

**PRE-SERVICE TEACHERS AND SCHOOL LIBRARIES: LEARNING
EXPERIENCES AND ATTITUDES IN NIGERIA AND ENGLAND**

BY

Olufunnke Abidemi OLUGBOJI

(100306049)

Resubmitted for the qualification of PhD in Education in the
School of Education and Lifelong Learning
Faculty of Social Sciences
University of East Anglia, UK

April 2026

ABSTRACT

This thesis investigates the Information Literacy development of pre-service teachers and the role of academic and school libraries within Initial Teacher Education, using a comparative case study of one university in Nigeria (Uni A) and one university in England (Uni B). The study was motivated by the growing importance of Information Literacy in contemporary education, where teachers are increasingly expected to locate, evaluate, interpret, and apply information critically in both university study and professional classroom practice. Despite this expectation, Information Literacy is often unevenly embedded within teacher education programmes, particularly across differing national and institutional contexts. One of the research questions is “What are the library use learning experiences of pre-service teachers during teacher training in Nigeria and England?” A mixed-methods comparative case study design was adopted. Quantitative data were collected through questionnaires administered to pre-service teachers and librarians, while qualitative data were generated through semi-structured interviews with pre-service teachers, librarians, course coordinators, and placement tutors. Data were analysed using descriptive statistics and thematic analysis, enabling both within-case and cross-case interpretation. The findings reveal that participants in both contexts recognised the educational value of libraries and the importance of Information Literacy for academic success and professional learning. However, significant contextual differences emerged. In the Nigeria case, positive attitudes towards libraries coexisted with constraints such as limited time, restricted access, inconsistent orientation, and uneven resource provision. In the England case, stronger institutional infrastructure, structured orientation, wider access to digital and print resources, and clearer academic support systems created more favourable conditions for Information Literacy development. Across both cases, the study found that availability of resources alone did not guarantee meaningful engagement; students’ learning experiences were shaped by curriculum integration, staff support, usability of services, and opportunities to apply inquiry skills during school placements. The thesis contributes to knowledge by extending understanding of Information Literacy within Initial Teacher Education through a cross-national lens and by proposing a context-sensitive conceptualisation of how access, engagement, pedagogy, and professional practice interact. It recommends that Information Literacy be explicitly embedded in teacher education curricula, supported through stronger librarian–academic collaboration, and recognised more clearly in teacher education policy and professional standards.

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DEDICATION

This thesis is dedicated first and foremost to Almighty God, whose grace, strength, wisdom, and unfailing faithfulness sustained me throughout this academic journey.

I also dedicate this work to my beloved family for their unwavering love, encouragement, patience, and sacrifices during the years of study and research.

Finally, I dedicate this thesis to educators, pre-service teachers, and advocates of school libraries whose commitment to teaching, learning, and literacy continues to inspire educational transformation and lifelong learning.

ACKNOWLEDGEMENTS

First and foremost, I thank God for His grace, wisdom, strength, and unfailing faithfulness throughout this doctoral journey.

My heartfelt thanks go to my supervisors and examiners for their invaluable guidance, insightful feedback, encouragement, and unwavering support throughout this research.

I am sincerely grateful to all the participants and the institutions involved in this study for their willingness to contribute their time and experiences.

I also extend my deepest appreciation to my family, friends, and colleagues for their love, prayers, patience, and constant encouragement during every stage of this journey.

Finally, I gratefully acknowledge the support of the University of East Anglia in providing the academic environment in which this research was completed.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

In today's world, teaching is no longer confined to chalkboards and textbooks. The very fabric of classrooms is shifting. This is an era of digital tools, online research, and a seemingly endless stream of information which now define the learning landscape. For pre-service teachers, as they prepare to step into this complex, ever-evolving environment, the ability to navigate, evaluate, and use information meaningfully is not just a professional add-on. It is an essential skill, fundamental to their identity as future educators. This capacity to critically engage with information, widely known as Information Literacy (IL), is increasingly at the heart of global discussions on educational quality, equity, and teacher preparation (Lloyd, 2021). UNESCO, among others, has underscored that as the information ecosystem becomes more complex, teachers must not only develop these competencies themselves but also foster them in their students (UNESCO, 2023). In essence, teacher education programmes carry the responsibility of shaping not just content experts, but information-conscious professionals who can support learners in making sense of knowledge in a digital age.

