to the idea of STEAM. The studies confirm that art should no longer be viewed only as providing aesthetics and beautification. However, while the Ministry of Education aims to implement an integrated curriculum that uses art as a connecting element across subjects, an art-integrated curriculum has not yet been established (Lawton, 2022; Puri & Singh, 2023; Surbh & Sharma, 2023). Ronald Thwaites the Minister of education in 2015, emphasized that the country urgently needs

qualified, competent, and enthusiastic workers to perform excellent work (Jamaica News, 2015).

In the Jamaican education system, including art in the curriculum is seen as exploring cross-disciplinary contexts, covering visual arts and other supporting subjects (Barnes, 2010; Candelario & Henley, 2023; Roofe, 2021). Teacher training colleges introduce student teachers to the NSC during lesson-planning activities. The curriculum emphasizes that “Culture and Creative arts as carriers of content” (Ministry of Education, Skills, Youth & Information, 2020). Vahter (2010) noted that children develop skills such as emotional regulation, imagination, confidence, analogical and reflective thinking, and intuition when engaging in dramatic, musical, and visual arts as forms of self-expression.

In Jamaica and other Caribbean countries, gaps in infrastructure and training contribute to ongoing issues in the education system. The Ministry of Education has started training teachers in Technical and Vocational Education and Training (TVET) up to the master’s degree level (Mayne & Dixon, 2020; Al Masarweh, 2019). Teacher training colleges are preparing student teachers to work in this new environment at the bachelor’s degree level (Hylton & Hylton-Fraser, 2022; Jaipal-Jamani & Mayne, 2020). There is increasing awareness of education for sustainable development among teacher training institutions, although many remain conservative and slow to change (Agbedahin, 2019; Alam, 2022). Currently, visual literacy has gained importance in the evolving communication landscape (Domínguez Romero & Bobkina, 2021; Filho et al., 2024; Huilcapi-Collantes et al., 2020; D. S. Thompson & Beene, 2020). D. Statton Thompson et al. (2022), after interviewing experts to identify current trends, noted that the present

understanding of visual literacy aims to help learners, educators, and practitioners critically produce, share, review, and utilize visuals within an ever-changing information environment. The challenge remains that progress will be limited unless teachers understand how to apply visual language in technical and vocational subjects (Jaipal-Jamani & Mayne, 2020). Jaipal-Jamani and Mayne stated, “Teacher educators have limited experience, confidence, practice, and self-efficacy with STEM pedagogy and STEM/TVET integration” (p. IV). These researchers suggest that all teachers, including student teachers, should participate in professional development training to enhance the design of effective inquiry-based STEM-TVET instruction.

Exposure and practice in this inquiry-based approach will include teaching methods of assessing visuals to stem the lack of ability detected among the teachers (Attard & Holmes, 2022; Chu et al., 2023; Deák & Kumar., 2024). Institutions must carefully focus on the educational level affected, and the main issues affecting teachers’ lack of knowledge must be defined. Farris and Werderich (2019) offered several strands of study that may be applicable, and in the list below is a strand of issues to be considered:

- Candidates demonstrate knowledge of major theoretical, conceptual, and evidence-based frameworks that describe the centrality of language in literacy learning and evidence-based instructional approaches that support the development of listening, speaking, viewing, and visually representing.
- Candidates design, adapt, implement, and evaluate evidence-based activities. These activities must have appropriate instruction and material

in keeping with the writing and orthographic knowledge of pre-K/primary learners.

- Candidates use the results of various assessment measures to inform and modify instruction.
- Candidates consider diversity a core asset in instructional planning, teaching, and selecting texts and materials.
- Candidates incorporate safe, appropriate, and effective ways to use digital technologies in literacy and language experiences.
- Candidates collaboratively participate in ongoing inquiry with colleagues and mentor teachers and participants in professional learning communities (Farris & Werderich, 2019).

It is also essential for student teachers to demonstrate proficiency in information and communication technology (ICT) when entering teacher training colleges (Garzón Artacho et al., 2020; Hanaysha & Eli, 2024). Arruti and Paños-Castro (2020) emphasized recent shifts toward new working methods that focus specifically on student teachers, suggesting that new students entering college with ICT skills could help curriculum developers plan for the ICT and pedagogical needs of future teachers (L. Meeks et al., 2020; X. Wang et al., 2020). This addition may be necessary if the education program calls for extensive use of technology and visuals. Using a social semiotic approach based on Bandura's (1969) social learning theory and Jones' network learning concept may offer another way for active learners to integrate visual literacy into their learning process (Aysel, 2023; Mandanici et al., 2023; Middleton, 2023). Incorporating this learning

experience can encourage collaborative work, motivate students, and develop participatory decision-making and teamwork skills (X. Wang et al., 2020), aligning with the NSC (Roofe, 2021). The limited literature on specific training programs for student teachers and educators to develop modern skills for task evaluation as they adopt the new curriculum suggests that policymakers may overlook the importance of visual literacy within this new paradigm.

Summary and Conclusions

Several key themes and gaps emerged from the literature on the deficit in visual literacy skills among teachers in Caribbean early childhood and primary schools and their impact on integrating visuals into the curriculum. The literature consistently highlights the critical role of ongoing professional development in education. It emphasizes that training is essential for changing educators' attitudes, increasing confidence, and adapting to new teaching methods and technologies. The integration of technology, such as software tools, is a recognized benefit in professional development programs, as it helps facilitate more effective teaching and learning experiences. The importance of visual literacy in enhancing curriculum content and student engagement is acknowledged; however, there is less clarity about its implementation and effectiveness.

While the importance of professional development is acknowledged, literature is scarce documenting the long-term effects on teachers' ability to integrate visual literacy into their teaching. The specific challenges that Caribbean educators face in acquiring and applying visual literacy skills are not extensively examined. There is a gap in

understanding which professional development approaches are most effective for enhancing visual literacy among Caribbean teachers.

The current study aims to fill these gaps by investigating the long-term effectiveness of professional development programs in enhancing educators' visual literacy skills. The study will focus on the unique challenges and requirements of Jamaica's early childhood and primary school teachers. It will compare the efficacy of different professional development methods, including technology-based approaches, in improving visual literacy. In Chapter 3, I will present the research design and rationale, including the role of the researcher in this study, the study methodology, which encompasses the participant selection logic and instrumentation, and the data analysis plan. I will also address issues of trustworthiness and ethical procedures.

Chapter 3: Research Method

The purpose of this qualitative study was to explore the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. A key revelation from examining existing research and project-based educational initiatives in early education is the noticeable gap in training and preparation for teachers in this area. The study investigated the experiences of early childhood and primary school teachers within the SoC conceptual framework. This approach enabled the identification of practical strategies to assess teachers' readiness and comfort with the necessary changes for enhancing education. The goal is to foster sustainable development by understanding the value of visual literacy in learning, teaching, and innovation (Hall et al., 2011).

This chapter outlines the research methodology for this basic qualitative study. It details the research design and its underlying rationale, delineates the researcher's role, and elaborates on the methodology, including aspects related to participant selection, instrumentation, and data collection and analysis procedures. The chapter concludes by addressing the trustworthiness and ethical considerations of qualitative research, followed by a comprehensive summary.

Research Design and Rationale

The central RQ for this study was as follows.

RQ: What are early childhood educators, primary education, and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?

Three SQs were crafted to steer the interview protocol and address the central questions:

SQ1: What are early childhood educators, primary educators, and student teachers' perceptions of the integration of visuals across the curriculum?

SQ2: What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?

SQ3: What insights do early childhood educators, primary educators, and student teachers offer regarding using visual imagery and visual language in the subjects they teach?

This basic qualitative study examined the perspectives of early and primary education student teachers regarding the challenges of integrating and assessing visuals across the curriculum. The selection of a basic qualitative research approach is due to its flexibility in addressing the RQ and enabling a detailed exploration of the phenomenon.

Phenomenon of Interest

The central phenomenon of this study is the merging of pedagogy, technology, visual literacy, and the changing educational landscape. The research examined how early childhood and primary education teachers and student teachers view the role of visuals in learning and explored their perspectives on the challenges and opportunities of

incorporating visuals into the curriculum. Using a basic qualitative approach, the study identified and categorized the challenges teachers and student teachers face when integrating visuals across various subjects, aiming to understand the factors behind these challenges and address the RQs (Creswell & Creswell, 2017; Merriam & Tisdell, 2016). The research also examined the methods and criteria that teachers and student teachers use to evaluate the effectiveness of visuals in teaching and learning. Additionally, the study explored teachers' pedagogical strategies for incorporating visuals into their teaching and assessment methods, providing insight into whether these strategies differ across age groups and between experienced teachers and student teachers.

Research Tradition

The selection of the basic qualitative research tradition as the research design for this study, following the guidelines outlined by Caelli et al. (2003), Merriam and Tisdell (2015), and Sandelowski (2000), is well-founded for several reasons. Qualitative methods are particularly effective for exploring complex issues that are not fully understood, developing themes, and gaining new insights into phenomena, thereby enhancing our understanding of them (Richards & Morse, 2013). Within the field of education, qualitative methods are especially valuable for understanding the complex dynamics of teaching and learning, the implementation of educational policies and practices, and the diverse experiences of students and educators.

The basic qualitative approach was deemed suitable for this study due to its descriptive, interpretative, and reflective nature. This design accommodates the analysis of subjective opinions, attitudes, beliefs, and reflections specific to the participants'

experiences with visual literacy and visual imagery in the curriculum (Stokes, 2002). Merriam and Grenier (2019) and Merriam and Tisdell (2015) define basic qualitative research as an approach focused on exploring and understanding meaning, processes, and experiences. This is typically achieved through purposeful sampling, which ensures that the selected participants have specific knowledge or experience relevant to the RQ. Data collection in this approach primarily involves methods such as interviews, observations, and document analysis, enabling an in-depth exploration of the topic at hand.

Merriam and Grenier (2019) further note that basic qualitative studies are widely used across various disciplines, particularly in education. This prevalence is likely due to the adaptability and effectiveness of qualitative research in exploring nuanced educational phenomena. In the context of this study, which focuses on integrating visual literacy skills in Caribbean early childhood and primary schools, the basic qualitative research approach is particularly apt. It allows for a thorough examination of the perspectives and experiences of educators, the challenges they face in integrating visual literacy, and the strategies they employ. By employing this approach, the study aimed to yield rich, detailed data that can inform effective educational practices and teacher training programs, ultimately enhancing the quality and efficacy of education in the region.

A qualitative rather than a quantitative design was more suitable for this study due to its nature. Quantitative methods were not suitable for this study since the aim was not to look at relationships between variables or focus on obtaining statistical information. There was no need to test any theory or examine variables, which made a

quantitative framework inappropriate. Similarly, the mixed method approach was not considered as it has a statistical quantitative component. The qualitative approach, on the other hand, was appropriate for developing a rich, in-depth understanding of the teacher's perspective on the new curricula requirement, gathering information, and examining their usage of the visuals produced by the students (Zhang et al., 2020) without conducting a survey. This approach allowed the researcher to fully understand how the contextual factor of incorporating visuals in the curricula impacts teachers' ability to manage visuals (Dames, 2019). A mixed methods design also did not satisfy the concerns, as the study did not require various data types.

This basic qualitative research design explored the need for training in visual literacy for pre-service and in-service teachers. Like a phenomenological design, the basic qualitative research approach is ideal for focusing on how a concept is perceived and interpreted in line with the participants' experiences (Batur & Özcan, 2020). This qualitative research design aligns well with the study's focus.

Reviewing Other Designs.

After deciding to use qualitative methods, I examined different approaches within qualitative research, such as ethnography, case study, grounded theory, phenomenology, and narrative methods. However, none of these approaches fully met the requirements, leading to the selection of a basic qualitative method. This choice was made instead of ethnography because, in ethnography, the focus is on the social context that influences an individual and aims to interpret cultural meanings (Ravitch & Carl, 2019). The study focused on teachers' perspectives by specifically exploring the types of knowledge they

seek, their level of neutrality or engagement in the research process, and the methods used for data collection, as outlined by Aspers and Corte (2019). The grounded theory approach involves systematically collecting and analyzing data to develop a theory rooted in empirical evidence (Samaddar & Gandhi, 2024). Unlike other methods that may start with a preconceived theory, grounded theory is distinctive for its inductive process, where the theory develops from the data itself (Liu & Liu, 2023). This approach is often used to explore complex social phenomena when existing theories may not fully account for the intricacies of the topic (Bratianu et al., 2023). For this study, there was no need to develop a new theory, as the goal was to understand teachers' perceptions regarding the challenges of integrating and assessing visuals across the curriculum. Narrative approaches focus on individual stories and aim to analyze life experiences (Mariani & Ciancia, 2019; Ravitch & Carl, 2019), which was not the purpose of this study.

A phenomenological approach was also considered but was later replaced with a basic qualitative study, which focuses on exploring and understanding teachers' perspectives rather than their lived experiences. Phenomenology is concerned with individuals' life experiences of a phenomenon. According to H. Williams (2021), phenomenology aims to describe rather than explain the phenomenon. He listed characteristics such as reductive, essence, and intentionality. This design could suit this study, as it involves a specific phenomenon, but due to time constraints, it was not deemed feasible. I did not choose a case study approach because case studies typically use multiple data sources (Helo & Hao, 2022). Since the goal was to gather information on teacher competence in visual literacy, a basic qualitative description was the most

effective way to collect detailed data on visual literacy in the classroom, an understudied phenomenon of interest (Bradshaw et al., 2017). A basic qualitative design was selected because it enables the researcher to understand the meanings participants assign to their experiences, fostering a deeper understanding of the phenomenon under investigation.

A Rationale for the Choice of Theory

The in-depth focus on integrating technology to enhance visuals in educational institutions has created a need for teachers to learn visual literacy, enabling them to encode and decode visuals (Jamaica Information Service, 2016). The introduction of tablets in the school program and the NSC in Jamaica has transformed the learning environment through technology. This change in the learning environment requires modifying educational practices for teachers and students. Yates et al. (2020) proposed a design for pedagogical practices that integrate technology to enhance literacy, embracing visual literacy. They also referenced the benefits of infusing lessons, which they reported increased social and emotional skills, motor skills, and mathematical understanding. Imagery integrated into technology presents a new playground or social learning environment that can evoke changes in learner behavior and create an active, collaborative, and student-centered learning environment (Eriksson et al., 2019; Kangas & Poutanen, 2018). CBAM/SoC is the structure that teachers need to identify areas of weakness and strength and advance to make changes that will serve as models for pre-service teachers. Additionally, they provide illustrations for students to practice and refine their visual literacy skills (Pellerin & Lavoie, 2019). For this study, evidence of student teachers' ability to grasp the concept of visual literacy across the curriculum will

be a compelling achievement. Teachers can gain knowledge and competence in decoding and encoding images through visual literacy, which enhances their understanding of visual communication.

For this study, the CBAM/SoCs concept will introduce teachers to platforms that enable them to practice newly acquired skills by applying visual language knowledge in technical contexts (Nelius & Matthiesen., 2019; Zapata, 2018). Through online interaction, student teachers will learn to decode and encode images relating to their subject areas and teaching as they interact and reflect during the process. Additionally, the platform is designed to incorporate training exercises that increase motivation and communication among peers across disciplines (Young et al., 2019).

Exposure and interaction with the CBAM /SoCs environment can improve communication through networking, increasing the likelihood of providing instructions to student teachers using synchronous interaction (B. Chen & Huang, 2019; Mousapour Negari & Zeynali, 2023). According to these authors, students benefit from a flexible timetable in higher education. A mix of flipped and synchronous environments may not always be ideal. The teaching and learning process, when carefully examined, can consider the skill level of each student teacher, based on their discipline, personal ability to think, and how they interact with their surrounding environment. Through the stages of the concern process, the behavior of pre-service teachers can be reshaped and adjusted through modeling. Through interaction among instructors, students, and peers, new behaviors and attitudes can be developed as students practice the skills they acquire in visual literacy. There is an expectation of significant collaboration as students learn to

combine their strengths and ideas, especially for group presentations in core subject areas. Student teachers will learn to appreciate and respect each other's strengths and weaknesses as they coexist in a social learning environment.

The interdisciplinary nature of visual literacy necessitates a platform to demonstrate the multimodal characteristic of visual literacy and its relevance to all disciplines. Higher learning communities seek to embrace a more contemporary society that emphasizes independent constructivism, creativity, and independence. These communities open a window for the social learning approach and facilitate exploring new knowledge of culture and social life through forms of real-world evidence (Patricia, 2020). Pertinent to this paper is the point these two researchers raised on the interplay between academic disciplines, multi-disciplinary collaboration, interdisciplinary research, and folk culture in education in the twenty-first century. Morselli and Marcelli (2021) believe that a qualitative approach is a creative process that involves the participants. The study embodies procedures designed by the researcher to answer the researcher's RQs, who is the chief designer (Merriam & Grenier, 2019). Exploring the phenomenon will open this expressive language of visual literacy that shapes the world through multiple interpretations, metaphors, analogies, and meanings (Brehmer & Kosara, 2022).

Role of the Researcher

In this study, the researcher served as the sole investigator, with multiple responsibilities. This approach involves active participation in the research setting while also maintaining an observational stance. The researcher's duties include selecting participants, keeping a journal log for them, scheduling, conducting, and recording

interviews, transcribing conversations, collecting documents, and performing subsequent data analysis. Merriam and Grenier (2019) state that the researcher's engagement goes beyond that of a simple observer, involving limited participation depending on the specific research activity and interpersonal dynamics.

The researcher maintained a neutral stance without any pre-existing personal or professional affiliations with the participants. This deliberate approach is essential to mitigate potential biases arising from compromised relationships. As a visual arts educator at the tertiary level, instructing in Theatre Techniques, Art Appreciation, and Foundations of Visual Arts in Primary and Early Childhood Education, I recognized the potential for bias. The presumption of the absence of bias poses a formidable challenge, thereby necessitating the implementation of mechanisms to mitigate biases through a flexible framework (Feroz Khan & Samad., 2024; Kovach, 2019; Patton, 2022). Given the potential for bias, the researcher took proactive measures to address this concern.

The researcher purposefully selected participants from external institutions, ensuring the absence of pre-existing affiliations to minimize bias. To uphold objectivity, a research journal was used as a reflective tool to systematically document and scrutinize biases and assumptions throughout the study. This proactive approach addressed and rectified any emergent biases during the research process.

Methodology

This section of the study outlines the recruitment and selection process of the participants, the data collection instruments employed, and the data collection procedure. It also explains the method used to analyze the data.

Participant Selection Logic

The population identified for this study was two public schools and a teacher training institution in an urban area in Jamaica. Twelve participants from these institutions were selected according to their relatedness to the phenomenon of interest (Muzari et al., 2022). The participants were involved in education at the early education and primary levels and were either trained or in training. Four participants were primary-level teachers, four were early education teachers, and four were student teachers from the training college. They were selected using purposeful sampling to gather the most informative data possible. This approach allows flexibility in selecting participants and communication methods to facilitate interviews (Maxwell, 2013). Participants were chosen based on their experience in early childhood and primary education, including completing practicum one as student teachers, ensuring they had the necessary background to address the RQs effectively. Each participant selected had to have been exposed to the new NSC and expressed the need for additional information to execute the type of delivery required by the MOEYI. The two urban schools that participated in the exercise accommodate student teachers for teaching practice annually. There were two criteria for the teacher population: they had to be graduates of the teacher training institution. They had to be aware of the schools' partnership to facilitate research and other field experiences.

These participants were suitable for the study because they were employed in schools at the early education, primary, and junior high levels. The selected teachers were required to be familiar with the NSC and to know how to integrate visuals at the primary

and early education levels. The student teachers selected to participate were enrolled in the primary and early childhood teacher education program. These teachers and student teachers must have been engaged in the implementation of the NSC curricula which requires the integration of visuals in lessons across the curriculum. They also must have found the NSC requirements challenging to their ability to execute evidence-based methodology in their teaching and genuinely desire to enhance their instructional practices and cultivate adaptability in response to those challenges. The participating schools are located near the teacher training institution and are in the category of practicing schools recognized by the MOEYI in Jamaica.

For this basic qualitative study, each of the 12 participants had to satisfy the following requirements:

- Prospective educators must demonstrate a thorough understanding of the changing pedagogical needs at the early childhood and elementary levels. This includes, but is not limited to, the ability to effectively use visuals as a key part of teaching methods. These future teachers need to be highly aware of the important role visuals play in instruction, whether in traditional classrooms or online platforms. This awareness of how to effectively incorporate and use visual elements across different teaching styles has grown among teachers.
- The decision to choose educators with at least four years of practical experience in early childhood or primary education is based on a solid reason. The training period for professionals in these fields usually lasts

more than 4 years. This time is important because it offers a thorough foundation in both theoretical and practical teaching skills. Setting a four-year experience requirement for prospective participants ensures they have finished their initial training and are actively working in the field. This length of experience is important for several reasons.

- The selection of participants for this study was strategically focused on educators who have navigated challenges associated with the new NSC curriculum. This criterion is essential for two key reasons:
 - Valuable Insights from Real-World Experience: Educators who have already encountered difficulties with the NSC curriculum bring a wealth of practical insights. Their experiences overcoming these challenges can provide invaluable insights into effective strategies, adaptations, and solutions that could benefit other educators facing similar situations.
 - Proactive Identification of Emerging Issues: Those who foresee potential challenges with the NSC curriculum can contribute a forward-thinking perspective. Their anticipation of potential difficulties enables a proactive approach to identifying and addressing issues before they become significant obstacles. This foresight is crucial for the continuous improvement and effective implementation of the curriculum.

By involving educators with these specific experiences and perspectives, this study aimed to gather a rich, diverse range of viewpoints. This approach ensures a more comprehensive understanding of the NSC curriculum's practical implications and fosters a collaborative effort to optimize educational practices in early childhood and primary education.

The sample size of 12 participants aligns with the study's qualitative nature, enabling in-depth exploration through interviews. Following Creswell's guidance, the researcher's discretion determines the sample size, ensuring it is sufficient to yield realistic and valuable data (Creswell & Creswell, 2017). The significance of the study's results in the context of educational training justifies a sample size that can effectively capture diverse perspectives and experiences. The teachers and student teachers involved in the NSC program were identified through collaboration with the educational institutions. The criteria for selection included experience with technology integration, use of visuals in teaching, and a diverse representation of subjects or disciplines.

The researcher invited teachers from schools and a teacher training institution to participate in the study by explaining the criteria and seeking participants. Contact with participants was made through school administrators or educational program coordinators. Potential participants received an invitation letter outlining the study's purpose, significance, and the ethical considerations involved. The letter also emphasized the voluntary nature of participation, confidentiality assurances, and the participants' right to withdraw from the study.

Morse (2020) suggested that in developing qualitative sampling criteria, researchers select specific cases, events, or actions that help clarify and deepen understanding within a particular context. A sample size of 12 participants has been deemed sufficient for conducting in-depth interviews, consistent with the requirements of basic qualitative studies. This sample size enables a comprehensive exploration of participants' worries, concerns, and key issues that need attention. The research involved selecting several individuals from a larger group. A purposive homogeneous sampling strategy was effective in choosing teachers to participate in the study. The researcher worked with school principals, who have a deep understanding of their teachers' instructional methods, to identify the most suitable participants. Based on the principals' recommendation, the researcher ensured that the selection was intentional and focused, aligning with the goals of the study. This approach improved the study's precision and relevance, in accordance with the guidelines suggested by Low et al., (2019).

Informed consent was obtained from each participant before the commencement of the study. The researcher ensured that all participants reviewed the consent form and protocols prior to the interviews beginning. Once the consent forms were received from the 12 participants who met the criteria, the interview sessions were planned. The participants were allowed to ask the interview questions while the researcher explained the study's context so that misunderstandings could be clarified before the interview.

Instrumentation

Data were collected with the use of an interview schedule designed to collect the participants' responses regarding the challenges of early childhood and primary education

teachers and student teachers in integrating and evaluating visuals across the curriculum, the experiences of the early childhood and primary teachers and student teachers with using the integrated approach across the curriculum, This data is necessary to justify the need for this study which is to encourage the teacher training institution to offer a course in visual literacy.

The interview questions were modeled after Merriam and Tisdell (2016), as shown in Table 2. Using a semi-structured interview with open-ended questions is a common and effective method in qualitative research, offering several benefits such as flexibility in asking follow-up and probing questions. This approach was essential for achieving the clarity needed for this study and fostered a more natural and conversational interaction between the interviewer and the participant. Open-ended questions were crafted to elicit detailed narratives, as they are useful for capturing rich, in-depth information about experiences, opinions, feelings, and other subjective aspects (Patton, 2002). These questions do not restrict participants to fixed responses but instead allow for broader insights. The interview questions, which focused on experiences, opinions, feelings, knowledge, sensory perceptions, and demographic information, covered multiple dimensions that needed to be explored in this study. This enabled a comprehensive understanding of the perspectives of early childhood, primary teachers, and student teachers regarding the challenges of integrating and evaluating visuals across the curriculum. These tools were appropriate for this basic qualitative research because the goal was to collect in-depth data within a comfortable, non-judgmental environment. Active listening was emphasized to ensure participants felt heard and understood. Data

from field notes, observations, and participants' reflective responses (Joachim & Hashim, 2021) provided crucial information to the researcher.

Data Collection Instrument

An interview protocol gives an overview of the procedure followed during the interview (Appendix). This process involved using an interview schedule, the primary instrument for data collection. In designing the instrument, attention was given to how the study participants perceived all aspects of the instrument (items, instructions, and responses should be easily understood by all participants (de Vries et al., 2021) to ensure content validity. The instrument was developed to gather in-depth information from participants. These interviews were semi-structured, covering specific questions, and the conversation was flexible, allowing participants to provide in-depth responses to the RQs. These semi-structured interviews provided rich and detailed data and allowed for follow-up questions and clarification.

Procedures for Pilot Study

Open-ended questions were designed to help obtain a detailed understanding of teachers' experiences with the use or non-use of visual literacy, which led to interviews. To ensure the validity and effectiveness of the interview questions, a pilot study was conducted with two distinguished experts in education. The first expert is a renowned visual arts educator and an external examiner for the Joint Board of Teacher Education. The second expert is a retired education officer in the Ministry of Education, Youth, and Information (MOEYI) and a specialist in early childhood education, currently serving as

the coordinator of a university's early childhood and primary program. Both are respected figures in their fields, former classmates and colleagues in teacher education.

These experts were asked to review and respond to the proposed interview questions. Their feedback was invaluable in refining the questions to better align them with the study's objectives. The researcher meticulously documented their responses and suggestions for modifying the interview questions. This process was used to establish content validity and highlight the relevance of their expert opinions regarding their positions, titles, and connections to this study. Incorporating their insights enhanced the quality and relevance of the data collected in the subsequent phases of the research.

Implementing these interviews requires a skilled approach to building a good rapport while guiding the conversation effectively. In a pilot run, the researcher can test the recruitment, participation, and data-collection processes planned for the main study. These sessions began with an introductory statement and concluded with a closing statement, as they were conducted as part of the main study.

The researcher sent invitation emails to the pilot participants. Walden (2024) describes data collection as teachable pedagogical practices that follow professional standards. The relationship between the researcher and the pilot participants allowed flexibility in the process. The creation and collection of data fostered a partnership between the researcher and participants, enabling both to agree on workable choices.

The instrument the researcher developed protected the participants' confidentiality and privacy, as the data were only used to answer the RQ. Detailed

records of the data collection, including interview transcripts and notes, were kept confidential.

Procedures for Recruitment, Participation, and Data Collection

Teacher recruitment for this study began once Walden University's Institutional Review Board (IRB) granted authorization. In compliance with IRB guidelines, the researcher initiated contact with early childhood and primary educators involved in implementing the NSC. The primary recruitment sites were two early childhood and primary schools and a teacher training institution in Kingston, Jamaica, where visual imagery integration in the curriculum is practiced.

The researcher liaised with the principals of the selected schools and the coordinator of early childhood and primary programs at the teacher training college. These officials, knowledgeable about the NSC, assisted in identifying potential study participants. Upon receiving a list of potential candidates, the researcher sought help from designated administrative staff in each institution to disseminate the research invitation and criteria to eligible early childhood and primary school teachers and student teachers. The recruitment involved sending emails to teachers with at least four years of experience in early childhood and primary classrooms and attending the Ministry of Education's training workshops in preparation for the NSC implementation deadline. Similarly, student teachers currently enrolled in teaching methodology courses aligned with NSC standards were sent invitations. The IRB-designed informed consent forms will outline the terms of the study to which participants agree to participate. The interview sessions will be for 45 minutes to one hour on the Zoom platform. This information was emailed

to these individuals. Teacher participants were informed of their right to withdraw from the study at any time.

Upon completion of the study, participants were thanked for their time and contributions to the research and were allowed to ask questions and clarify any doubts. Upon request, the researcher discussed general insights or preliminary findings from the study while maintaining the confidentiality of individual responses. Participants also provided contact details for future questions or follow-ups.

Participants in the study were given the opportunity to review and provide feedback on the final results, thereby improving the validity and depth of the research. Those who completed the interview received a token of appreciation, either a cash incentive or a special art piece, as a thank you for their participation. These steps ensured ethical treatment of participants throughout the process, supporting the overall integrity and validity of the study.

Data Analysis Plan

The analysis of the research adhered to a structured and systematic approach that is characteristic of qualitative research. This process began with the transcribing of all audio recordings from the interviews, a critical step for converting spoken words into written text, which simplifies further analysis. Once transcription was complete, participants received a copy of their transcribed data. This is a crucial step to verify the accuracy of the information, allowing participants to review and, if necessary, correct or clarify their statements. Following this verification, the data underwent hand-coding, a method where segments of text are labelled or categorized to identify key themes,

concepts, or patterns. Inductive coding was applied to all interviews to establish common themes. As Bingham (2021) explained, inductive coding allows the development of codes based on the data itself rather than being predetermined. Cantrell et al. (2023) emphasize that inductive coding fosters a more open and adaptable approach to analysis.

The initial phase of coding involved pinpointing key phrases or segments from the interviews. This initiated the coding cycle, in which focused coding further categorized the initial codes into similar themes or concepts. This methodical categorization facilitates the organization and structuring of the data. To ensure a thorough and systematic categorization, a multi-step coding process was followed. The objective was to synthesize the data into a coherent dataset that reveals the significant themes and concepts that emerged from the interviews. The synthesized and coded data are presented in Chapter 4 of the research report. This chapter presents the data methodically, including identified themes and key findings. Chapter 5 will delve into the interpretation of these findings, offering insights, discussing the implications of the identified themes, and addressing the RQ. This entire process is in line with established best practices in qualitative research. Following these guidelines ensured the rigor and reliability of the analysis, which is crucial for drawing meaningful conclusions from the interview data.

Issues of Trustworthiness

Trustworthiness is essential when conducting and evaluating qualitative studies. Trustworthiness is often associated with Lincoln and Guba's criteria (Enworo, 2023), which include credibility, transferability, dependability, and confirmability, which help to ensure the rigor and quality of qualitative research. This research needed to demonstrate

trustworthiness in the exploration and analysis of the findings (Rose & Johnson, 2020).

The following sections explain how the study addressed the issues of credibility, transferability, dependability, and confirmability.

Credibility

Credibility, also known as internal validity in qualitative research, can be established through various strategies. Credibility in research, as outlined by Patton (2002), Brooks et al. (1996), and Shenton (2004), emphasizes the importance of transparency in the data collection process. Credibility is crucial for ensuring the integrity of findings. For this study, caution was taken to establish transparency through several strategies that emphasized a data collection process free from bias. Capturing the unique responses of each teacher was key; hence, the data collection method accommodated the perspective of all participants. Patton (2002) and Creswell (2013) stated that credibility is closely aligned to validity and reliability, and for this study, the essence of the participants' experience was captured using semi-structured interviews. This process offered flexibility in the participants' responses rather than a rigid interview process that limited the responses, which enriched the study. Credibility was achieved through peer reviews in which experts reviewed the research for overlooked biases or methodological issues. Implementing these strategies enhances the credibility and overall quality of qualitative research.

Transferability

Transferability in research refers to how well study findings can be applied to different contexts or groups. Patton (2002) indicated that transferability is the capacity of

one research to be used in another setting. This study describes settings, participants, data collection, and data analysis procedures. Researchers use strategies like rich description and diverse participant selection to enhance transferability. For this study, thick description involved detailed accounts of the research setting and participant experiences, providing a comprehensive context for others to assess the applicability of findings to other situations (Merriam & Tisdell, 2016). The researcher ensured diverse participant selection, broadening the study's scope by including individuals with varying characteristics and experiences, thereby making the findings more likely to be relevant to other groups or settings. Together, these strategies improve the study's external validity and broader applicability.

Dependability

Dependability in qualitative research, akin to reliability in its quantitative counterpart, pertains to the consistency and stability of research findings across time. Ensuring dependability in qualitative research involves maintaining a consistent, repeatable, and transparent process. To establish this dependability, the research process must be logical, well-documented, and transparent, lending credibility and repeatability to the findings. The primary strategy to achieve this is audit trails. Audit trails involve meticulous documentation of the entire research process. The researcher documented the data collection methods, the development of categories, and decision-making processes throughout the study. This comprehensive record-keeping was done to ensure that other researchers could trace the research journey, understand how conclusions were drawn, and evaluate the study's consistency and dependability.

Confirmability

Confirmability in qualitative research refers to the extent to which a study's findings are influenced by the respondents rather than the researcher's biases, motivations, or interests. This concept highlights the importance of ensuring that the results accurately reflect the study participants instead of being shaped by the researcher's predispositions. Establishing confirmability is essential for maintaining the credibility and integrity of qualitative research. A key method to achieve confirmability is reflexivity, which involves researchers continuously reflecting on and critically examining their biases, values, and preferences throughout the research process. By doing so, researchers can understand how their backgrounds and perspectives might influence the study, from formulating the RQ to collecting and analyzing data. Reflexivity promotes transparency in the research process and helps reduce the influence of the researcher's subjective judgment on the findings. Ultimately, confirmability in qualitative research demonstrates that the findings are driven by the study participants, not the researcher's biases.

Ethical Procedures

In this study, I served as the sole researcher, taking on various responsibilities. To ensure trustworthiness in this qualitative inquiry, I was dedicated to maintaining ethical integrity and reducing bias throughout the research. Ethical conduct involved creating purposeful interview questions, listening attentively and flexibly, seizing opportunities to gather valuable data, and responding sensitively and respectfully in emotionally charged

or sensitive situations. I consistently aimed to adhere to established research ethics throughout the study.

In compliance with Walden University's standard ethical protocols, I submitted my application to the IRB before data collection. Approval was granted, and I was issued IRB approval number 07-09-24-0419478, with instructions to include this number on the tailored consent forms distributed to participants.

After obtaining letters of agreement from all principals at the selected institutions, I contacted prospective participants via email. Recruitment criteria were strictly adhered to, and once it was confirmed that each recommended participant met the eligibility requirements, further communication was conducted through email and phone calls. Consent forms, which explained the nature of the study and the protections offered to participants, were emailed to each individual. Confidentiality assurances were reaffirmed, and the purpose of the study, data collection methods, and intended use of the research data were clearly explained. Participants were encouraged to ask questions, and all concerns about privacy, data security, and potential risks were addressed. I also informed the participants of their right to withdraw from the study at any time or to decline participation by not signing the consent form.

All interview transcripts were securely stored in a password-protected folder on my personal computer, accessible only by me. Participants' names were not used in any documentation; instead, pseudonyms were assigned to ensure their anonymity. The identities of the participants and the names of their respective schools were not disclosed to anyone outside of my dissertation committee, which includes my chair and

methodologist. Participants were assured that all collected data would be stored securely for five years, after which it would be permanently destroyed. Within the contract was tied a small gift as a show of appreciation for each participants willingness to participate in this study which will be given when the study is completed.

Summary

This section of the research report delineated the methodology and approach utilized to explore the RQ: What are the perspectives of early childhood and primary education teachers and student teachers on the challenges of integrating and evaluating visuals across the curriculum? The primary aim of this study was to gain an in-depth understanding of these educators' views on incorporating and assessing visual elements in educational settings. The study employed qualitative research methods, specifically interviews, which were instrumental in gathering detailed insights into the experiences and opinions of early childhood and primary education teachers and student teachers. The chapter detailed the process for recruiting participants, consisting of a sample of early childhood and primary education teachers and student teachers. Trustworthiness and ethical procedures were addressed to adhere to stringent ethical guidelines and ensure the trustworthiness of the study.

Chapter 4 will be dedicated to presenting the study's findings. This will include a detailed presentation of the data collected, the analysis conducted, and a visual representation of the results, all of which will be directly linked back to the central RQ. The goal is to provide a clear and comprehensive understanding of the perspectives on

the challenges of integrating and evaluating visuals in early childhood and primary education settings.

Chapter 4: Results

The purpose of this qualitative study was to explore the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. I examined the experiences of early childhood and primary educators by thoroughly exploring visual literacy as a multimodal tool for developing critical thinking skills in Caribbean teachers. Based on the conceptual framework of the SoCs model (Hall et al., 2011), this research investigated how educators adopt visual literacy practices and their comfort levels and skills with this teaching method. From this perspective, the study offers valuable insights into how teachers incorporated visual imagery and literacy throughout the curriculum, as well as the challenges they encountered when integrating these elements into their teaching methods.

Research Question

This study focused on the perceptions of early childhood educators, primary educators, and student teachers tasked with integrating visual literacy in the curriculum using the NSC. The following RQs guided the study.

RQ: What are early childhood educators, primary education, and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?

Three SQs were crafted to steer the interview protocol and address the central questions:

SQ1: What are early childhood educators, primary educators, and student teachers' perceptions of the integration of visuals across the curriculum?

SQ2: What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?

SQ3: What insights do early childhood educators, primary educators, and student teachers offer regarding using visual imagery and visual language in the subjects they teach?

This chapter presents the results of the study. It begins with an overview of the setting, participant demographics, and the data collection and analysis procedures. It also includes a discussion of the evidence supporting the study's trustworthiness. The results are then organized following the RQs, highlighting the key themes that emerged from the data. The chapter concludes with a summary of the findings.

Pilot Study

The pilot study, conducted in collaboration with two respected researchers, marked a significant step in refining the research approach for this study. Their expertise provided invaluable insights as they reviewed and responded to the proposed interview questions, offering feedback that ensured the questions aligned closely with the study's objectives. I carefully documented each suggestion and adjusted accordingly, underscoring my commitment to establish content validity, given their professional backgrounds and familiarity with this research area.

Incorporating feedback from the two respected researchers improved the study's rigor, ensuring that the data collected at later stages would be relevant and meaningful. This pilot study also allowed me to refine recruitment, participation, and data collection methods, thereby laying a strong foundation for the main study. Based on insights from the pilot, I adopted a structured format with an opening and closing statement for each interview in the main study. This helped create an environment conducive to building rapport and guiding the interview process effectively. Overall, this pilot study refined the interview questions and demonstrated a strategic and thoughtful approach to achieving high-quality research outcomes.