For the purposes of this study, some key terms require clarification. For instance, Initial Teacher Education (ITE) refers to the formal preparation undertaken by individuals before entering the teaching profession. In this thesis, teacher education is used as the overarching term encompassing both theoretical and practical preparation for teaching, while teacher training refers more specifically to the acquisition of classroom skills and professional competencies. School refers to the primary educational settings in which pre-service teachers undertake professional placements, whereas university refers to the higher education institution responsible for their academic and professional preparation.

The formative years of a teacher's training are especially critical because this is when professional practice is grounded. In these moments, pre-service teachers begin to develop their pedagogical dispositions, not only how to teach, but how to think, respond, and model what it means to be a reflective consumer and creator of information. It is within university libraries and school libraries that this development often takes root. These are not simply repositories of books, they are vibrant learning spaces where inquiry, research, and critical thinking intersect (Kuhlthau, Maniotes, & Caspari, 2015; Todd, 2022). When librarians and teacher educators work together,

they can embed Information Literacy instruction into teacher training curricula, enabling future teachers to experience inquiry-driven learning, develop research habits, and deepen their confidence in using and evaluating sources (Saunders et al., 2022). Yet, while there is growing recognition of this ideal, realities on the ground vary dramatically. International studies show that pre-service teachers' Information Literacy experiences differ widely depending on the country, institutional context, and available infrastructure (Shenton & Hay-Gibson, 2020; Msuya & Maro, 2021). In Nigeria, for instance, systemic barriers such as limited library infrastructure, under-resourcing, and inconsistent policy support, pose real challenges to embedding Information Literacy in teacher education (Aguolu & Igbinomwanhia, 2022; Olanrewaju, 2023). These constraints not only restrict access to information resources but can also affect how confident pre-service teachers feel about engaging with and teaching these skills in school settings. By contrast, in England, though challenges remain, particularly around funding, staff capacity, and fragmentation of policies, teacher education institutions often benefit from more established frameworks for Information Literacy. These include well-resourced university libraries, clear digital resource infrastructures, and opportunities for academic-librarian partnerships in embedding Information Literacy within teacher education (Williams & Wavell, 2022; UK Department for Education, 2023). These structural supports help pre-service teachers in England to not only develop Information Literacy skills but to understand their wider role as educators in cultivating a culture of inquiry.

These divergent contexts raise important reflections. How do pre-service teachers themselves perceive the value of Information Literacy? What are their lived experiences in university and school libraries? How do institutional practices, resource availability, and policy environments shape not just access, but attitudes towards information and learning? While research into information behaviour among university students is relatively extensive, studies that examine how Information Literacy develops specifically in the teacher education context, especially across different national and educational systems, remain limited (Foster & Julien, 2020; Shupe & Pilerot, 2022). Even more scarce are comparative investigations that consider both university and school library systems as part of a holistic ecosystem influencing pre-service teacher identity formation.

This study seeks to fill these gaps by focusing on the experiences and attitudes of pre-service teachers in Nigeria and England toward Information Literacy and library engagement. By adopting a comparative case-study design, it aims to uncover how pedagogical, institutional, and national-level factors support or limit the development of Information Literacy competencies in

Initial Teacher Education (ITE). Moreover, the research is globally relevant. Recent UNESCO policy discourses emphasize digital competence, open educational resources (OER), and the democratization of information as key pillars of quality education and teacher professional development (UNESCO, 2021; UNESCO, 2023). In investigating these themes, this enquiry does more than map differences. It offers insights into what effective, context-sensitive Information Literacy integration looks like, and how teacher education systems might evolve to better prepare future educators for the realities of a digitally mediated, information-rich classroom. The story that begins in this study is not merely one of comparison but of possibilities. That is, possibilities for more equitable, reflective, and informed approaches to teacher education that place Information Literacy at the very heart of teaching and learning.

This chapter covers the statement of the problem, the aim and objectives of the study, research questions, the significance of the study, the scope of the study and the global context in line with UNESCO's strategies on teacher and Information Literacy.

1.2 Statement of the Problem

Teaching in the twenty-first century is an exercise in navigating abundance. For the new teacher, the classroom is a site where a flood of information, some authoritative, some misleading, and much in-between, arrives constantly through screens, social media, curriculum materials and open online repositories. The challenge facing Initial Teacher Education (ITE) is not simply to equip pre-service teachers with methods of classroom management or curriculum knowledge, but to prepare them to be discerning mediators of information. That is, professionals who can model critical inquiry, teach trustworthy research practices, and help learners negotiate the ethical and civic dilemmas of a hyper-connected world. UNESCO's recent frameworks make this expectation explicit, urging the integration of media and Information Literacy into teacher training as part of broader digital and pedagogical competencies for educators (UNESCO, 2024). The UNESCO Media and Information Literacy Curriculum updated in 2024 states that, "In an information and knowledge-based society:

- Communication and information are central to the Sustainable Development Goals and democratic processes
- Content providers contribute to forming perceptions, beliefs and attitude
- There is an increase in user-generated content, the use of digital spaces, citizens' journalism, and citizens-driven information

- Media and Information Literacy is important for citizens' participation and success in society.

Despite growing consensus about the centrality of Information Literacy to teacher professionalism, practice and provision remain uneven. In some higher-income contexts such as much of England policy attention, institutional infrastructures, and collaborative practices between librarians and teacher educators create more stable opportunities for Information Literacy development, even as funding and policy fragmentation present ongoing pressures. For example, national initiatives and frameworks, including the Department for Education's reading and school improvement priorities, have renewed public debate about the place of libraries and reading in school life, highlighting both strengths and persistent gaps in access and provision (School Library Association, 2023).

In many low- and middle-income settings the promise of Information Literacy remains tightly constrained by persistent structural barriers that extend far beyond abstract ideals. In Nigeria, for example, chronic under-resourcing of both school and academic library infrastructure, including inadequate funding, outdated and limited collections, and uneven integration of Information and Communication Technology (ICT), continues to undermine the development of Information Literacy competencies among learners and educators alike. Studies document how many libraries lack functional digital access, reliable internet connectivity, and professionally trained personnel, conditions that significantly restrict opportunities for pre-service teachers to engage meaningfully with information-critical practices during their training (Muokwelu, 2025; Okeke & Nwachukwu, 2024; Onyebuchi & Ngwuchukwu, 2026). These systemic constraints are not incidental inconveniences but fundamental determinants of how future educators form professional identities, build confidence in their pedagogical capacities, and shape the learning environments they ultimately create for their students. In effect, limitations in material infrastructure, staffing, and curriculum integration work collectively to narrow the very competencies that global frameworks purport to promote, with implications for equity and educational quality that are deeply embedded in broader socio-economic inequalities.

In England, too, the realisation of Information Literacy within school systems is shaped by structural and cultural conditions that extend beyond policy rhetoric. Although official curricula and professional standards acknowledge the value of critical information practices, the term Information Literacy itself often remains peripheral in the language of teachers and subject specifications, resulting in varied and piecemeal approaches to its development across schools rather than a coherent, system-wide strategy. In practice, this uneven integration means that