Setting

The study was conducted with eight trained teachers and four student teachers from an urban region in Jamaica. All eight trained teachers specialized in early childhood education and primary education. In comparison, the four student teachers were enrolled in a bachelor's degree program in early childhood education at a teacher training institution. The trained teachers had at least 5 years of professional experience, while the student teachers had 2 years. All participants were knowledgeable about the NSC and regularly applied it in their practice.

Demographics

Before arranging the interviews, I verified that the schools I selected were using the NSC. I spoke to the principals of each institution and, in the case of the student teachers, I spoke with the registrar, who referred me to the department head for the specifics in my request to verify that the selected teachers were assigned to the grade

levels I was focusing on. I collected demographic data from the 12 participants by asking four questions about their years of service, qualifications, years of teaching integration, and training in visual literacy integration (see Table 1). The participants' tenure at their respective institutions ranged from 5 to 30 years. Seven of the trained teacher participants reported their highest qualification as a bachelor's degree. Only five participants had formal training in early childhood education, and two in primary education. At the same time, all seven reported that their education was through undergraduate-level courses or professional development initiatives. The participants' areas of specialization concentrated on primary education and early childhood education. All 12 teachers, including the student teachers, received basic training at the early childhood or primary levels (see Table 2). One student teacher completed basic training in early childhood education offered through the government skills training special certificate program.

Column 2 shows the structure of educational systems. Early childhood (EC) represents the foundational childhood and learning phase, typically including children aged 3 to 5. This stage encompasses preschool and kindergarten, focusing on achieving key developmental milestones in social, emotional, cognitive, and motor skills through a combination of play-based and structured learning methods. In contrast, primary education involves students aged 6 to 12, from grades 1 to 6. This stage emphasizes the development of basic literacy, numeracy, and critical thinking skills while gradually exposing students to various subjects, including science, social studies, and the arts. All these subjects at different grade levels gradually built a strong foundation that supports lifelong learning and academic success (See Table 2).

Table 2*Demographic Data of Participants*

Participants	Grade levels	Years of Teaching	Exposure to Visual Arts	Highest level of Education	Specialization
P1	EC	19	No	Bachelors	Early Childhood
P2	Grade 1	5	No	Student Teacher	Early Childhood
P3	EC	10	Yes	Bachelors	Early Childhood
P4	Primary	10	Yes	Student Teacher	Primary Ed
P5	Primary	10	Yes	Bachelors	Early Childhood
P6	Grade 2	19	No	Student Teacher	Primary Ed
P7	Grade 2	20	No	Bachelors	Early Childhood
P8	Grade 2	8	No	Bachelors	Primary Ed
P9	EC	30	No	Bachelors	Primary Ed
P10	Primary	5	Yes	Student Teacher	Primary Ed
P11	EC	10	Yes	Student Teacher	Early Childhood
P12	EC	8	Yes	Bachelors	Early Childhood

Data Collection

I was approved by Walden University's IRB to collect and analyze data from work-related interviews with 12 participants, comprising teachers and student-teachers, in accordance with the terms outlined in the consent form included in the interview protocol (see Appendix). I initiated contact by email and subsequently met with the principals of the two selected schools and the registrar of the teacher training institution to formally request permission to conduct interviews with teachers and student teachers. Following this, I sent email invitations to the selected participants, outlining the purpose of the study and the criteria for their selection. The email also included the IRB consent form, which detailed the procedures for minimal-risk, work-related interviews. To finalize interview arrangements, I contacted the participants via email and telephone to schedule the interview dates and times.

Data collection started the following week on Zoom. One-on-one Zoom interviews were conducted between August 30 and October 10, each lasting about 40-50 minutes. At the beginning of each interview, I assured participants of confidentiality. I used a secure voice recorder to digitally record the interview, complemented by Zoom recordings of the sessions.

The interviews were manually transcribed and securely stored in a designated folder on my computer and email. During transcription, I replayed the recordings and cross-referenced the written text to ensure accuracy. After transcription, I conducted member checking by emailing the main themes to participants for their review and feedback. All participants responded and confirmed the accuracy of the information represented in the transcripts. The data reflected the participants' knowledge and perceptions of visual literacy, as well as the benefits to their delivery and the children's holistic learning across the curriculum. It also reflected the challenges they faced in implementing the NSC effectively.

There were no deviations from the data collection plan outlined in Chapter 3. However, due to unforeseen circumstances, the participant pool was adjusted when one college administrator opted out. Another administrator from a preparatory school, who assisted in reaching out to teachers during summer break, replaced this individual. While participants were selected, contacting them proved challenging. I also contacted grade coordinators, course coordinators, and principals, whose support was invaluable for bridging communication gaps and scheduling interviews. Additionally, snowball sampling added three new participants to replace those who did not respond to my email.

Through these combined efforts, I engaged all participants and completed the interviews as planned.

Data Analysis

The data analysis centered on participants' perceptions with visual imagery and visual literacy in lessons using the NSC. Participants and I discussed the benefits and challenges of using visual imagery and how it related to their confidence, creativity, skills, preparation, reflexivity, responsibility, roles, and resilience in delivering lessons. Their interviews were transcribed by hand from audio recordings, with careful listening and review to ensure accuracy. Participants received their transcripts for fact-checking; although responses were sometimes delayed, no corrections were required, which supported the credibility of the data. The analysis followed qualitative methods outlined by Saldaña (2014). I created spreadsheets with columns representing data from which I extracted codes, then categories, and finally themes. I constantly reviewed the information in each group to ensure accuracy as I filled in the information while listening to the recordings. Upon review, I realized additional areas related to technological resources and material availability needed attention. Several responses related to these topics, including them, provided the necessary context for the other categories. There were instances in which participants did not explicitly name a concept, but when they described it in terms of specific traits, it became understandable. I also had to ask probing questions to clarify the intended meaning.

I identified specific trends in responses and assigned codes and themes to them (Brooks et al., 1996). Collecting this data was vital for understanding the context of other

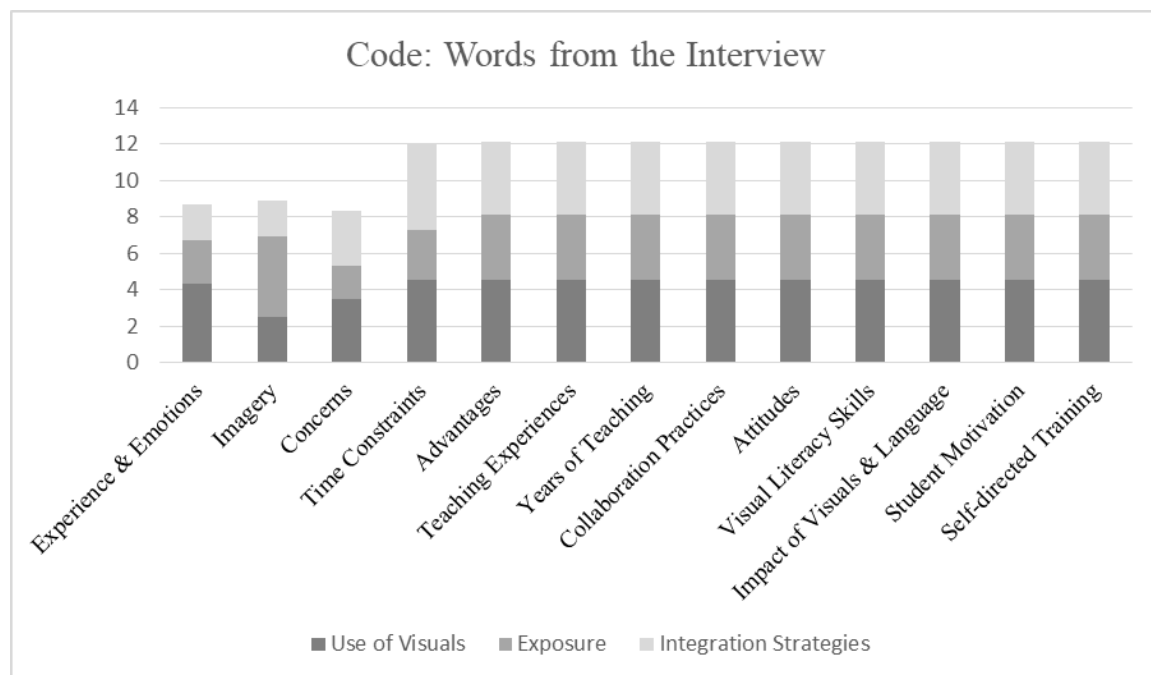
emerging themes and categories. I focused on brief, straightforward sentences shared by participants and noted their descriptions of particular features. Data were coded and analyzed thematically, guided by principles from Saldaña (2014) and Braun and Clarke (2023). I then created charts in Microsoft Word, listing each participant's responses according to the interview questions related to the RQ and organizing common words and phrases as patterns emerged. The following steps were followed.

Step 1: Familiarization and Transcription

Data analysis began by familiarizing myself with the interview transcripts and carefully reviewing their content as I transcribed the audio recordings. After the transcription, I conducted member checking by sharing the primary themes of the study with the participants to gather their feedback. Once the participants confirmed the data's accuracy, I prepared the transcripts for coding and further analysis. The participants provided detailed descriptions of the impact and role of visuals in the teacher and learning environment, explaining their responses and the reasoning behind their organized development to reach the required level of competence. Additional analysis was then performed to extract words from the interview that generate codes.

Step 2: Open Coding

The open coding process illustrated below, highlights how raw data collected were grouped into preliminary codes that informed the establishment of categories and themes that will guide this study.

Figure 1*Codes from the Interview*

I employed open coding by systematically reviewing the data to identify the terms most commonly used by participants. Key terms and phrases that arose during the interview process were identified and highlighted, and notes were taken of the recurring patterns and themes across responses. This iterative approach continued until data saturation was achieved, ensuring comprehensive coverage and reliability of the findings. I used Microsoft Word and Excel to cross-check, highlight, and accurately organize the most frequently expressed terms and phrases.

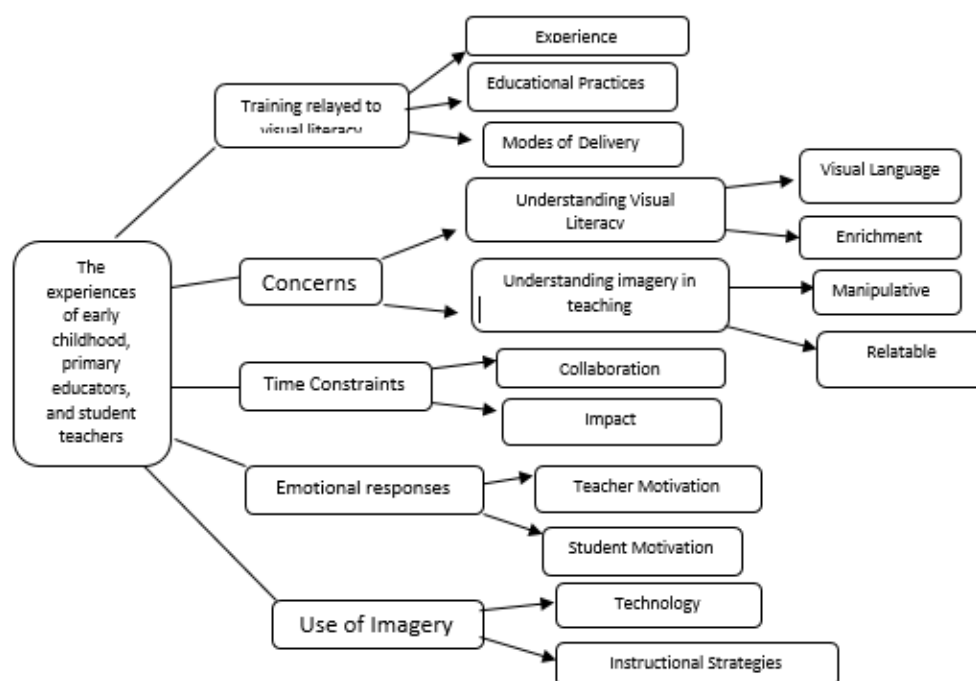
Step 3: Axial Coding

In the subsequent phase, I applied axial coding to organize the initial codes into categories, as seen in Figure 1. Axial coding was ideal for designing themes and

categories from the initial open code (Figure 2). This is done through established relationships, defining and analyzing themes, and reflecting suggestions of categories. Using axial coding, I could present a clearer understanding of its function and analyze the associated themes, thereby making the design more meaningful. I also conducted associated analytical activities to inform research designs.

Figure 2

Sample of Axial Coding



This process involved reviewing the initial codes and identifying relationships among them, enabling the grouping of similar codes. The axial codes were then analyzed to discover emerging themes within the data.

Step 4: Selective Coding and Thematic Analysis

The final phase involved selective coding, during which I evaluated the categories generated through the open and axial coding processes to refine the emerging themes. The core categories in this stage represented the significant themes that addressed the RQs. Based on the themes that emerged from the data analysis, conclusions were drawn.

Discrepant cases were examined in this qualitative study. Twelve participants, representing a variety of educational backgrounds, teaching experience, and years of service, volunteered. Of the fifteen individuals contacted, twelve responded positively and participated in Zoom interviews. Their responses to the interview questions provided rich, detailed data, which helped develop codes, themes, and categories. Notably, three discrepant cases surfaced from the data. As Erickson (2012) highlighted, analyzing discrepant cases can often lead to new insights and a deeper understanding. In this study, those cases were directly linked to both the interview responses and the RQs, enhancing the overall analysis and interpretation.

Evidence of Trustworthiness

As outlined in Chapter 3, establishing trustworthiness is essential in qualitative research, as it reinforces the reliability and validity of the study's conclusions and findings. This section outlined the methods employed to ensure trustworthiness in this research, specifically about the four criteria of credibility, transferability, dependability, and confirmability.

To clarify, participants engaged in member-checking during the data analysis phase, after initial data interpretation, participants were given summaries of their

responses to review. This process allowed them to verify the accuracy of the interpretations and offer feedback or corrections, ensuring that their experiences were accurately represented and reinforcing the credibility of the data. Transferability was addressed by providing detailed contextual descriptions and by including rich, thick data to assess the applicability of the findings. This descriptive approach, which supports transferability by providing sufficient information to evaluate the relevance of the findings in other settings, instills confidence in the study's transferability.

A clear audit trail was maintained to ensure reliability, documenting the research process and all decisions made throughout the study. This transparency in the research methodology demonstrated the study's progress and improved the ability to replicate the findings. Finally, confirmability was established by maintaining objectivity during analysis, minimizing researcher bias, and using reflexivity techniques. These involved critically examining personal biases and their potential influence on data interpretation, ensuring that the findings reflected participants' perspectives rather than the researcher's biases. By addressing these aspects, the study's trustworthiness was enhanced, providing a solid foundation for reliable, valid, and transferable conclusions.

Credibility

Merriam and Tisdell (2016) emphasize that credibility shows how well findings match reality. To establish credibility in this study, I made sure all participants met the selection criteria, specifically which they were educators from the public school system. After confirming their willingness to participate, teachers scheduled their interviews through emails and calls, and interviews were conducted via Zoom. To improve

accuracy, I used member checking by giving participants their interview transcripts to review, allowing them to verify or clarify their responses (Merriam & Tisdell, 2016). Additionally, peer debriefing was used by inviting a colleague with a Ph.D. to review parts of the raw data and evaluate the initial findings for credibility.

I kept detailed notes in a notebook to reduce personal bias and systematically organized data in a worksheet. Given this qualitative study's interview-only methodology, implementing credibility strategies was essential and contributed to a reliable representation of participants' experiences and perspectives.

Transferability

Transferability, the extent to which research can be applied to other settings (Patton, 2002), was addressed by providing comprehensive details on participant recruitment, interview scheduling, and data collection procedures. To enhance transferability, I supplied the teachers' interview questions and outlined the alignment between these and the overarching RQs. Descriptive quotes from participants were used to illustrate themes emerging from teachers' experiences and perceptions, thereby grounding the findings in participants' voices. Employing thick descriptions (Merriam & Tisdell, 2016) of the study's setting, participants, and data collection and analysis procedures further supported transferability, allowing readers to discern similarities across research sites and enhancing the study's external validity (Merriam & Tisdell, 2016).

Dependability

Dependability, defined as the ability to replicate research and achieve consistent results (Merriam & Tisdell, 2016), was demonstrated through this study's interview and participant journal data. To ensure dependability, participants reviewed and verified the data through member checking. I provided a detailed description of data collection procedures and the formation of codes and categories. Data was further organized by exporting it to a Microsoft Excel spreadsheet, where an audit trail was maintained to systematically track, sort, and analyze categories, codes, and quotes in alignment with the RQs. The process of theme formation and the treatment of discrepant data were also thoroughly documented. Reflection and annotation in a personal journal enabled ongoing examination of the data, reducing personal biases and assumptions.

Confirmability

Confirmability, which represents the objectivity of qualitative research (Merriam & Tisdell, 2015), was reinforced in this study through reflexivity and participant engagement. By relying on participants' perspectives about the concept, I aimed to minimize personal influence on the study. Member checking further enhanced confirmability, allowing participants to review and confirm interview data. Throughout the research process, I engaged in self-reflection to evaluate how the research affected me as a researcher, particularly as I considered teachers' integration of visual literacy in early childhood and primary education. I analyzed and documented assumptions and potential biases, particularly my views on the multimodal nature of visual imagery and visual

literacy, during data collection and analysis. This reflexive approach supported the objectivity and confirmability of the findings.

Results

In this section of the study, I will discuss the findings of this qualitative study in relation to the RQs, supported by evidence from the literature review. I start with the central RQ: “What are early childhood educators, primary education, and student teachers’ perceptions on integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?” For the first set of data I gathered, I focused on the interview questions, which yielded deep, rich data that enriched the study results. I discussed the inclusion of figures in the data analysis stage of the study, which facilitated the process from a systematic coding activity to a thematic approach. This approach was used to sort the codes into four themes: personal learning, teaching practices, advanced training, and future improvements. Direct quotes and summaries of responses to particular questions and situations were included to enrich and support the findings.

I presented each interview question to elicit reflections from early childhood educators, primary educators, and student teachers regarding their experiences. The questions addressed various aspects, including the use of imagery, knowledge base, concerns, time constraints, emotional responses, and the extent of their training related to visual literacy. Additionally, the responses were coded to capture educators’ expectations, years of teaching experience at their respective levels, years of teaching

with technology, collaboration practices, and engagement in self-motivated learning (see Figure 1 and Figure 2).

The data were also examined using the CBAM/SoC framework to evaluate participants' concern levels regarding the main RQ and its SQs. I documented the participants' responses in a spreadsheet and applied a shared vocabulary to common themes, including visual literacy strategies, teachers' challenges, and the support needed for successful implementation. The main themes identified through the CBAM/ SoC included teachers' experiences, benefits, and attitudes.

I deemed it necessary to present a table discussing the CBAM/SoC, as it serves as the conceptual framework for this study. This framework provides a pertinent balance to the RQs, as the SoC is an effective tool for preparing teachers for their careers in education (Hall, 1974). I analyzed the data using interview codes, identified themes and emerging categories, and also applied the CBAM/ SoC model, which reinforced the relevant findings from the interviews.

In my discussion, I examined the interview results and the CBAM SoC findings separately. However, in the final analysis, I integrated these findings to validate the RQ, specifically whether Cavanagh et al. (2018) were correct in suggesting that incorporating training exercises increases motivation and communication among peers across disciplines.