opportunities for pre-service teachers to engage deeply with information-critical skills during training are constrained by the absence of a systematic policy emphasis and by the differing status afforded to school libraries and librarians within individual institutions (Infolit.org.uk, Schools sector overview, 2025). Moreover, research on school libraries in the United Kingdom highlights persistent variation in library provision and practice, with some schools demonstrating strategic, embedded Information Literacy work while others exhibit sporadic or opportunistic engagement, a gap that is widened by inconsistent resources and declining attention to library infrastructures in policy and school improvement agendas (Streatfeild et al., 2011). The Guardian (2024) published an independent review of libraries in England which highlighted a lack of recognition across government and widespread public unawareness of what libraries can offer. These systemic conditions matter profoundly because they shape the learning environments that pre-service teachers inhabit, influence their confidence and professional identity as future educators of inquiry and information competence, and ultimately affect the kinds of literate, critically engaged classrooms they are prepared to create.

Beyond these material disparities lie continuing methodological and empirical gaps in the literature. Although information behaviour, digital literacy, and Information Literacy practices among university students have received considerable scholarly attention, pre-service teachers remain a distinctive group whose professional identities require not only personal information competencies but also the capacity to model and teach critical information practices in future classrooms (Peciuliauskiene et al., 2022; Trixa & Kaspar, 2024). Recent studies indicate that pre-service teachers' Information Literacy, digital competence, and ability to evaluate and use information effectively are increasingly important dimensions of teacher preparation, particularly within digitally mediated educational environments (Hahn et al., 2022; Peciuliauskiene et al., 2022; Trixa & Kaspar, 2024). However, research remains comparatively limited in examining how these competencies are developed through specific teacher education contexts, institutional cultures, and school-based learning experiences.

Furthermore, relatively few studies adopt a comparative perspective that examines how pre-service teachers' experiences are shaped by different national and institutional contexts. Existing comparative research often focuses on policy structures, curriculum frameworks, or technological provision, while providing fewer contextualised accounts of how university preparation interacts with school placement experiences, institutional practices, and learners' lived realities (Crossley & Watson, 2003; Marín et al., 2023). Consequently, the evidence base remains fragmented, with a continuing need for research that moves beyond policy prescription to explore

how pre-service teachers experience, interpret, and negotiate Information Literacy development within their teacher education environments. Complicating this landscape further is the rapidly transforming nature of information itself. The emergence of generative artificial intelligence, the proliferation of deepfake technologies, and the algorithmic governance of digital platforms have fundamentally reshaped how knowledge is produced, accessed, and validated. UNESCO has consistently emphasised that contemporary teacher professionalism must incorporate media and Information Literacy as an integrated framework encompassing critical evaluation, responsible participation in digital spaces, ethical data practices, and resistance to misinformation and disinformation (UNESCO, 2021, 2023).

Compounding these conceptual and structural gaps are persistent methodological limitations within the existing body of research. Much of the current scholarship on Information Literacy in teacher education continues to rely on single-institution studies, self-reported surveys, or narrowly defined intervention-based evaluations. While such approaches offer valuable insights, they often do not capture the complex, situated, and relational nature of how Information Literacy is taught, experienced, and enacted across diverse institutional and professional contexts. Consequently, there remains a pressing need for comparative case study research designs that integrate quantitative survey evidence with qualitative interviews and documentary analysis, enabling the construction of richer, more contextually grounded accounts of pedagogical practice. Methodological pluralism is increasingly recognised as valuable in educational research because complex educational phenomena often require integration of multiple forms of evidence. BERA (2024) highlights the diversity of educational research approaches, while Creswell and Plano Clark (2023) argue that mixed-methods designs can provide more comprehensive understandings of complex educational questions.

Such integrative approaches are especially well-suited to investigations of Information Literacy, which unfolds across formal curricula, informal learning spaces, and practice-based environments such as teaching placements. By combining multiple data sources, researchers are better positioned to examine not only whether Information Literacy appears in programme documentation, but how it is operationalised in teaching, assessed within institutional frameworks, and translated into classroom practice through mentor guidance and school-based professional socialisation. Adopting this methodological orientation also enables the identification of disconnections between policy rhetoric and pedagogical reality and reveal where institutional intentions align with, or diverge from, the lived experiences of pre-service teachers. In this way, comparative, mixed-methods case studies do not merely document curricular presence, they

illuminate the processes through which Information Literacy becomes embedded, contested, or marginalised within teacher education environments.