Table 3 displays participants' responses to their feelings about using visual images in teaching, which was the first interview question.

Table 3*Participants' Feelings about Using Visual Images in Teaching*

Responses to Question 1 - Explain how you feel about using visual images in teaching your lessons.	Categories
Visual images were perceived as tools that ease the teaching process and make complex concepts easier to understand.	Facilitation
Participants noted that visuals enriched the content, adding depth and variety to the lessons.	Enrichment
Using images enhances students' overall learning experience, making lessons more engaging.	Learning Experience
Visuals helped make the material more relatable to students, connecting abstract ideas to their everyday experiences.	Relatability
Visuals improved comprehension, allowing students to grasp complex concepts quickly.	Understandability
Participants mentioned that images could be manipulated or adapted to suit different learning styles and contexts.	Manipulatives
Visual images fostered a more collaborative environment, encouraging students' interaction and participation.	Collaboration

For interview question 1 (IQ1), which focused on feelings about using visual images in teaching a lesson, I documented the participants' responses in a table of words and phrases. After grouping similar codes and themes, several categories emerged: enrichment, learning experiences, reliability, understandability, manipulatives, and collaboration. Early childhood educators, primary educators, and student teachers recognized the importance of visual literacy in the lessons they teach. They grapple with the challenge of translating words into drawings, which requires skills in reading, writing, and creating visuals, as noted by Benoit (2019), Forsyth (2023), Hartsell (2021), and Korona and Hathaway (2021). These results suggest that teachers believe visual images play a multifaceted role in enhancing the teaching and learning process.

For interview question 2 (IQ2), which explored the teachers' use of visual literacy along with visual images to enhance students' learning experiences, I grouped the identified codes into themes and categories, including student motivation. The categories that evolved from the grouping of themes align with the point made by Eutsler (2021),

who noted that the lack of emphasis on visual literacy stems from teacher preparation. She observed the importance of training pre-service early childhood education teachers to understand and utilize designs used in teaching I asked the participants about their feelings regarding the use of visual literacy to enhance student learning experiences, and the results are summarized as presented in Table 4.

Table 4

Participants' Views about Using Visual Literacy to Enhance Students' Learning Experiences.

Responses to Question 2: How do you feel about using visual literacy to enhance the students' learning experiences?	Categories
Participants noted that visual literacy enhanced student engagement and motivation, making learning more engaging and appealing.	Student Motivation
Visual literacy was a powerful instructional strategy that improved lesson delivery and made content more accessible.	Instructional Strategies.
Participants noted that the effectiveness of visual literacy was often influenced by the educator's familiarity and experience with implementing it.	Educators' Experience
Visual literacy fostered student collaboration, encouraging peer-to-peer interaction and active participation in learning activities.	Collaboration
Effective integration of visual literacy requires careful planning. Educators tailor visuals to fit their students' specific learning objectives and needs.	Instructional Planning
Teachers' enthusiasm for visual literacy was key to its successful implementation, as their excitement translated into greater student engagement. Encouraging students' interaction and participation.	Educator Enthusiasm

These results suggest that visual literacy influences students' learning experiences, driven by the strategic use of visual elements, collaboration, and educators' enthusiasm.

For I Q3, which involves teaching, addressing the challenges of incorporating visual literacy into every lesson. The codes from the interview question were grouped under themes, including educators' experiences, collaboration, instructional planning, and educators' enthusiasm. Yates et al. (2020) suggested that for the teachers to embrace visual literacy and create a vibrant learning environment, the pedagogical practices to be implemented in the integration process should be designed. The team also reinforced the

benefits of integrating lessons in social and emotional skills, mathematics, and motor skills with imagery and technology. This is the nature of the change the MOEYI are hoping to see in the Jamaican classroom, as stated by Dr. Hamilton Flowers (R. Williams, 2022), when she said teachers must be creative and innovative. The findings from using the CBAM SoC identified the areas of weakness. Using this structure, I was able to tap into the source of the challenge that teachers experience in integrating visual literacy in the subjects they teach.

In early childhood and primary education, teachers and student teachers are encouraged to incorporate and integrate visual literacy into the strategic planning and implementation of lessons across multiple subject areas (Bodén et al., 2023; Colandene, 2023). This integration requires not only an understanding of what visual literacy entails but also deliberate exposure to its practical applications within the teaching and learning process. The results of this question indicate that while visual literacy has potential, its integration into every lesson is hindered by various factors, including educator readiness, planning demands, and access to professional development workshops and programs.

This is supported by Pellerin and Lavoie (2019), which highlights the need for teachers to receive visual literacy training to gain practical experience. Through this illustration practice, the teachers who say they have to rely on self-training will be able to appreciate the multimodal functions of visual literacy in the lessons they teach (see Table 5). Table 5 presents the challenges participants reported experiencing when incorporating visual literacy in teaching every lesson and categorizing those responses.

Table 5*Challenges Experienced in Incorporating Visual Literacy in Every Lesson*

Response to Question 3: What challenges do you have in incorporating visual literacy in teaching every lesson?	Categories
Participants shared that varying experience levels in visual literacy impacted their ability to integrate it effectively into lessons.	Educators' Experiences
Some educators identified challenges in fostering collaboration with colleagues and students when incorporating visual literacy due to differing familiarity and comfort with visual tools.	Collaboration
Participants noted that planning each lesson with visual literacy elements required additional time and effort, making it challenging to incorporate them consistently.	Instructional Planning
Educators struggled to select the appropriate visual language or images to align appropriate visual language and images that aligned with the lesson's objectives and students' understanding.	Selection of Visual Language
Limited access to professional development opportunities in visual literacy was highlighted as a significant barrier.	Professional Development
Some educators voiced concerns about the effectiveness and appropriateness of visual literacy for every subject or lesson type.	Educator concerns
Without formal training, educators often relied on self-training, which posed challenges in skill development and confidence in using visual literacy effectively.	Self-Training

For Q4, teachers raised concerns about including visuals in every lesson. The main themes identified were educators' experiences, student motivation, learning experiences, types of visuals, technology, and collaboration. Researchers have highlighted the growing need for students to learn how to read, interpret, and act on digital texts. In today's digital world, gaining visual literacy has become an essential priority. These skills are increasingly influencing the structure and requirements of education. However, there is limited research on teacher preparation programs that specifically focus on integrating visual literacy into teaching, revealing a significant gap in the literature.

The Patterson Report (The Jamaica Education Transformation Commission, 2021) further underscored this need by recommending the exploration of "digital

playground” pedagogical strategies, where pre-primary children learn to encode and decode, introducing early STEAM education and supporting social and emotional learning. These results suggest that while visual literacy is beneficial, educators have reservations about its consistent use in every lesson. These concerns stem from issues of appropriateness, student motivation, and technological as well as collaborative demands. To confirm the findings and provide opportunities for practicing newly acquired skills, I used the CBAM SoC concept. This decision confirms the report of Nelius and Matthiesen (2019) and Zapata (2018), who used the concept and implemented knowledge of visual language. I selected this concept because it also provides an online platform for teacher-student interaction. Student teachers learn to decode and encode images for each subject area as they interact and reflect. Table 6 shows the participants’ responses when they were also asked about their reservations about incorporating visuals in every lesson.

Table 6

Reservations about Incorporating Visuals into Every Lesson

Response to Question 4: What are your reservations regarding incorporating visuals into every lesson you teach?	Categories
Teachers with varying experience levels expressed reservations, mainly those less familiar with visual literacy, who felt less confident using it effectively across all lessons. While visual literacy can enhance engagement, some educators were unsure if it would consistently motivate all students, especially in subjects where visuals may seem less relevant. Concerns were raised about the practicality and appropriateness of incorporating visual literacy in every lesson, especially regarding content literacy or abstract topics.	Educators’ Experiences Student Motivation Learning Experience
Participants questioned the effectiveness of different visual modes (e.g., static images, videos, and infographics) for specific subjects, worrying that inappropriate visual choices might confuse rather than clarify.	Mode of Visuals
Access to adequate technology was another reservation, as teachers noted that reliable digital tools are crucial for using visual literacy effectively, and technology limitations could hinder their ability to integrate it regularly.	Technology
Some educators were hesitant due to the additional collaboration required, both among colleagues and with students, to ensure that visuals were used meaningfully and effectively in lesson plans.	Collaboration

For IQ5, which involved the teachers' descriptions of the outcomes of the lessons they teach, I used the following themes: educators' experience, educators' concerns, student motivation, years of teaching with visual literacy, and instructional planning. Table 7 shows participants' reports regarding the various outcomes of incorporating visuals in their lessons.

Table 7

Outcomes of Incorporating Visuals in Lessons

Responses to Question 5: Describe the outcome.	Themes
Teachers with greater experience in visual literacy reported more favorable outcomes, suggesting that familiarity with visual strategies enhanced lesson effectiveness.	Educators' Experience
Some participants expressed concerns about whether visual literacy results in consistent learning outcomes, especially in subjects or topics where visuals might not be as quickly applicable.	Educators' Concerns
Visual imagery was generally reported to increase student motivation and engagement, with students being more enthusiastic about lessons incorporating visual elements.	Student Motivation
Educators with more years of experience using visual literacy tended to report smoother integration and better student outcomes, suggesting that long-term practice plays a role in successful implementation.	Years of Teaching with Visual Literacy
Effective use of visual literacy requires careful instructional planning. Teachers noted that planning lessons around visuals led to more structured and engaging learning experiences, though it also required more effort.	Instructional Planning

Bedi and Webb (2020) noted that the interdisciplinary nature of visual literacy requires a multimodal platform to facilitate the exploration of new knowledge. My analysis of the teaching and learning process revealed that teachers' years of experience significantly influenced their ability to assess and respond to the diverse needs of student teachers. Dr. Hamilton Flowers urged educators to tailor learning to children's individual needs (R. Williams, 2022). However, the Ministry of Education, Youth and Information (MOEYI) has yet to provide training for teachers in the field, many of whom lack experience and have not benefited from workshops conducted over the years.

Experienced educators are better equipped to recognize variations in skill levels across disciplines, understand individual cognitive abilities, and observe how learners interact with their learning environments. X. Wang et al. (2020) pointed out that integrating the learning experience can be enhanced through collaborative work. This idea was also supported by Roofe (2021), who suggested that teachers should work in alignment with the NSC.

Additionally, I found that a teacher's level of experience enhanced their ability to customize instructional strategies, offer meaningful feedback, and encourage reflective practice. This ultimately leads to more effective and responsive teaching and learning outcomes. Roofe (2021) also noted that the lack of literature on specific training courses for teachers and student teachers to learn and apply new assessment strategies for the NSC may be due to policymakers' limited awareness.

These findings indicate that integrating visual literacy into lessons can have positive outcomes, particularly when teachers have experience and dedicate time to thoughtful planning. However, concerns remain regarding its consistent effectiveness across various subjects and lesson types.

For IQ6, the educators shared their experiences, which included the themes instructional planning, student motivation, educators' concerns, professional development, and choice of visuals. In Table 8, participants explain the objectives for consistently incorporating visuals in their lessons which are current emphasis of STEM (L. Yan et al., 2023). It is also a challenge for teachers, as required by Dr. Flowers, to be creative and innovative in their delivery (Powell, 2023).

Table 8*Objectives for Incorporating Visuals into Every Lesson*

Responses to Question 6: Explain the objectives for consistently incorporating visuals into all your lessons	Themes
Teachers with more experience using visual literacy were likelier to see it as a valuable tool for achieving lesson objectives, emphasizing its role in enhancing comprehension and engagement.	Educators' Experience
Participants noted that integrating visual literacy into every lesson required careful planning and instruction. This involved ensuring that the chosen visuals aligned with learning goals and enhanced understanding.	Instructional Planning
Visual literacy was seen as a means to consistently boost students' motivation, making lessons more dynamic and interactive, thereby fostering greater student interest and participation.	Student Motivation
Some educators expressed concerns about the practicality of consistently incorporating visual literacy, questioning its effectiveness in all lesson contexts and for all students.	Educator's Concerns
The need for ongoing professional development was identified as crucial, with teachers emphasizing the importance of training to develop the skills necessary for effectively selecting and using visuals in diverse lessons.	Professional Development
The appropriate choice of visuals was vital to achieving the intended learning outcomes, with participants noting that poorly selected visuals could hinder rather than support student understanding.	Choice of Visuals

From the interview, I gathered that integration is a challenge for most teachers, except those with sufficient experience. This confirms Jaipal-Jamani and Mayne's (2020) report that the STEM /TVET integration is a challenge for educators who have limited experience, confidence, practice, and self-efficacy with STEM pedagogy, which is the path of the NSC. The researchers strongly suggest that all teachers, including student teachers, receive professional development training to be better able to deliver the required instructions. These results also confirm that while educators are cognizant of the value of consistently incorporating visual literacy into their lessons, the success of the NSC program depends on thoughtful planning, experience, professional development, and careful selection of visuals. Table 8 reveals that teachers continue to have concerns about the universal applicability of visual literacy across diverse teaching contexts.

Themes that Emerged from the Data Relating to Integration of Visual Literacy in

Lessons

In analyzing the data, several key themes related to integrating visual literacy in teaching practices to improve instructional effectiveness and student learning outcomes were highlighted (Table 9). These themes include educators' attitudes, understanding of visual literacy, incorporating imagery in teaching, the value of imagery, the benefits of visual literacy, effective instructional planning, collaboration among educators, and ongoing professional development. I examined the themes through the new awareness of education for sustainable development (Alam, 2022; Menon et al., 2020), and the current emphasis on visual literacy to enhance communication (Domínguez Romero & Bobkina, 2021; Filho et al., 2024; Huilcapi-Collantes et al., 2020; D. S. Thompson & Beene, 2020) and confirmed that there is an increasing demand for training institutions to prepare student teachers in the new environment for application in the education system. Table 9 presents the data gathered regarding teachers integrating visual literacy into their lessons. The table illustrates the themes that were derived from interpreting and grouping the data gathered that adequately capture the essence of participants' experiences as they emerge the concepts.

Table 9*Themes Derived from the Data*

Response	Theme
Teachers' perceptions and openness to incorporate visual literacy significantly impact its successful implementation across the curriculum.	Educators' Attitudes
A fundamental understanding of visual literacy among educators is critical for its effective integration into teaching practices.	Understanding Visual Literacy
The strategic use of imagery in classroom instruction emerged as a central theme, reflecting its potential to enhance student engagement and comprehension.	Strategic incorporation of imagery in teaching
Teachers identified the dual benefits of imagery as a pedagogical tool to support students' broader cognitive and critical thinking skills.	Value of Imagery
The role of visual language in fostering communication, creativity, and conceptual understanding was recognized as a vital aspect of visual literacy.	Advantages of Visual Literacy
Thoughtful lesson design and instructional strategies are essential to integrate visual literacy into educational practices seamlessly.	Effective Instructional Planning
Collaborative efforts among teachers were seen as instrumental in sharing resources, strategies, and best practices for vital literacy integration.	Collaboration Among Educators
Continuous learning opportunities and professional development were critical for equipping educators with the skills and confidence to incorporate visual literacy effectively.	Ongoing Professional Development

These themes highlight the multifaceted approach needed to embed visual literacy into teaching, stressing the importance of individual efforts and systemic change, and reaffirming Magolda et al., (2023) findings that emphasize the value of visual methods to boost student growth. Regarding the central RQ, examined early childhood educators, primary education teachers, and student teachers' perceptions of integrating, assessing, using, and evaluating visuals across various subjects in the curriculum, the codes identified included modes of delivery, student motivation, instructional planning, and the role of visual literacy, educators' attitudes, benefits among teachers, as well as educators' knowledge and assessment methods. These suggest that participants advocate integrating visual methods (Y. Wang et al., 2022), aligning with the researchers' similar tone on innovative educational strategies. These factors contributed to the development of relevant themes.

Several codes were identified for SQ1, which explored early childhood educators, primary educators, and student teachers' perceptions of integrating visuals across the curriculum. These include modifications to their instructional plans, educators' experiences, emotions, professional development opportunities, methods of delivery, student motivation, self-directed training in visual integration, expectations for implementation, training specifically focused on visual literacy, and overall educator concerns. According to Younis Masoud Mohammed & Yaqub (2024), these changes will greatly impact their academic future. As I examined these factors, I noticed a strong focus on the complexities educators face when incorporating visual literacy into their teaching practices across the curriculum, which highlights the theme of challenges.

For SQ2, which examined the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods, I applied the findings of Costa (2019) emphasizing relevant change to validate each learner's experience which would encompass the participants' responses which include educators' experiences, concerns, emotions, and professional development. The training is specifically designed for early childhood educators, both in initial training and retraining, focusing on the collaborative use of imagery, visual literacy, and technology to enhance student motivation. These themes underscore the role of targeted professional development in fostering effective integration of visual literacy in early education.

Several key codes and themes were identified for SQ3, which examined the insights the early childhood educators, primary educators, and student teachers offer

regarding using visual imagery and visual language in the subjects they teach. These include the *mode of delivery, educators' experiences, professional development, training geared explicitly towards integrating visual literacy and imagery, instructional planning, self-motivated technological training, emotions, and collaboration*. These themes highlight the comprehensive preparation educators need to effectively incorporate visual literacy in their teaching practices, fostering student engagement and learning across different subjects.

For example, one theme identified in addressing SQ1 was the allocation of adequate time. Analyzing this theme, I referred to a scenario described by Chaka and Govender (2020) and Wolf-Branigin and Edmondson (2021) in which students preferred the teaching and learning experiences that allow them to be active participants. This can be time-consuming, considering the structured timetable the educators must follow. These are examples of school barriers. Reeve and Cheon (2021) noted that teachers need intrinsic and extrinsic motivation to overcome. The need for sufficient time to be allocated to enable teachers to integrate visual literacy content with the subjects taught effectively continues. Regarding SQ2, significant themes included limited staff training, inadequate technology to facilitate teacher-student interaction, and limited resources. Based on these themes, I concluded that the Ministry of Education faces considerable resource constraints in addressing the lack of innovation and creativity at the lower primary and early childhood education levels. Additionally, it was noted that not all student teachers are exposed to the visual arts, which hinders their interaction with visual language.

Analysis of Research Questions and Emerging Themes

The following sections provide a detailed analysis of the themes identified in response to the main RQ and the three SQs. The themes shown in Table 10 are supported by selected conversational extracts and are organized according to the study's RQs and SQs for thorough exploration.

In response to the central RQ about the early Childhood educators', primary educators', and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visual elements across a diverse range of subjects within the curriculum, data collected from educators at two schools and one teacher training institution were rigorously analyzed. I found that the teachers with less experience compared to the teachers with more years of experience were very similar. Most of the less experienced teachers felt they had not received sufficient training to integrate innovative ideas and the use of visual literacy while in teacher training and were not prepared for today's innovative classroom. The less experienced teachers agreed with the more experienced teachers that there needs to be an improvement in training at a higher level to facilitate upgrading teachers for the challenges in the classrooms. This analysis yielded significant themes, as seen in Table 10.

Table 10*Themes from the RQs*

RQs	Themes
Central RQ	Teacher Perception
What are early childhood educators, primary educators, and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?	Teachers' Knowledge
SQ 1	Pedagogy
What are early childhood educators, primary educators, and student teachers' perceptions of the integration of visuals across the curriculum?	Educational Practices
SQ 23	Personal Development
What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?	Challenges
SQ 3	Professional development
What insights do early childhood educators, primary educators, and student teachers offer regarding using visual imagery and visual language in the subjects they teach?	Collaborative efforts
	Proposed future improvements

The views from the themes that emerged from the interview questions were categorized to identify a common theme. The identified themes adequately addressed the concerns raised by the RQ and SQs. These responses, based on further analysis of the codes, provide additional insights into the theme and its impact on the RQ. As shown in this core question, the four main themes that arose each highlighted key aspects for understanding perceptions. Together, these themes offer a framework for examining how visuals enhance teaching and learning throughout the curriculum. Figure 3 demonstrates how real-world experiences shape perceptions, the advantages of visuals, and attitudes toward their use. It displays the themes and sub-themes necessary to ensure a complete understanding.

Figure 3

RQ with Related Themes and Sub-Themes

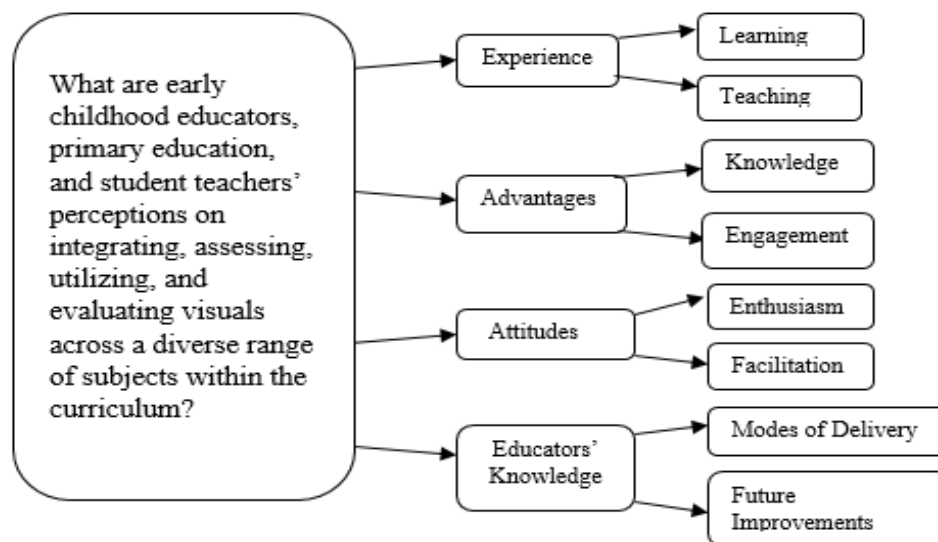
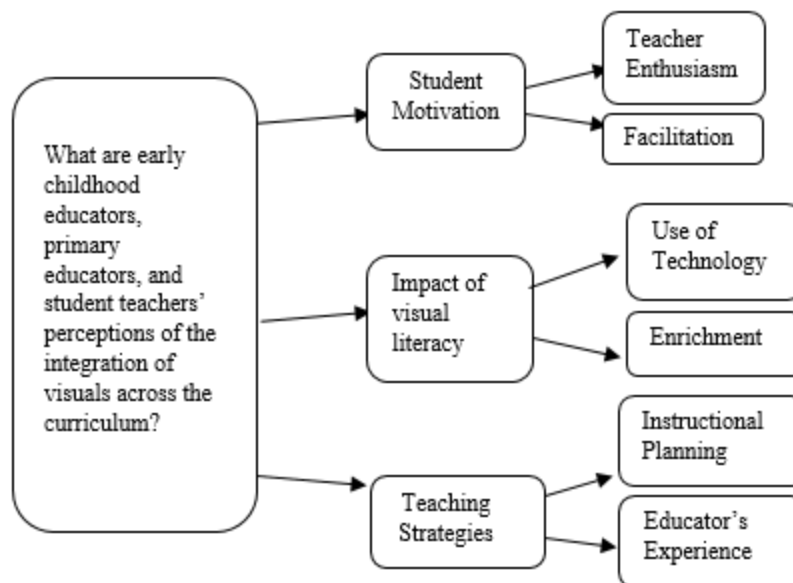


Figure 4 illustrates the interconnectedness of SQ one, “What are the early childhood educators, primary educators, and student teachers’ perceptions of visuals across the curriculum?” and the three main themes: student motivation, the impact of visual literacy, and teaching strategies. It highlights how visuals in the curriculum also shape teaching strategies, fostering more dynamic and effective classroom practices. Understanding these relationships helps uncover the multifaceted perceptions of educators and student teachers, offering insights into the integration of visuals across diverse subjects and the supporting skills, technological skills, and devices presented in Figure 4 as sub-themes.

Figure 4

SQ1 with Related Themes and Sub-themes



The themes that supported SQ 1 were student motivation, the impact of visual literacy, and teaching strategies. As seen in Figure 4, sub-themes for depth of information and clarity further support the three themes generated from the codes

Figure 5 visually displays the relationship between research SQ 2, its three themes, and the related sub-themes. This figure illustrates the impact of visual literacy training on teaching methods, encouraging professional growth, leveraging prior experience, and addressing educators' concerns about using visual language in the curriculum's expected student learning outcomes. The generated sub-themes, such as technology, enrichment, and collaboration, provide a detailed understanding of how visual literacy training influences educators' instructional strategies and their ability to connect with students

effectively. By examining these interconnected elements, the research realizes practical insights to help educators incorporate visual literacy into their teaching practices.

Figure 5

SQ2 with Themes and Related Sub-Themes

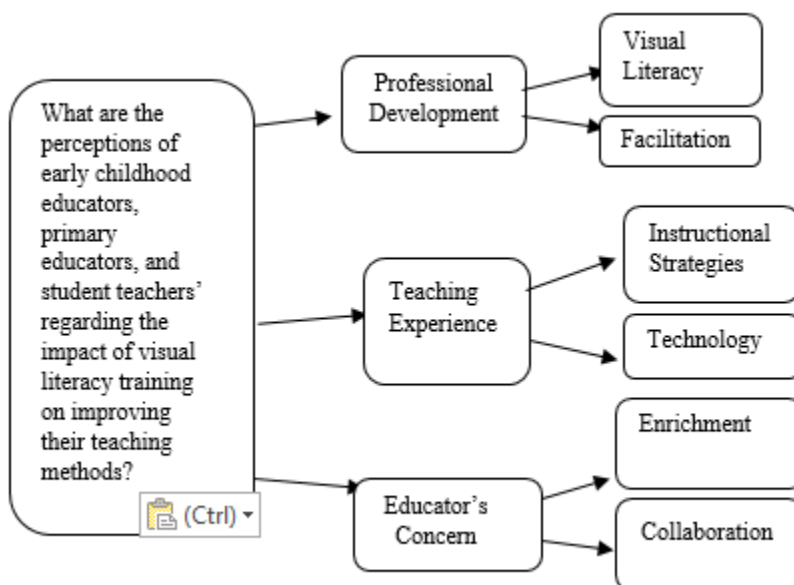
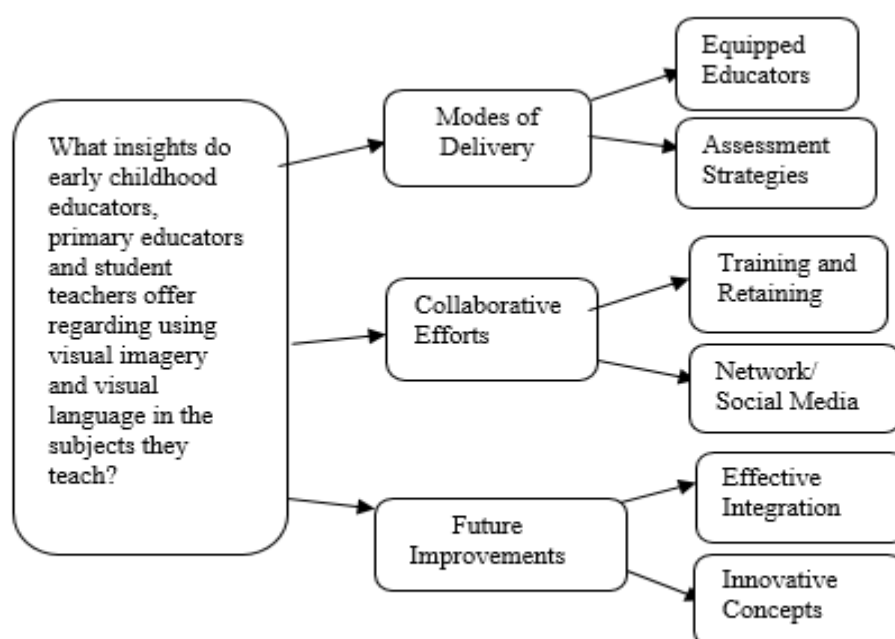


Figure 6 illustrates SQ 3, the three main themes, and the supporting sub-themes that help answer the RQ: “What insights do early childhood educators, primary educators, and student teachers provide regarding the use of imagery and visual language in their teaching subjects?” It shows how educators see visual imagery and visual language as tools to enhance their teaching methods. Modes of delivery are vital for standardizing best practices among educators. It was found that an authoritative body would be most effective in establishing this standardization. Providing educators with the necessary skills and strategies, supported by effective assessment methods, is crucial. Collaborative efforts emphasize the importance of teamwork, shared training programs, and the use of

networks and social media for resource sharing. The effective integration and application of innovative ideas to meet evolving educational needs demonstrate a strong commitment to future improvements.

Figure 6

SQ3 with Themes and Related Themes



Discrepant Cases

Three discrepant cases emerged in the analysis of participant responses in this study. The first discrepant case concerned interview question 7 (IQ7) and RQ 1 (RQ1), which examined teachers' perceptions of the requirements for incorporating visual images into lessons. While most participants agreed on the advantages, Participant 11 (P11) uniquely emphasized that projected images on the classroom board could serve as a

virtual reminder for students. According to P11, this strategy would reduce the need for teachers to repeatedly reinforce concepts, thereby saving instructional time.

The second discrepant case arose from responses to SQ2 and Interview Question 3 (IQ3), both of which focused on integrating visuals across the curriculum. When asked about challenges associated with visual integration, P1 stated that while some students would have prior foundational knowledge and others would not, this would not pose a challenge, as teaching could begin from “scratch.” This perspective contrasted sharply with P1’s previous admission of limited familiarity with visual literacy concepts and diverged from the responses of the other 11 participants, who generally acknowledged potential integration challenges.

The third discrepant case involved SQ3 and IQ8, which explored how visual images were used in lessons. P2, a grade one teacher, asserted that images hold more importance than words, given that children at this level cannot read. However, this approach differs from the established pedagogical practices for grade one, where sight words are integrated to support literacy development

Central Research Question, Categories, and Themes

In this section, I will discuss the findings of the study based on the central RQ: “What are early childhood educators, primary education teachers, and student teachers’ perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum?” From the data I collected, I used patterned coding to identify themes within the data (Creswell, 2013). Moving into the decision-making phase, I observed emerging trends, arranged the codes into themes, and took

detailed notes to ensure the correct codes were meaningfully assigned to each theme. I revisited the responses from each participant related to the questions, along with the initial list of codes and phrases I identified, to justify the next step. My final step was to organize the themes into categories. I arranged the themes into categories, as I defined “are broad units of information that consist of several codes aggregated to form a common idea” (Creswell, 2013, p. 186). One category derived from the central RQ was teachers’ experiences, from which the four themes in Figure 7 were generated. These themes relate to integrating visual literacy into teaching practices to improve instructional effectiveness and promote better assessment and evaluation skills across the curriculum, along with subthemes related to the processes that may be used. I used direct quotes and summarized participants’ responses to support the findings of the data analysis.

Figure 7

Categories Emerging from Themes

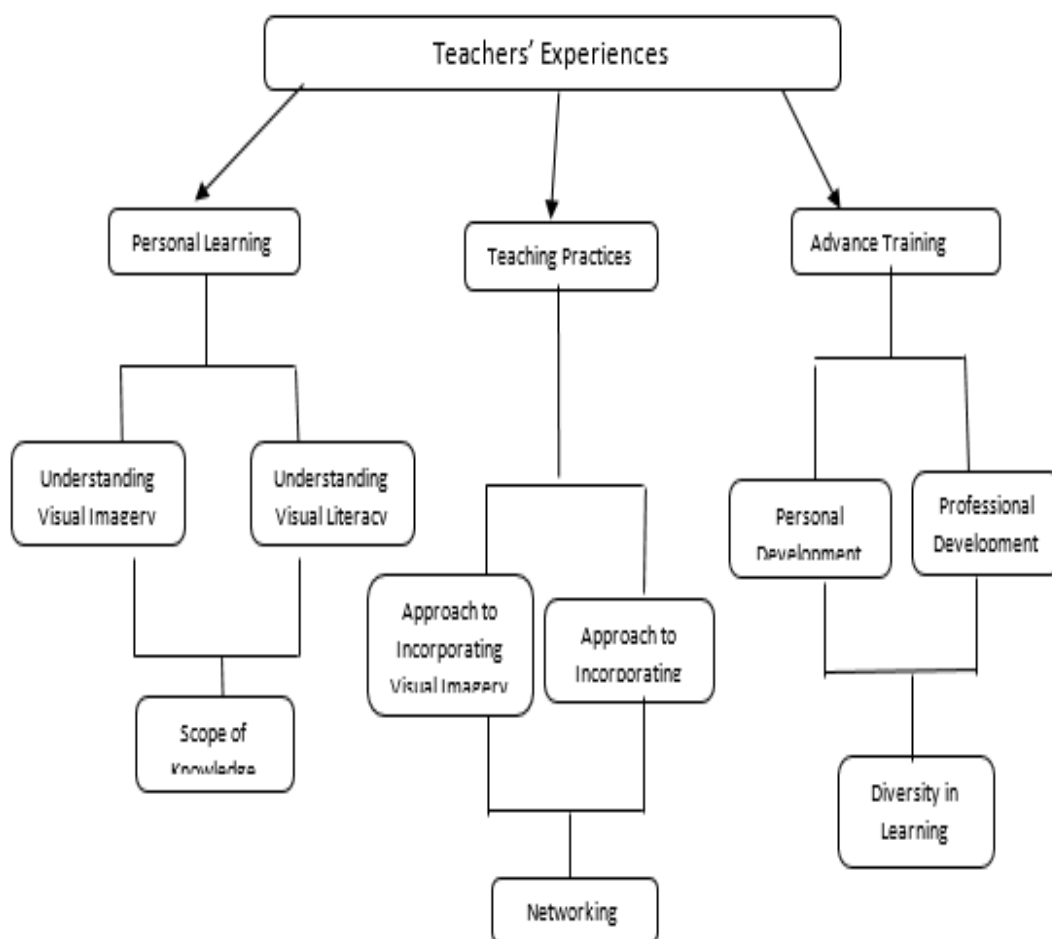
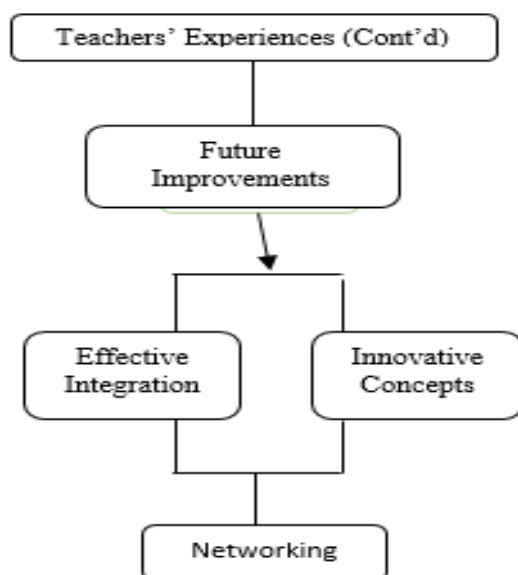


Figure 8

Categories Emerging from Themes cont'd



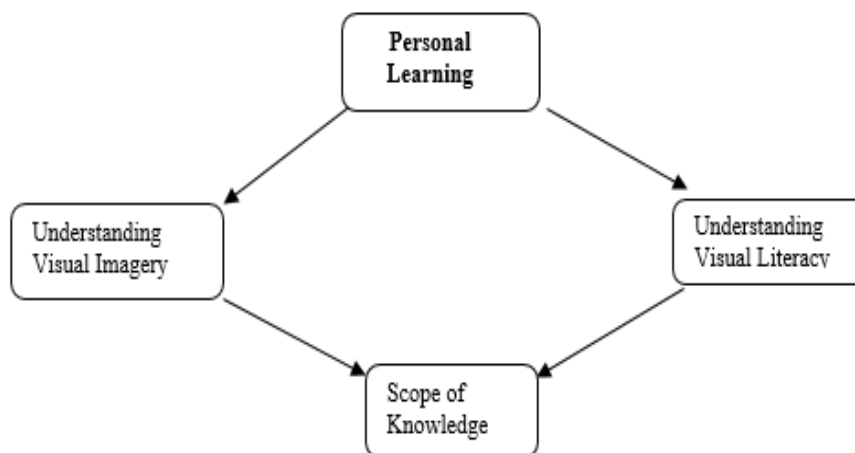
Theme 1: Personal Learning

I started the interviews following the interview guide. I read “I will ask you the following questions about your experiences integrating visual imagery into your lessons across the curriculum.” I asked the first set of questions aligned to expand on the broad theme of teachers’ experiences, and the initial theme was personal learning. The reactions to the mention of visual literacy were intriguing. Some teachers noted that they conducted research after receiving the invitation letter and provided feedback on the use of visual imagery in their lessons. Some teachers mentioned that they had never heard the term visual literacy. The teachers realized they would need to consult a variety of sources and resources to understand what it meant. Based on the context, each participant explained

their understanding of visual literacy, including what they thought it meant, how they applied it, and the scope of knowledge required for the job. (See Figure 8).

Figure 9

Central RQ Theme 1 with Sub-themes



There are several ways in which teachers' learning influences their ability to incorporate visual imagery into lessons effectively. P3 noted, "I believe it enhances the whole learning experience. Children naturally gravitate toward what they see, and many are visual learners. Using visuals helps them understand lessons and broadens their horizons, making life appear more colorful and engaging. I enjoy using visuals because they enable me to achieve my target goals more effectively. It boosts my confidence and improves my teaching practices with the kids." Shepherd (2020) identified a key challenge in fostering a generation of innovators necessary for comprehensive art education across the region. When sharing their views on integrating visual literacy into lessons, P6, an in-service teacher and the only educator teaching online, provided insights into how visual literacy can enhance learning in a digital environment, a concept

supported by C. Jones' (2010) network learning concept which noted that to encode and decode images using the integrated approach knowledge in the merger of activities and technology in the learning environment is important.. P6 shared: "I feel great using it because, for some students, visuals online bring lessons to life. Visual literacy encourages them to think critically. For instance, presenting a picture and asking, 'Explain what is happening here,' helps develop their literacy, thinking skills, and critical thinking abilities."

Engaging and Retaining Students with Visuals. Visual tools are essential for capturing and maintaining students' attention, making learning more engaging and accessible in different classroom environments. I asked the participants about their reservations regarding incorporating visual images in the lessons they teach, and P1 highlighted how visuals stimulate and engage the children. "Using visual images is very important; it is one of the main ways to engage children. I always remember things better when I see them, so I think incorporating visuals in lessons is essential." Shepherd (2020) noted that not all teachers associate creativity with problem-solving and thinking beyond traditional expectations. This remark was made against the background that some teachers think not all teachers are creative (Ata-Akturk & Sevimli-Çelik, 2023; Carstensen & Klusmann, 2021). P8 echoed this sentiment, emphasizing the importance of maintaining young children's interest:

We cannot just talk to them; that alone will not keep their attention. Including something for them to see captures their focus and reinforces what you are teaching. It also benefits learners who may struggle with purely auditory

information. P8 has no claim on her creativity but supports the inclusion of images in her lessons to maintain focus and reinforce learning.