In all, these issues create a clear and urgent research problem. There is lack of comprehensive, comparative, and contextually sensitive knowledge about how pre-service teachers in different national systems develop Information Literacy, how institutional and policy environments shape these processes, and how university and school intersections, especially through libraries and mentor relationships, mediate the transfer of Information Literacy into classroom practice. Addressing this gap is essential if teacher education is to fulfil its civic and pedagogical responsibilities in an era of accelerating informational complexity. This study therefore responded to an exigent need to assess the learning experiences and attitudes of pre-service teachers in Nigeria and England, to examine how university and school library systems contribute to or inhibit Information Literacy development, and to explore how placement mentoring supports the translation of Information Literacy from university contexts into meaningful classroom practice. The research aimed to produce findings that are both theoretically informed and practically useful, offering evidence-based recommendations for teacher educators, librarians, and policymakers committed to strengthening the information-competent capacities of future teachers. Hence the study of *Pre-service Teachers and School Libraries: Learning Experiences and Attitudes in Nigeria and England*.

1.3 Aim and Objectives of the Study

1.3.1 Rationale and Personal–Professional Orientation

This research is a continuation of my yearning to contribute my quota to the field of education, having earned my previous four degrees from the faculty of education. I started with my bachelor's degree in education and French (combined honours). My final-year project was on 'the attitude of students towards the learning of French' because I wanted to find out the reasons for my students' performances to find out how students could be encouraged or assisted however it applied to my future students. My interest in librarianship started from my childhood days when I voluntarily acted as the family librarian. I made sure that my siblings did not take a book from the family library without my knowledge. I had a notebook in which I recorded the name of the borrower, and the date the library resource should be returned. It was not a surprise that my first master's degree was in library studies. It was during this period that I took courses in library, archival, and information studies. My dissertation was 'the use of a micro-computer for bibliographic information retrieval: case study of the National Library of Nigeria.' My parents,

being learned themselves, had always told us that making use of library resources would have positive impact on our academic performance.

The findings of the research carried out by Carvalho e Rodrigues and Mandreka (2020) showed that there is a significant and remarkable relationship between library usage and the students' academic performance and success. In continuation of my quest for knowledge, and having found out through research, that information retrieval was possible, using a micro-computer, it dawned on me that educators were on their way to gather as much information as needed, to be effective in their roles. I decided to go further by being specific about the educators I wanted to focus on, so I chose early childhood educators because of my love for children. I wanted to know the information required by early childhood carers and primary school teachers and how they can access information during and after their training, for desirable outcomes as early years tutors and/or practitioners. I therefore enrolled in the master's programme in teacher education with specialisation in early childhood education. However, during my programme, events occurred in the education atmosphere in Nigeria that influenced my research work. The overall results of the West African School Certificate Examination (WASCE) were poor, and everyone was concerned, especially stakeholders in the education sector. The West African School Certificate Examination (WASCE) is the equivalent of the General Certificate of Secondary Education (GCSE) in the United Kingdom. I opined that the secondary school teachers should not carry all the blame, rather, there should be a review of the educational backgrounds of the students. With my background in language education, I carried out research on 'teacher quality and curriculum awareness factors as determinants of achievement of English Language curriculum objectives in selected primary schools in Nigeria.' I opined that if the primary school teachers had the requisite knowledge and understanding of the curriculum objectives of their teaching subject, they should be able to prepare themselves for the task of teaching their pupils for excellent performance.