At the same time, P11 reflected on using visuals in a virtual format, projecting static images on a classroom board instead of using slides. She observed, “This approach kept students focused on the main image or chart while enabling me to highlight related aspects. It was highly effective in maintaining their attention.”

This format, used by P11, is a form of storyboard effect used by some teachers. Araya (2023), Almusaed et al. (2023), and Jing et al. (2023) regarded this as a contrast in teaching strategies and a considerable challenge in the use of essential elements in the learning environment.

Visuals as a Tool for Inclusion and Professional Growth. Incorporating visuals fosters inclusive learning environments and inspires educators to seek professional development opportunities that enhance their teaching practices. P12 expressed enthusiasm about incorporating visuals across the curriculum, stressing the need for training to support herself and her colleagues. She noted: “Visuals foster inclusion by enabling all students to participate actively, regardless of their learning pace. This approach ensures no student is left out, creating a participatory and supportive classroom environment.” The point raised by P12 regarding the need for training, highlights the need for educational institutions to reevaluate their offerings, with the option to facilitate and encourage creative learning and teaching practices, as suggested by Araya (2023), Almusaed et al. (2023), and Jing et al. (2023).

P1 is one person who said she was inspired by the interview and reflected on how the discussion awakened her curiosity about visual literacy: “This new concept has made me want to learn more. Gaining deeper knowledge will enhance my professional language and teaching methods.”

Other participants, including P5, P8, P10, and P11, expressed similar interests, inquiring about opportunities for training in visual literacy and its integration into their practice. Shepherd (2020) cited a report from the Caribbean Development Bank on a workshop convened in the Caribbean region for teachers and students that dealt with three fundamentals: cultivating a creative economy, reinforcing cultural identity, and nurturing education and imagination. She warned that if this is not revisited, the Caribbean could be the poorest region by 2050. This is a wake-up call for educational institutions to incorporate training programs in visual literacy and visual imaging into their curriculum.

Creativity in Lesson Design. Integrating visuals and interactive activities inspires educators, who motivate the students through enthusiasm and facilitation. The educators reimagined traditional teaching methods through technology, fostering student enrichment and demonstrating the impact of visual literacy. The educators expressed enthusiasm in their instructional planning, incorporating their experiences and creative and professional growth P2 shared her journey of personal learning, describing how integrating visuals and interactive activities like rhythm exercises and crafting maracas transformed her teaching: “Compared to traditional ‘chalk and talk’ methods, these

activities engage students more and allow me to explore my creativity in lesson planning. It is rewarding for both my students and me.”

The participants’ reflections illuminated how visual literacy fosters student engagement, professional growth, and creative exploration, transforming teaching into a dynamic, inclusive, and deeply personal learning a concept of STEAM where, according to Mejias et al. (2021), Belbase et al., (2022), and Razi and Zhou (2022), incorporating the arts is a critical element in learning across the curriculum. P6, an in-service teacher and the only educator teaching online, provided insights into how visual literacy can strengthen learning in a digital environment.

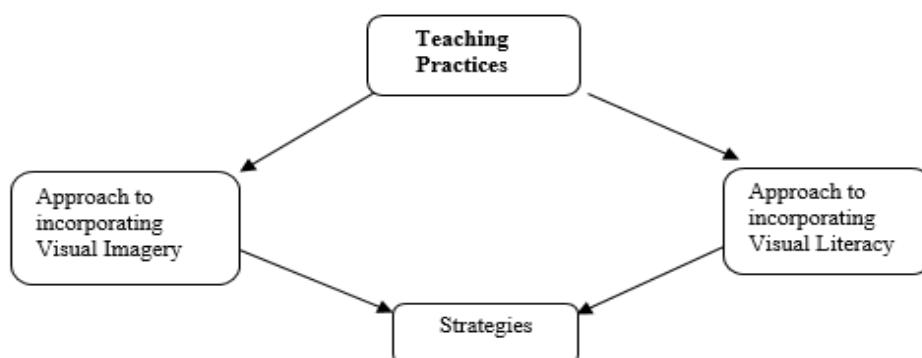
I feel great using it because, for some students, online visuals make lessons more engaging. Visual literacy encourages them to think critically. For example, presenting a picture and asking, explain what is happening here,’ helps develop their literacy, thinking, and critical thinking skills.

Theme 2: Teaching Practices

Continuous learning opportunities and teaching practices emerged as critical factors in equipping educators with the skills and confidence to incorporate visual literacy into their teaching practices effectively.

Figure 10

SQL: Theme 2 and Subthemes



Participants unanimously acknowledged the transformative impact of using visual images in lessons, describing them as “game-changers” for student engagement and comprehension. P4 described the situation in this way: “Integrating visuals into my primary-level lessons deeply engaged my students, making abstract concepts more tangible and accessible.” Similarly: P6 reflected on the motivational power of visual aids:

I have noticed that when I use images, students are more motivated and actively participate in discussions. It has been beneficial in meeting the NSC expectations, where students must demonstrate a strong understanding of content. I have also felt that visuals make the lessons more innovative, keeping me excited about teaching.

P10 highlighted the role of visual aids in early primary education, stating:

Using visuals in my teaching has transformed how students interact with the material. Students, especially those who struggle with traditional text-heavy instruction, benefit from having visual aids. It motivates them and makes the

lesson more relatable. Professionally, it has encouraged me to seek out more innovative teaching methods, like integrating different modes of technology.

It is clear at this point that, though enthusiastic about the use of visual aids as one teaching strategy, P10 is desirous of learning other teaching methods, including technology. With respect to this point, I will state that the Ministry of Education has yet to establish an art-integrated curriculum that fully exposes teachers to aesthetics throughout the curriculum (Lawton, 2022; Puri & Singh, 2023; Surbh & Sharma, 2023). The teachers are zealously following the curriculum, but they need more training to do an excellent job.

Other participants emphasized self-motivation as a key driver of skill development. P6 explained:

It has been a self-motivated effort on my part to stay up to date with technology, but the results are worth it. Students are more engaged, and I feel their motivation has increased, especially when visual elements align with the lesson's objectives and the NSC expectations.

Innovation and Adaptability. Innovation emerged as a recurring theme among participants, with teachers frequently describing the need to “think on their feet” when incorporating visual literacy. P4 explained: “The use of visual images has allowed me to innovate and bring lessons to life. Students are visibly more engaged and motivated, and I think it taps into a different mode of learning that's often overlooked.”

Despite their enthusiasm, participants acknowledged challenges such as limited resources and time constraints. P12 expressed concerns like this:

I have some concerns, especially about how long it takes to find or create high-quality images that align with the curriculum and NSC expectations. Despite this, I try incorporating visuals because I have seen how much more motivated students become.”

This concern is supported by P3, who explained the need for training. Here, I reiterate the comment of (Lawton, 2022; Puri & Singh, 2023; Surbh & Sharma, 2023). The MOEYI needs to collaborate with training institutions to develop a course or program that trains teachers in arts education, enabling them to effectively work with the imagery and language of art at the expected levels in early childhood, primary, and tertiary education.

P3’s response was as follows:

I have been taking part in visual literacy training and using new technology tools to improve how I integrate images, but it can sometimes be overwhelming. Nonetheless, I think it is essential for keeping students motivated and engaged in learning.

I believe that the program should aim to motivate teachers, who, as P3 stated, might find the intervention overwhelming. It is also important to remember that not all teachers are creative or interested in creative subjects. Therefore, it would be wise to consider the comment made by the then Minister of Education, Ronald Thwaites (Jamaica News, 2015), that the country needs qualified, competent, and passionate workers to do excellent work.

Strategies. Participants consistently highlighted the importance of technology in advancing visual literacy. P6 and P7 described challenges, such as limited access to technology teachers and unreliable internet service, while others, like P4 and P5, noted the positive impact of technology-enhanced visuals on student engagement.

P4 shared:

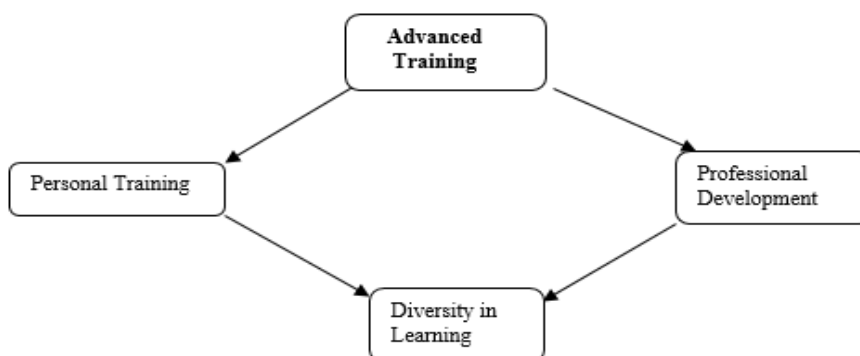
I primarily use images in PowerPoint presentations and digital platforms, like interactive whiteboards. I have also incorporated videos and animations to support learning objectives. My experience has been positive overall, as students seem more motivated and less intimidated by complex content when visuals are involved.

Penuel and O'Connor (2018) noted that teachers must acquire diversity in teaching strategies and demonstrate experience in teaching skills. According to Munday et al. (2017), the teacher bears the onus of being versatile and engaging. Most participants mentioned the need for formal training to explore a variety of strategies.

Overall, the study's findings underscore the multifaceted benefits of visual literacy, from enhancing student motivation and comprehension to fostering professional growth and innovation among educators. By matching interview responses to the RQs, key themes were identified and synthesized within the study's conceptual framework, providing a comprehensive understanding of the advantages of visual literacy (see figure 10).

Figure 11

SQ3: Theme 3 and Subthemes



Theme 3: Advanced Training

Except for P8, who received formal training in integrating visual literacy into her early childhood teaching, the remaining eleven participants expressed a strong need for additional knowledge and resources on visual literacy, which is in keeping with Bereczki and Kárpáti, 's (2021) findings that even experienced teachers are faced with challenges to integrate technology and creativity in the delivery of instructions. While they took pride in selecting appropriate visuals for lesson integration, many felt uncertain about collaborating effectively with others to use visual language. Participants emphasized that deep knowledge of visual literacy, including familiarity and relatability with the elements and principles of art, was essential for maintaining cohesive lesson flow and developing descriptive vocabulary for both teachers and students. This mindset confirms Penuel and O'Connor's (2018) findings that teachers must acquire diversity that demonstrates skills and multi-literacies. This finding resonates with that of many researchers, including Shepherd (2020), who mentions a workshop she conducted that promotes learning by

doing and watching others' instructions or lectures. Shepherd also noted that all teachers connect creativity to problem solving.

P5 highlighted the importance of creating a print-rich environment in early childhood classrooms, enriched with charts, teaching aids, and manipulatives to convey key concepts effectively. This confirms the viewpoint of Munday et al. (2017) that it is incumbent on the teacher to be diverse and Reyes and Bishop's (2019) point that the teacher is expected to use visual literacy as a tool for the children to help them with interpretation, discovering full meaning and making connection emotionally to words and imagery. Similarly, P6 and P8 noted that simply talking to children often fails to capture their attention. In elaborating on that point, P8 mentioned the following:

Students often lose interest without visual engagement. Adding visual elements helps rivet their attention and supplement the lesson's content, especially for learners who benefit from more than auditory input, by providing a visual focus.

P5 and P8 further expressed confidence in using the elements and principles of art to guide students in interpreting visuals, creating a more interactive and engaging learning experience. Participants P3, P5, P7, and P11 also discussed the broader advantages of integrating visual literacy across the curriculum, which aligns with the MOEYI vision through the NSC for all grade levels. Dr. Hamilton Flowers emphatically charges teachers to be innovative and creative in the classroom (R. Williams, 2022).

P7 underscored the importance of teacher proficiency in visual literacy, stating: I need to be able to teach students how to use this language to describe and interpret visual images and structures. If I don't know it, then I cannot teach the

students. Visual literacy must be part of my practice before I can effectively engage in discussions with them. A competent instructor who interacts with these concepts benefits teachers who are expected to incorporate visual literacy into teaching, learning, and assessment at the early childhood level.

The participants identified several benefits of visual literacy knowledge, including the ability to select appropriate visuals, which Harrop-Allin (2017) refers to as modality-specific learning, for diverse subjects and fluency in applying visual language throughout the curriculum. This proficiency, they noted, enhances students' holistic learning experience.

Educators' Insights. Engagement emerged as a critical advantage of integrating visual literacy into lessons. While P3 and P5, who work in preparatory schools with only one class per grade level, noted limited engagement for enrichment opportunities, the remaining ten participants highlighted the value of collaborative engagement among staff members at each grade level. Through the ensuing discussions during the interview the point made by Valtonen et al. (2020) that teachers can integrate visual literacy in the curriculum through social learning and networking, was confirmed by the participants who thought collaboration enabled teachers to share best practices and learn from one another. P8 described this environment as enriching, adding that she gained insights from teachers in groups beyond her school. Similarly, P3 emphasized the importance of networking with committed colleagues, viewing such interactions as essential for professional enrichment. The response of P3 confirms Bandura's (1969) social learning theory and Jones' (2010) network learning concept, which offer many opportunities for

the use of technology and imagery in utilizing all possible ideas that will enhance the integration of visual literacy and learning.

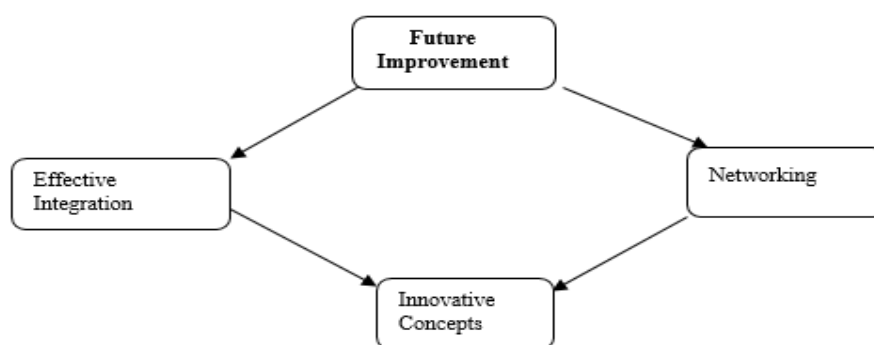
There were mixed reactions to how they felt about integrating visual literacy into their lessons. Student teachers with more experience using visual images, technology, and literacy (Becker, 2020) will have richer and more interactive lessons. However, some student teachers reported feeling disadvantaged due to limited exposure to visual literacy across subject areas. Sanh (2024) noted the learning environment of the digital revolution in which student teachers operate, involving smartphones and computational devices. This idea is supported by Costa (2019) and Kwet & Prinsloo (2020). Huê and Hoà (2024) and Alenezi and Akour (2024) further suggested that, compared to traditional teaching methods, digital skills can foster remarkable creativity at the primary level. Recognizing the importance of professional engagement and networking to build their competence, they strongly desired a structured program to improve their proficiency in visual literacy. This concern has been raised by other researchers (Lawton, 2022; Puri & Singh, 2023; Surbh & Sharma, 2023). One participant shared how global networking facilitated collaboration and professional growth among educators.

Participants also acknowledged that engagement aligns with the 5E standards outlined in the NSC lesson planning process, emphasizing it as a critical component of teacher training for in-service and student teachers. This thought echoes the MOEYI's vision to promote culture and creative arts as the carrier of content in the education system (Ministry of Education, Skills, Youth & Information, 2020). Given the challenges of understanding and applying visual literacy within the early childhood and primary

curriculum, participants stressed the value of collaboration and professional engagement as essential strategies for equipping teachers to integrate visual literacy effectively into their practice.

Figure 12

SQ3: Theme 4 and Sub-theme



Theme 4: Future Improvements

The participants underscored the importance of future improvements in shaping their practices and attitudes toward integrating visual literacy into the curriculum. They emphasized that the quality and availability of visual literacy training will significantly impact their ability to meet the NSC. This concern of the participants regarding training for the integration of NSC was noted by Mayne and Dixon (2020), who argue that it should be done even during orientation sessions if teachers' responses to learning are to be sustained and transferable. Future improvements in knowledge and skills in creative teaching and learning, as well as networking, will impact teaching standards and lay the foundation for the development of innovative concepts.

P4 and P6 provided insights into how exposure to the NSC affected them and their students. The reflections of P4 and P6 pulled on statements made by the MOEYI regarding the NSC, outlining plans incorporating the STEM approach into the 5E model, which includes a design to integrate the arts as a critical element. The MOEYI intended to have as part of the lesson planning activities the promotion of culture and creative arts (Ministry of Education, Youth and Information, Jamaica, 2018) in support of that claim.

Effective Integration. Participants reported mixed experiences regarding the support provided by the Ministry of Education and school management. It was clear to me that some participants benefited from available resources and guidance, while others faced challenges transitioning to NSC-aligned teaching due to gaps in training and limited time to integrate new strategies effectively.

P5 and P8 emphasized the value of effective integration through professional development opportunities, such as seminars and workshops, but noted the need for more practical application through coaching. Concerns were also raised about recent changes to the teacher training curricula. P10 and P11 expressed dissatisfaction with replacing the visual arts program with Arts in Education, stating that it did not adequately prepare them to integrate visual literacy into their teaching practices.

Networking. The participants reflected on how their initial teacher training, which taught them about the impact of networking and teamwork, shaped their approach to teaching visual literacy. Most of the participants supported the concept of networking. For example, P5 shared: “Collaborating with colleagues during these sessions helps us maximize the material’s relevance to our classrooms; when there is much theory and

insufficient time to discuss realistic implementation strategies, we engage in team teaching.”

P6, an in-service teacher, credited her early childhood certification for providing foundational skills. In expressing her satisfaction with her ability to tap into technology teaching online, she said: “I use my early childhood training to design interactive and engaging visuals for my online classes. Sharing ideas with other teachers helps me to incorporate games and other technology-based activities to enhance lesson relevance and student engagement.”

Some participants, however, claimed they gathered information through collaborative efforts and noted that visual literacy was rarely explicitly emphasized in their formal education. They suggested relying on personal creativity and networking to fill the gap. P8, however, was fortunate to have graduated from an institution that prepared her to teach early childhood art education. She explained how her college study group evolved into a collaborative network, allowing members to support each other in exploring innovative teaching strategies.

Despite their commitment to teaching visual literacy in their lessons, all participants recognized time constraints as a significant obstacle.

P8 explained: “I spend time teaching children to use visual language effectively, but the short lesson timeframes make it difficult to cover all the material. Slower learners struggle when I have to rush through lessons, leaving me perpetually behind.”

Participants also highlighted the lack of resources for creating and integrating visuals into lessons. P2 expressed frustration: “Schools are often criticized for not

providing enough materials for visual literacy integration. This makes it hard to enrich my lessons as much as I would like.” Conversely, P7 praised her principal’s proactive approach, which involved pooling resources to support classroom visual literacy initiatives.

The COVID-19 pandemic accelerated the use of technology in teaching across the curriculum, creating new opportunities to include visual literacy in early childhood and primary education. Participants noted that using digital tools greatly enhanced their teaching techniques. P6 emphasized the importance of tech training, stating that today’s students are very tech-savvy. Using tools like educational games and interactive resources helps to keep students focused and engaged. Additionally, P12 highlighted the benefits of platforms like Kahoot, which add gamified elements to lessons. Her explanation was, “Given these platforms, she can multitask by engaging students with recorded content while I address individual needs, which is a game-changer for integrating visual literacy.” P6 and P12 shared experiences that confirm Martínez-Cardama and Caridad-Sebastián (2019) point out that children develop various skills, including confidence and imagination, which enable them to be expressive in drama, music, and visual arts, even with technology.

The participants also stressed the importance of ongoing training to maximize the benefits of technology. P2 recalled a course on interactive lesson design that taught her to create visually engaging, self-guided activities. “Training helped me build interactive and visual literacy skills, allowing students to navigate lessons independently with visual prompts.”

The responses from teachers and student teachers underscore the critical role of advanced training, practical resources, and technology integration in fostering effective visual literacy practices. Addressing these gaps will empower educators to meet the evolving demands of the NSC and enhance student learning experiences.

Analyzing the Research Questions through CBAM

The CBAM framework was used to analyze educators' concern levels and adoption stages regarding the incorporation of visual elements into their teaching practices. The CBAM table offers a structured view of teachers' concern stages and usage levels, from awareness to advanced integration of visuals in instructional settings. This table organizes the interview data to identify specific concerns and adoption behaviors common among participants.

This model compiled a core vocabulary about teachers' progression in adopting visual literacy strategies, their challenges, and the support needed to enable effective implementation. The CBAM table provides a foundation for understanding how participants incorporated visuals and highlights areas that may require further professional development or resource allocation (Concerns-Based Adoption Model, 2023). I thought it would be helpful to explore common responses shared by early childhood educators, primary educators, and student teachers. Using the CBAM/SoC table, I aimed to gain a deeper understanding of the participants' concerns in a more personal way. In Table 11, it is clearly summarized that each participant strongly felt the need for specific training to support their growth, and there was sufficient direct evidence that they believe integrating visual literacy into lessons is beneficial.

Table 11*CBAM SoC Aligned to Questions*

RQs	Concerns	Responses
What are early childhood educators, primary educators, and student teachers' perceptions of the integration of visuals across the curriculum	Refocusing	The focus is on the exploration of more universal benefits from innovation
	Collaboration	. Focus on coordination and cooperation with others. regarding the use of innovation
	Consequences	Focuses on the impact of innovation in the immediate sphere of influence
What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?	Management	Attention is focused on the processes and tasks involved in using the innovation and on the best use of information and resources.
What are the perceptions of early childhood educators, primary educators, and student teachers regarding the impact of visual literacy training on improving their teaching methods?	Personal	The individual is uncertain about the demands of innovation, and his/her inadequacy to meet those demands, and his/her role in the innovation
	Informational	A general unconcern of the innovation and interest in learning more about it "is indicated. The person seems to be unworried about them concerning the innovation.
What insights do early childhood educators, primary educators and student teachers offer regarding using visual imagery and visual language in the subjects they teach?		

CBAM Framework: Addressing Challenges in Integrating Visual Literacy

Responses were analyzed using the CBAM/SoCs model to address the challenges of early childhood educators, primary educators, and student teachers in integrating, assessing, utilizing, and evaluating visuals across various curriculum subjects. The model's SoC and use levels to help frame insights into educators' perceptions, practices, and needs related to the integration of visual literacy.

RQ: What are the experiences of educators in using visual literacy in teaching?

(Key Themes: Teachers' Experiences, Advantages, and Teacher Attitudes)

Stage of Concern: Personal/Management. The first theme revealed participants' educators' varied experiences with using visual literacy in teaching. Early adopters of visual literacy demonstrated their understanding of its principles, while others expressed concerns about the time, resources, and training needed for practical implementation. The results confirmed that although most educators lack formal training in visual literacy, their personal and team expectations guide their management of visual imagery and visual language during lessons. P6 shared how she uses visuals to foster critical thinking through picture reading, which encourages students to think critically and articulate their understanding. P8 explained that talking alone will not keep children's interest. She also includes visuals in her lessons to capture their attention and reinforce the concepts. The results further confirmed that, without formal training, some teachers may lack confidence and guidance in integrating visual literacy, even when materials are provided. The teachers are also concerned about the availability of technology to support lesson delivery. The concerns of the participants highlighted the role of visuals in connecting abstract concepts with practical understanding, while also emphasizing logistical barriers to broader adoption.

SQ1: What are the advantages of integrating visual literacy into teaching? (Key Themes: Student Motivation, Impact of Visual Literacy, Teaching Strategies)

Stage of Concern: Consequence/Collaboration. The participants confirmed that integrating visuals into lessons is highly beneficial. They consistently highlighted the advantages of visual literacy in deepening student understanding, increasing engagement, and supporting inclusive learning environments. They also mentioned that the lack of

internet access is a barrier, making it challenging to use current, accessible web-based content.

Visuals enhance teachers' methods, foster creativity, and inclusion. Participants reported that many schools are beginning to adopt visual literacy as the primary approach to student learning. They confirmed that their current responsibility is to focus on modifying the classroom environment, which involves collaboration and differentiation, and to emphasize student engagement in line with MOEYI's focus, as shown in the curriculum. The participants noted that children are motivated to use imagery and excited to decode and encode as they demonstrate their learning. P1 reflected that visual images are very important because they are one of the main ways to stimulate and engage children. She confirms that visuals help memory retention; therefore, including visuals in lessons is essential. P12 mentioned that visuals promote inclusion by enabling students to participate actively regardless of their learning pace. This point aligns with the MOEYI slogan, "every child can learn, every child must learn." She shares that this approach ensures no student is left behind and promotes inclusivity.

As I continue to interpret the study's findings for SQ1, "What are the advantages of integrating visual literacy into teaching?", the participants in the study had concerns focused on attaining proficiency with the various technologies, methods, and strategies. P2 describes innovative methods, integrating hands-on and visual strategies to engage students and to allow her to explore creativity in lesson planning.

SQ2: How do educators perceive visual literacy and its integration into teaching?

(Key Themes: Collaborative Efforts, Professional Development, and Future Improvements)

Stage of Concern: Awareness/Refocusing. Participants in this study reported that early childhood educators, primary educators, and student teachers with prior knowledge of integrating visual imagery and visual literacy into their lessons were more willing to include these elements in their classes. The findings of Nelius and Matthiesen (2019) and Zapata (2018) supported these results, indicating that when teachers receive training and gain experience in learning by design in engineering design education, they become more confident and develop positive attitudes. This is worth noting, as engineering design encompasses visual literacy, visual imagery, and technology. Currently, educators display a range of attitudes toward visual literacy, with many expressing enthusiasm for its potential while recognizing implementation challenges.

SQ3: What strategies can address the challenges of integrating visual literacy into the curriculum? (Key Themes: Professional Development, Collaborative Efforts, and Future Improvements)

Stage of Concern: Consequence/Collaboration. Eriksson et al. (2019), and Kangas and Poutanen (2018) used the CBAM frameworks to assess data to support innovation and to develop tools to examine the quality of the implementation of mathematics in schools. These studies also highlighted how student teachers' skills and motivation to adapt to technological changes can be developed and supported. P12

mentioned using gamified platforms like Kahoot to engage students and cater to individual needs.

As I interpret the findings, I confirmed that student teachers develop confidence when they become comfortable transitioning from traditional, hands-on, minds-on learning to technology, which became a critical enabler during the COVID-19 pandemic, especially for social networking and collaboration. The study participants also expressed concerns about teachers gaining proficiency amid the limitations of the resources and support provided by MOEYI. Participants identified several barriers to implementing visual literacy, including limited resources, time constraints, and gaps in training. P2 noted the difficulty of creating visuals due to resource shortages. Besides the concerns of new teachers, participants also expressed deep concerns about the training experienced teachers received in improvising and creativity, which are no longer available. This confirms the findings of Batur and Özcan (2020), as teachers reported the need for opportunities to learn and adapt to new technologies in the teaching and learning environment.

Insights from the CBAM Framework

The CBAM framework can help us understand educators' journey toward integrating visual literacy into their teaching practices. At the Awareness and Informational Stages, many educators found themselves at the beginning of this journey, intrigued by visual literacy but uncertain about how to implement it effectively. They express a keen interest in learning more but are often constrained by a lack of resources and access to adequate training.

As they progress to the Management Stage, their focus shifts to practical considerations. Teachers begin exploring ways to incorporate visual literacy into their classrooms while balancing curriculum demands and the realities of classroom logistics. This stage reveals their determination to find solutions despite the challenges.

In the Collaboration Stage, the emphasis on working together becomes apparent. Educators express a strong appreciation for networking opportunities and professional development platforms where they can exchange ideas, share strategies, and collaborate on creating resources. This sense of community fosters innovation and collective growth.

Finally, at the Refocusing Stage, a subset of participants demonstrates a more profound commitment to visual literacy, showcasing creativity and a readiness for more advanced professional development. These educators are eager to refine their skills and explore new possibilities, signaling a shift toward transformative practices.

The CBAM framework offers a comprehensive view of the diverse challenges and opportunities educators encounter as they integrate visual literacy into early childhood and primary education. Addressing their needs with targeted training programs, fostering collaborative networks, and ensuring access to resources will empower them to adopt innovative approaches, ultimately enriching teaching and enhancing student outcomes.

Summary

Chapter 4 presented the methods and results of data collection and analysis. The study began with an introduction to its methodology, focusing on the research setting, participant demographics, and the processes used to ensure evidence of trustworthiness

and credibility. Data were collected from experienced teachers and student teachers with verified credentials in visual literacy education. At the time of data collection, all participants were actively engaging with the NSC at the early childhood and primary levels. The study implemented methods to enhance credibility through rigorous analysis, emphasizing skills, creativity, and critical thinking, and findings accurately represent the participants' insights and experiences.

Fifteen open-ended questions were used to explore the perceptions of visual literacy among teachers and student teachers. These questions focused on integrating, assessing, utilizing, and evaluating visuals across various curriculum subjects, the impact of visual literacy training on teaching methods, and the use of visual imagery and language within their subjects. The open-ended format enabled participants to provide detailed responses, offering more profound insights into their experiences and perspectives on visual literacy's role in education.

The interviews were conducted via Zoom with seven early childhood and primary education teachers and three student teachers. These participants, part of an initial group of twelve who consented to the study, were joined by two additional teachers recruited through snowball sampling. All interviews were transcribed with verbatim, ensuring an accurate representation of participants' responses. Each transcript was carefully reviewed and coded to identify emerging themes aligned with the study's research focus. This thorough analysis offered a solid foundation for understanding participants' perspectives on visual literacy in education.

The findings were organized into three themes, each derived from coding the interview transcripts and grouped according to one of four RQs: preparedness, training, knowledge, and collaboration. Themes were identified based on similarities in responses, ensuring each aligned closely with one of the RQs. The transcripts underwent thorough transcription and data-checking processes to enhance credibility and consistency. Additionally, follow-up sessions were conducted with the teachers and student teachers to verify the accuracy of the data collected.

Chapter 5 presents a summary of the results of the study. The discussion will focus on the limitations of the study, with a concentration on the RQs and supporting literature. The chapter also discusses the implications of the results and makes recommendations and suggestions for further study.

Chapter 5: Discussion, Conclusions, and Recommendations

This basic qualitative study aimed to explore and describe the experiences of early childhood educators, primary educators, and student teachers as they incorporate and assess visuals within the curriculum. Based in the Caribbean, the research sought to address the gap between the need for creativity in education and the lack of emphasis on teaching creative thinking in schools' curricula (Shepherd, 2020). The study introduced visual literacy and provided teachers with opportunities to explore flexible methods for incorporating creative thinking into lessons across various subjects. It found that teachers expressed concerns and frustrations and showed reluctance and lack of confidence toward inclusion due to insufficient training, limited support, and scarce resources.

Guided by Hall and Hord's (1987) CBAM/SoCs model, the study provided a framework that addressed teachers' experiences with personal learning, teaching practices, and advanced training. My interest in the title was first sparked during the grading of a visual arts section in a Caribbean school-leaving examination. I was concerned about the rising number of students failing the exam, as well as the teaching methods and the level of exposure offered in the teaching and learning environment. I was disappointed that the students' performance at the school-leaving level did not meet the expected standard. The poor quality of the work, especially in the reflective journals, raised several questions for me, including the value placed on the visual arts within the education system.

The study being motivated by concerns about declining student performance in visual arts at the Caribbean school level led to a literature review, which indicates that

this issue is not only a concern in the Caribbean but also worldwide, emphasizing the need for teachers to be trained in delivering visual literacy, whether as a stand-alone subject or integrated into the curriculum incorporating creativity and critical thinking through STEM (Bircan & Çalışıcı, 2022; Bratianu et al., 2023; Braunack-Mayer et al., 2020) in the Caribbean educational system (K. R. Clark, 2022) looked at education for sustainable development for educational reform in small territories... However, so far, little information has been found about Caribbean learning institutions offering training in visual literacy, even though the MOEYI requires teachers to use the language. I hope that this study has given early childhood and primary educators, as well as student teachers, a chance to share their concerns so that other stakeholders in positions might be able to make changes that can promote creativity and innovation through the visual arts by supporting teachers and providing the necessary resources to enhance art education from an early age. This involves examining how training impacts the integration of visual literacy into the curriculum, focusing on professional development, effective teaching strategies, and alignment with curriculum goals, and extended training periods to address specific regional challenges (Rehman et al., 2025).

The study aimed to address a gap in literature by exploring the perceptions of Caribbean early childhood educators, primary educators, and student teachers regarding the integration and use of visual literacy, including imagery and visual language across the curriculum. The central RQ was used to organize the key findings I gathered from the study. The teachers' perceptions of the skills and knowledge required for integrating,

assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum extended the scope for further research.

The study's results provided insight into participants' experiences, who noted that extensive prior knowledge of visual literacy was not essential and that targeted training and resources matter. Participants reported that targeted professional development and access to appropriate resources will significantly improve their confidence and their ability to integrate visual literacy effectively.

The second point reported was their lack of prior knowledge. The participants indicated that although they lack fundamental knowledge of visual literacy, focused training will enable them to apply visual strategies successfully across the curriculum and improve educators' confidence and effectiveness. These findings confirmed Brown and Savić's research, emphasizing critical thinking and language development as key outcomes of integrating visual literacy (Brown & Savić, 2023). The findings of this study confirm and also align with earlier research, creating new areas for exploration into how visual literacy can be effectively integrated into classroom practices. These show confirmation with the findings of researchers Fried (2025) and Nkosinkulu (2024), and are consistent in highlighting the transformative potential of visual literacy in enriching instructional approaches and fostering deeper student engagement

Interpretation of the Findings

This basic qualitative study aimed to explore and describe the experiences of early childhood educators, primary educators, and student teachers as they incorporate and assess visuals within the curriculum. Their responses to interview questions enriched the

findings by either confirming, disconfirming, or expanding upon existing knowledge from the literature review in Chapter 2. Additionally, participants who had taken at least one introductory teacher training course reported feeling unprepared and lacking confidence about the importance of integrating visual literacy into the curriculum.

The conceptual framework used in this study, CBAM/SoCs, revealed that teachers expressed concerns about challenges and frustrations as they tried to integrate visual literacy into lessons across the curriculum. One participant stated that most teachers are naturally creative and apply visuals they consider appropriate to the lessons. This participant explained that the failure to incorporate the appropriate language that fosters learning of the visual terms, as they are applied universally as required by the NSC, creates a sense of dissatisfaction with teacher performance. Another participant stated that she does not always incorporate visual literacy into her lessons across the curriculum due to time constraints, and she often falls behind in delivering the planned lessons for the day when she insists on using language and meaning as they apply to other subjects.

Most participants expressed a greater need for training programs for college-level teachers, and more online workshops should be offered to help educators working with early childhood, primary, and student teachers improve their skills. One participant, who has a background in visual literacy and is the most recent graduate with a bachelor's degree in early childhood education among those in this study, was taught how to incorporate, assess, use, and evaluate visuals across various subjects in the curriculum. Another participant with technology training, who also participates in membership groups on established websites, mentioned that this experience significantly enhanced her

ability to integrate visuals into her lessons across different subjects. She shared that in these online groups; teachers exchange best practices and information that improves their teaching performance.

The inexperienced participants had perceptions similar to those of participants with more years of experience and exposure to visual literacy training and MOEYI workshops. One participant mentioned that he had only taken one arts in education course, which did not cover visual language or integration across subjects. Additionally, he noted that the course instructor emphasized the importance of a picture-rich learning environment in early childhood education. In retrospect, he feels the course did not adequately prepare the teachers.

A participant with over 20 years of classroom experience stated that she had taken a specialized early childhood course. Like the inexperienced student teacher, the course emphasized creating charts and other visuals based on specific themes. This course did not provide theoretical knowledge of decoding and encoding visuals, leaving her feeling inadequate and forcing her to take upgrading courses if she is to remain relevant and not feel ineffective in the classroom. Some participants explained that they graduated from college a long time ago and have not updated their skills. The findings highlight how early childhood educators, primary teachers, and student teachers perceive and experience the application of their exposure to the use of the NSC and the integration of visual literacy. The participant's response confirms the findings in C. W. Brown and Savić's (2023) research, which suggests that educators have emphasized the importance of improving critical reading skills by fostering creativity through the use of images to

support intercultural learning in schools. All the participants see visual literacy as a vital tool in the classroom for engaging students in deeper, more culturally responsive interpretations of text and meaning. Fried (2025) and Nkosinkula (2024) highlight an approach that reflects the application of visual literacy, aligning with the emerging trend of guiding learners to critically create, analyze, use, and share visual information.

The findings of this study confirm that visuals play a significant role in conveying information, especially in Jamaica, where most schoolbooks are from other cultures. This practice involves integrating visual literacy into lessons (Guglietti, 2023; B. A. Brown, 2021), confirming the importance that participants placed on targeted professional development, particularly in terms of teacher experience, the benefits of visual literacy, teacher attitudes, and instructional practices.

Concerns-Based Adoption Model

A recurring theme from this study and the literature review was the need for training that equips teachers with the knowledge, skills, and teaching strategies required to integrate visual literacy effectively at the early childhood and primary education levels, as revealed by Shepherd (2020), Lopatovska et. al (2016), and Lau and Jong (2023). The solution to satisfying that need was found in Hall's (1974) CBAM. In this study, participants confirmed that a solid foundation in visual arts theory, pedagogy, and practice fosters confidence and competence in delivering integrated lessons. This confirmation reflects Hall and Loucks' (1978) framework on change, which emphasizes that individual perceptions, systematic support, and ongoing assessment are vital to implementing innovations like visual literacy. For the implementation of visual literacy

to be impacting, a transformational process is necessary, as described by Benoit (2019), Forsyth (2023), Hartsell (2021), Korona and Hathaway (2021), and Mnguni (2019). This implementation process demands proficiency in reading, writing, and creating visual content. Early childhood educators, primary educators, and student teachers in my study confirmed that they face significant challenges in integrating visual literacy content into each lesson, as noted by Barbre and Tolbert (2021) and Clark (2017). Similarly, Reeve and Cheon (2021) emphasized the significance of intrinsic motivation and autonomous decision-making in addressing instructional challenges and strengthening teacher preparation, which was affirmed by the participants' responses in this study.

The key findings of this study are organized around the central RQ: What are early childhood educators, primary education, and student teachers' perceptions of integrating, assessing, utilizing, and evaluating visuals across a diverse range of subjects within the curriculum? The CBAM served as the guiding framework for interpreting these findings.