In the research, I sought to know the joint effect of teacher quality and curriculum awareness factors on pupils' academic achievement in English Language. The research findings indicated that teacher quality and curriculum awareness factors did not jointly affect the pupils' achievement in English Language. As cited in Olugboji (2012), these findings support previous research findings that there was little or no significant relationship between teacher qualification and pupils' achievement (Oshokoya, 1999; Oladele, 1991; and Igwe, 1990). In similar research by Maphoso and Mahlo (2020) results showed that there was no relationship between qualifications of teachers and academic achievement of Grade 12 learners. What then was the cause of the poor performance of pupils in English Language in the Ordinary Level examinations? Were the pupils missing some vital academic skills to help their studies? When I enrolled for my Master of

Philosophy in Education programme, I seized the opportunity to carry out research to find out if school libraries were available for pupils to develop their literacy skills for personal development and academic enhancement.

The research examined the availability, standard, and accessibility of primary school libraries in one state in Nigeria. The findings revealed that the proportion of schools with library facilities was relatively low, though the standard of the available school libraries was high (Olugboji, 2017). Furthermore, pupils' access to the available school libraries was found to be high, and the benefits derived from their use were also significant. As a librarian and an educator of pre-service teachers in the fields of early childhood and primary education, I observed that student teachers engaged in academic studies and project work with varying degrees of reference to the information needs of the children they were being prepared to teach. This observation raised questions about the extent to which pre-service teachers develop the Information Literacy knowledge, skills, and dispositions required to support effective teaching and learning. Consequently, this doctoral research investigated the Information Literacy, attitudes and library use experiences of pre-service teachers, using the library as an important context for understanding their learning experiences. To provide a broader understanding of these experiences, the study adopted a comparative case study approach, examining pre-service teachers in selected institutions in Nigeria and England.

Growing up and studying in Nigeria, libraries were often symbolic spaces though aspirational but frequently constrained by limited resources, inconsistent funding, and infrastructural gaps. I recall moments when access to relevant materials depended as much on personal resourcefulness as on institutional provision. Later, working more closely within teacher education contexts, I witnessed how pre-service teachers often struggled to develop Information Literacy competencies because the systems intended to support them were themselves under strain. These struggles became even more visible during my engagements with student teachers on school placements, many of whom expressed uncertainty about how to evaluate digital content, integrate information effectively into lesson planning, or teach these skills to younger learners. The challenges were not a reflection of their willingness, but of the systemic realities shaping their preparation.

These personal experiences were further reinforced by global educational debates. UNESCO's sustained emphasis on digital literacy, open educational resources (OER), and equitable access to information has underscored Information Literacy as a core pillar of quality education and teacher professionalism (UNESCO, 2021, 2023, 2024). The organisation's

frameworks repeatedly call attention to the urgency of preparing teachers who can support learners in navigating misinformation, ethical information use, and rapidly expanding digital landscapes. As I engaged with these global directives, I found myself repeatedly returning to questions I had carried since my earliest experiences in Nigerian schools: How do we prepare teachers to participate in and guide others through the complexities of information-rich environments? What institutional cultures enable or constrain this preparation? And why do students in some contexts flourish while others struggle with skill sets that are increasingly non-negotiable in modern education?

These intersections of personal encounters, professional observations, and global policy imperatives became the catalyst for this research. They shaped my conviction that a comparative study between Nigeria and England offers more than descriptive contrast. Rather, it provides a richer understanding of how Information Literacy is lived, experienced, and valued by pre-service teachers within different socio-educational systems. The comparative lens allowed me to ask not only what the differences are but why they exist and how they matter for teacher preparation and future classroom practice.

At its core, then, this study is a response to a recurring tension I have witnessed across contexts: the gap between global aspirations around Information Literacy and the uneven realities experienced by those who are expected to embody and teach it. Pre-service teachers sit at a critical juncture in this conversation. Their journeys through university and school libraries, their experiences of digital environments, and their evolving perceptions of Information Literacy shape the pedagogical cultures they will one day lead. As UNESCO (2023) argues, the quality of an education system cannot surpass the quality of its teachers. Yet, teachers' capacity to guide learners in navigating information-rich worlds is only as strong as the systems that prepare them.