Theme 1: Personal Learning

The first theme, personal learning, shows participants' recognition of the need for continual professional growth and skill development, primarily in adapting their creative and instructional practices to meet the evolving educational demands. The teachers and student teachers in this study confirmed that their innate creative abilities are not adequate to satisfy the level of skill and content needed for the education system. This finding confirmed previous research by B. A. Brown (2021), Casiano (2021), Imre (2020), C. Jones (2010), and Pavlova (2021). Ahmad et al. (2021) also emphasized that

learning episodes influence a wide range of cultural forms, including literature, art, film, novels, drama, poetry, and storytelling. These forms have long coexisted within shared social spaces and are accessed through diverse networks. Integrating social learning theory into formal educational settings has the potential to transform classroom learning and communication. By adopting this approach, students become more actively engaged in both the learning and assessment processes, fostering a more participatory and collaborative learning environment. All participants in the teaching and learning process have applied this concept of integrated social learning into formal learning. It confirms the view of Doleck et al. (2021) who noted the efficiency of discussion forums video-based instructions in enhancing the teaching and learning process. Similarly, participants in this study demonstrated that engaging with visual and digital platforms not only supported their professional growth but also fostered greater confidence and enthusiasm in integrating visual literacy within their teaching practices. These notions are supported by this study, confirming the research finding and in the literature regarding the teachers' positive attitudes toward learning in digital and social spaces, highlighting the value of such environments in shaping reflective and visually informed pedagogical approaches.

Theme 2: Teaching Practices

The second theme was related to teaching practices. The teachers' perceptions align with and extend the principles of social learning theory, which emphasizes that learning occurs through interaction within a social context (Bandura; Reed et al., 2010). Scavarelli et al. (2021) further support this view, highlighting the role of social learning in shaping meaningful educational experiences. Teachers in this study confirmed that

extended social interaction within the learning environment significantly contributed to student understanding and engagement. Consistent with Reed et al. (2010), they also recognized the value of social learning theory in informing effective educational frameworks. Additionally, the participants' emphasis on the need for collaboration and ongoing training is echoed by Domínguez Romero and Bobkina (2021), who like Reed et al. advocated for digital learning environments that prioritize multimodal and socially interactive approaches, especially in today's digital era. The participants also confirmed that the use of visual images in lessons are integral to fostering creativity and engagement across the curriculum. This perception is supported by findings from Eutsler's (2021) research, which expresses concern about the lack of emphasis on visual literacy in pre-service teacher training. The participants in this study believe that incorporating visual literacy enhances students' learning experiences, making lessons more dynamic and accessible. This response is congruent with Eutsler's (2021) concern, which emphasizes the importance of training pre-service early childhood education teachers to code designs used in teaching. Equally impacting on the participants' perception is the affirming of Melzi et al. (2023)'s explanation of the value of building a storytelling community in early childhood institutions to develop children's oral ability to communicate with their peers and teachers.

Theme 3: Advanced Training

Advanced training for teachers and its role in facilitating the integration of visual literacy was the third challenge identified by the participants. Teachers' perceptions of training for efficiency were echoed in Özsoy and Saribas (2021), Skender (2022), and

Miller and Hunt (2022), who emphasized the need to institutionalize a professional training course in visual literacy. The findings indicate that training is necessary for teachers to refresh the content they teach. Benjamin (2025), MacKnight (2021), and Kangas and Poutanen (2018) concurred that training should be extended to integration, making it interactive and engaging, and that it should develop critical thinking and analytical skills through visual literacy, in agreement with Wissner (2022), so teachers can better understand how to integrate across multiple modes (Ávalos, 2023). The participants' perception is that training will enhance teacher confidence and foster positive attitudes, including the adoption of a student-centered approach, thorough preparation, and effective routines, all of which are essential for success. B. A. Brown (2021) supports this view, underscoring the importance of visual literacy in education to prepare students to interact in an integrated environment. This finding extends knowledge in the field of teacher training and development.

Theme 4: Future Improvements

For the final theme, the teachers in this study highlighted the critical role of future improvements in effectively integrating visual literacy into the curriculum. Lopatovska et al. (2016) highlighted the challenges faced by early childhood educators and primary educators when integrating and evaluating visuals in the curriculum. Participants perceived utilizing visual imagery, fostering a student-centered learning environment, thorough preparation, and developing structured routines as important. This perception justifies the selection of this conceptual framework, CBAM's/ SoCs (Hall & Hord, 1987), which can identify the problems with the integration of visual literacy in the conceptual

framework, CBAM's SoCs (Hall & Hord, 1987), which can identify problems with integrating visual literacy into the curriculum. According to Alrajeh (2020), this approach can be aligned with problem-based learning, which integrates students' needs, strengths, interests, and preferences, and is pivotal to their success. Teachers underscored the importance of allowing children to lead their learning while educators engage alongside them. This perspective is supported by research. Wu and Hedges (2024) demonstrated that applying child-centered strategies in teaching visual literacy promotes peer learning and encourages students to become self-directed learners. Participants further emphasized the need for meticulous preparation, including the availability of teaching materials and careful planning for transitions to visual literacy activities. The establishment of dedicated learning spaces and the adoption of visual literacy protocols were highlighted as critical components. Consistent with these findings, Becker (2020), Carter (2018), and D. Yan and Li (2023) argue for the necessity of image-rich environments, proposing that such spaces not only support immediate learning but also facilitate the reshaping and expansion of cognitive frameworks as learners encounter new visual stimuli. This level of stimulation aligns with the expectations of the Ministry of Education, as stated by Powell (2023), regarding Dr. Flowers' response to Professor Patterson's report. However, the participants acknowledge that individuals whose prior experiences do not include visual literacy may struggle to adopt new routines that effectively engage with this learning mode. The efficacy of the SoCs as a fitting model to be used among early childhood educators, primary educators, and student teachers (Magallanes et al., 2022). Barbre and Tolbert (2021) and Clark (2017) asserted that experiences directly influence cognitive

maps, aligning with the view that visual literacy can introduce transformative ways of understanding and processing information. Learners expand their mental maps by encountering innovative teaching methods and actively engaging with visual imagery, enhancing their critical thinking and comprehension skills.

These findings confirm the importance of equipping educators with effective practices and theoretical grounding to integrate visual literacy as a dynamic and transformative component of contemporary education. Magallanes et al. (2022) presented a similar assertion that teachers in the Philippines achieved success after practicing the CBAM. Such integration aligns with pedagogical priorities and enhances students' readiness to navigate and interpret an increasingly visual world. Participants in this study indicated that preconceptions about what constitutes effective learning created significant challenges in implementing visual literacy in the school curriculum. Munday et al. (2017) and Hardy (2011) stated that both children and adults often need to reconcile new learning methods with their existing perceptions and experiences. Previous experiences shape how students and educators approach visual literacy, influencing their openness to integrating it into broader learning contexts. Munday et al. (2017) and Hardy (2011) further asserted that individuals interpret new information through the lens of their existing cognitive frameworks, focusing on related activities, while Li et al. (n.d.) contend that educational practices grounded in the arts often face skepticism about their academic value. Hence, Li et al. (n.d.) support the application of CBAM as a diagnostic tool. By challenging these biases and advocating for their value, educators can better

align teaching practices with the demands of contemporary curricula and foster more profound engagement with visual literacy among students and stakeholders.

Participants reported that many adults believe visual literacy, rooted in artistic practices, requires no additional effort to teach or learn and is perceived primarily as a leisure activity. This belief undermines the recognition of visual literacy as a critical tool for achieving learning standards. Furthermore, adults often fail to appreciate the time and experiential depth involved in activities that foster visual imagery, visual literacy, and interactive learning. Shepherd (2020) and Bullard and Bahar (2023) emphasize that such misconceptions hinder the adoption of visual literacy as an integral component of education.

The influence of policy changes also emerged as a key challenge. R. Williams (2022), reflecting on Dr. Flowers' tenure as Jamaica's Chief Education Officer, noted that Dr. Flowers' insistence on the NSC mandates the integration of creativity across all subjects, requiring teachers to adopt innovative instructional strategies. While this approach aims to enhance literacy, mathematics, and other subjects, participants in this study expressed concern that the increased emphasis on integration reduces the time available for direct instruction. This time constraint exacerbates the difficulty of shifting entrenched attitudes and practices.

Participants in this study identified preconceptions about integrating visual literacy into the school curriculum as a significant challenge. These challenges included cultural differences, concerns for accuracy, and varying student perspectives regarding the use of visual literacy. Participants reported difficulty implementing their training due

to these issues. Limited research exists on cultural considerations when teaching visual literacy (Arnheim, 2023; Eisner, 2003). However, addressing the apprehension adults Insanally often associate with teaching art in schools remains crucial, as these fears can impede the effective adoption of visual literacy practices (Powell, 2023).

Teachers also noted challenges with students who did not enjoy engaging in visual literacy activities, suggesting that additional strategies may be required to foster student interest. The study underscored the effectiveness of teacher training when aligned with principles of adult learning. This finding aligns with the literature, which highlights the importance of teacher autonomy, ongoing professional development with peers, maintaining a growth mindset, and using child-centered approaches to facilitate learning (Knowles et al., 2014). Participants confirmed that such training fosters positive attitudes and builds confidence in implementing visual literacy in classrooms, as indicated by Insanally (2018) in a study on the enhancement of teaching and learning.

The findings also disconfirmed some previously reported challenges in the literature, such as the lack of inclusive visual literacy lessons, insufficient supervision, and the absence of flexibility in teaching methods (Eilam, 2012). Participants in this study did not experience these issues, however, suggesting that there has been progress in addressing these barriers through enhanced training programs. The results of this study extend the current literature on teacher training for visual literacy in early childhood and primary schools. The research of Insanally (2018) aligns with that utilized in the SoCs which could be used as benchmarks for future research and comparisons as in the case of Saudi Arabia. They also provide practical implications for designing more effective

training programs tailored to the Caribbean context. By addressing cultural nuances and adult learning needs, these findings could help develop transferable strategies that empower a broader cohort of confident teachers, ultimately fostering visual literacy among more students across the region.

Limitations of the Study

While this study produced important results about teachers' experiences with integrating visual imagery and incorporating visual literacy, as well as the impact of using visual images in lessons, several limitations that could affect the interpretation and generalization of the findings must be acknowledged (Adnan & Akbar, 2019). First, the dynamic interplay between face-to-face interactions, technology, and social media in classroom settings presents complexities that were difficult to capture fully within the scope of this research. The evolving nature of these elements may mean that some participant insights reflect only a snapshot of current trends, potentially limiting their applicability to future educational contexts.

Second, while this study focused on the perceptions of early childhood educators, primary educators, and student teachers, it did not comprehensively account for the broader systemic factors that influence the integration of visual literacy. These and other national and international standards were perceived by Sultana (2015) and Tunks and Weller (2009), who also used the CBAM, to examine change through innovation in education. The change process for those researchers manifested in the teachers' approach to self-tasks through impact. For this study, the influencing factors include infrastructure

limitations, access to resources, and institutional support, which are critical for effectively adopting visual literacy practices but fall outside the study's primary focus.

Additionally, the reliance on participants' self-reported perceptions raises the possibility of response bias (Batur & Özcan, 2020). Participants may have overstated or understated their familiarity with or support for visual literacy due to personal, professional, or cultural factors, potentially affecting the reliability of the findings. Despite these limitations, the study contributes valuable insights into the role of visual literacy (Bhroin & Cleary, 2021; Cappello & Walker, 2019) in early childhood and primary education. Its findings can serve as a foundation for future research to address the identified gaps, particularly in teacher training and professional development. By recognizing these limitations, this research highlights the need for ongoing exploration and adaptation to support the integration of visual literacy (Bircan & Çalışıcı, 2022; Bratianu et al., 2023; Braunack-Mayer et al., 2020) in the Caribbean educational system (K. R. Clark, 2022).

This study also has several limitations inherent to qualitative research. Qualitative research is inherently subjective, relying on the researcher's interpretations, which can introduce bias (Ravitch & Carl, 2019). Unlike quantitative research, which seeks singular truths, qualitative research acknowledges multiple realities shaped by individual perspectives (Creswell & Báez, 2020; Ravitch & Carl, 2019). In this study, data was collected through self-reported measures rather than direct observations, which may affect the accuracy of the findings. As the primary data collection instrument, my biases and preconceptions could have influenced the process, a common concern in qualitative

studies (Brooks et al., 1996; Patton, 2022). Therefore, the findings of this research should be considered within the specific context of public schools (Dyak et al., 2022) in the Caribbean region and may not be generalizable to other settings.

Recommendations

Further research is essential to enhance the effectiveness of visual literacy training for educators (Clark, 2022; Golding & Verrier, 2021) in early childhood and primary education. This study's findings, alongside existing literature, suggest several avenues for future investigation. Firstly, exploring the cultural dimension of visual literacy in early education is crucial (Engelmann et al., 2018; Gil-Fernández & Calderón-Garrido, 2022). Understanding how cultural backgrounds influence students' engagement with visual materials can inform the development (Hachey et al., 2021; Jing et al., 2023; Johnson, 2024) of more inclusive and effective teaching strategies. Research by Kovach (2019) and Liu and Liu (2023) suggests that cultural preferences have a significant impact on how visual information is interpreted and valued in educational settings.

Secondly, examining the relationship between teachers' personal experiences with visual media and their propensity to incorporate visual literacy into their teaching could provide valuable insights. Such studies may reveal how personal familiarity with visual tools impacts instructional practices, thereby guiding teacher recruitment and professional development efforts (Makoviichuk et al., 2020; Mayne & Dixon, 2020). Implementing visual literacy techniques among future educators (Meeks et al., 2020; Melena, 2021; Nellis et al., 2023) has been shown to enhance their teaching efficacy.

Additionally, there is a paucity of research capturing elementary students' perspectives on learning in visually rich environments. However, Reddy et al., 2023 engaged in studies that can lead to the design of more engaging and effective visual literacy experiences for children while Nurmahanani et al. (2021) conducted a study to gain insights into children's reading scores. Engaging young children in visual literacy instruction (Osiukhina, 2017; Pellerin & Lavoie, 2019; Penuel & O'Connor, 2018; R. Williams, 2022) has demonstrated benefits, suggesting that incorporating their feedback could further enhance educational outcomes.

Furthermore, understanding the perceptions of school administrators and education officers regarding visual literacy is vital. Their support is often pivotal in allocating time and resources for teacher training. Studies focusing on leadership attitudes towards visual literacy can inform strategies to foster supportive environments for its integration. Culturally responsive teaching practices have been shown to boost student engagement and motivation, underscoring the importance of administrative backing.

Finally, longitudinal studies tracking students who have participated in visual literacy programs from early childhood through primary education are warranted. Such research could assess the long-term impact of visual literacy on overall cognitive and academic development, providing empirical support for its sustained inclusion in curricula. The integration of visual literacy in primary education has been identified as a critical yet often overlooked component, highlighting the need for ongoing research in this area. Addressing these research areas can significantly enhance visual literacy education, benefiting educators and students across diverse educational contexts.

Implications

The Caribbean education system faces numerous challenges in teaching and learning, many of which have been intensified by the rapid development of visual and digital media following the COVID-19 pandemic. The findings of this study can make a significant contribution to changes in education at early childhood, primary education levels for teachers, students, institutions, and society. The education and government ministries aim to achieve positive educational and social change through the implementation of the NSC. For teachers, the findings of this study provide insight into the scope of the elements and principles of art that form the foundation of visual literacy, and into how they are used to describe and analyze imagery and objects. By understanding the use of visual literacy to train teachers to integrate visual language into their lessons, the teachers can adopt professional strategies to improve the performance of Caribbean schools.

The results of this study may support teachers' professional development and practice in integrating visual literacy, as the focus of the study was early education and primary teachers' perceptions of integrating visual literacy in their lessons across the curriculum. The findings may impact training programs, professional development workshops, and collaborative teaching to ensure standard procedures and content in visual literacy in all schools. With modifications to teacher training, students at the early childhood and primary levels may have the opportunity to realize the benefits of a curriculum that integrates visual literacy, thereby promoting creativity and critical thinking in a society experiencing rapid social change.

Social change would result from integrating visual literacy into the early childhood and primary education curriculum and student-teachers specializing in early childhood and primary education. This implies that the curriculum developers of early childhood and primary courses could go beyond creating visuals and teach the language of visual literacy, thereby developing skills in encoding and decoding visual imagery. Integrating visual literacy into the curriculum would require specialized training, with implications for a collaborative effort between the MOEYI and art educators, who could model the strategies and provide substantial feedback and clinical guidance throughout the learning process. This collaboration should be supported by all stakeholders equipped to effectively guide the process of change in teaching visual literacy to impact the needed change in teaching and learning in the education system.

Conclusion

Training educators to effectively integrate visual literacy into early childhood and primary education is essential for enhancing children's learning experiences. Visual literacy is how teachers learn to support and enhance their teaching content. Through visual literacy, teachers can encode culturally rich and relevant content conducive to the student's cognitive, socio-emotional, and physical developmental needs. Visual literacy equips teachers with the skills to help students decode and encode visual information. Including visual literacy in the teacher training curriculum will engage the teachers in using visual language as they learn how to critically analyze the content relating to visuals. It is evident from the teachers' responses that ongoing training is needed to navigate through the changes in the education system. Continued discussions are

anticipated among early childhood educators, primary educators, and student teachers who desire to share information and increase the use of technology to create innovative and interactive lessons integration in early childhood education, specifically its role in promoting visual arts education.

It is essential to explore visual literacy through encoding using tablets to support young children's learning and enhance their communication skills, while also attending to the diverse needs of teachers who work at different levels. Results showed that teachers positively perceived visual literacy as a tool for young children's education. The teachers were enlightened about the creative tools and other innovations from traditional art sources. They were also excited about the children's understanding of visual literacy and its possibilities. The study suggests that teachers' positive perceptions of visual literacy and an interactive learning environment of visuals and objects can foster creativity in teaching and learning.

While early childhood educators, primary education, and student teachers are enthusiastic about the ability to use the language of visual literacy to instruct and direct the students, they must train the students to express themselves using the language that is transferable to other subject areas. Examining the impact of teachers' enthusiasm on instructional activities, including videos associated with the desired level of integration, will result in rich cognitive and affective learning outcomes. By addressing the training needs of early childhood and primary educators, we can enrich the educational experience, allowing students to experience the joy of learning in a manner that is both creative and aligned with contemporary communication demands. This holistic

preparation is vital for developing well-rounded individuals capable of navigating and contributing to a visually oriented society.

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Appendix: Semistructured Questions

1. Can you describe your experiences using visual images in your teaching? What impact do you think it has had on your teaching style?
2. Can you share examples of visual literacy influencing your students' learning experiences? What outcomes have you observed?
3. What challenges do you face when incorporating visual literacy in your lessons? How do you address these challenges?
4. What factors influence your decision to incorporate or not incorporate visuals into your lessons?"
5. What outcomes have you observed when incorporating visual images into your teaching? Can you provide specific examples?
6. What are your objectives when using visuals in your lessons? How do these objectives align with your teaching goals?
7. What are the benefits of incorporating visual images into your lessons? Can you provide specific examples?
8. How do you use visual images in your lessons? Can you describe any innovative strategies or collaborative practices you have employed?
9. Describe the methods you and your colleagues use to work together, incorporating visual images into your lessons.
10. In what ways has visual imagery influenced or altered your instructional planning and lesson delivery?

11. What training programs have you participated in for implementing visual imagery in your lessons across the curriculum? How have they influenced your teaching practices?”
12. Explain how your technology training has equipped you to assist students in using visual images in your lessons.”
13. Can you share your journey with incorporating visual imagery into your teaching over the years? What changes have you noticed in your approach?”
14. Are you currently implementing any other significant innovations in your school? Can you describe your experience and its relation to visual imagery integration?”