By engaging with pre-service teachers, their course coordinators, school-based mentors, and the libraries that serve them, this study sought to illuminate how institutional structures, pedagogical practices, and national policy contexts shape the emergence of Information Literacy competencies. My own trajectory has shaped both the questions I ask and the sensitivity with which I approach the empirical realities of students navigating these systems. In doing so, I aim to contribute to a more equitable understanding of Information Literacy development that resonates with global priorities while remaining grounded in the lived experiences of those at the heart of teacher education.

1.3.2 Aim of the Study

The aim of this study was to conduct a comparative assessment of how pre-service teachers in Nigeria and England experience, understand, and perceive Information Literacy within their Initial Teacher Education (ITE) programmes, with particular attention to the role of university and school library systems in shaping these experiences. Through a mixed-methods case study design, the study sought to illuminate the contextual, institutional, and pedagogical factors that influence Information Literacy development, and to interpret these findings in light of global policy directives, especially UNESCO frameworks, and contemporary debates on teacher professionalism, and equitable access to information.

1.3.3 Objectives of the Study

Although Information Literacy has attracted sustained scholarly attention within teacher education, research focusing specifically on the preparation of early years pre-service teachers remains comparatively limited. Much of the recent literature continues to concentrate on higher education students as a general population, digital competence across university programmes, or teacher preparation in broader and often secondary-oriented contexts. As a result, early childhood and primary teacher education remain less visible within the evidence base. This gap is important because the early years of schooling are foundational for children's emerging inquiry habits, language development, critical thinking, and dispositions towards information use and learning (Aubrey & Dahl, 2014; Dong & Newman, 2018; Marsh et al., 2018; Tondeur et al., 2021).

Earlier work by Lamb, Howard, and Easey (2014) examined pre-service teachers' engagement with academic library databases and found that while confidence in database searching increased over time, students continued to require structured and sustained support. Their findings suggested that surface-level confidence did not necessarily translate into sophisticated searching practices capable of supporting deep disciplinary engagement, particularly in primary education contexts. More recent studies echo these concerns, noting that without intentional pedagogical scaffolding, pre-service teachers often struggle to critically navigate scholarly information environments (Head et al., 2020; Julien & Genuis, 2022).

Within early childhood education specifically, Parisi-Moreno, Llonch-Molina, and Selfa (2021) highlighted a notable lack of empirical research on how Information Literacy is taught, learned, and experienced at this stage of education. While scholars widely agree that Information Literacy is foundational to early learning in supporting curiosity, inquiry, and emerging critical

thinking (Graham & Kelly, 2019; UNESCO, 2023), few studies have examined how early years teachers themselves are prepared to foster these competencies. This persistent gap has been observed for decades (Rader, 2002) and remains evident in contemporary literature, despite growing recognition of Information Literacy as a core educational capability in digitally mediated societies.

The preparation of information-literate pre-service teachers is therefore central to nurturing information-aware learners from an early age. As Crouse and Kasbohm (2005) argued, effective development of Information Literacy in teacher education depends on strong collaboration between teacher educators and academic librarians. Recent scholarship continues to reinforce this position, emphasising that such partnerships enhance curriculum coherence, research capacity, and the development of transferable Information Literacy skills across disciplines (Saunders & Wong, 2020; McGuinness, 2023). Although these professional roles are distinct, their interdependence within higher education institutions represents significant potential for strengthening research-informed teaching and learning practices.

Against this backdrop, the study explored school libraries through the perspectives of pre-service teachers training to become primary school teachers. The pupils referenced in this research fall broadly within the age range of 5 to 12 years, reflecting both Nigerian and English educational contexts. In Nigeria, the National Policy on Education defines primary education as schooling provided for children aged 6 to 12 years (Federal Republic of Nigeria (FRN) 2013). In England, national policy requires children to begin compulsory schooling in the term following their fifth birthday (Department for Education, 2021).

By adopting a comparative approach, this study seeks to assess how pre-service teachers in Nigeria and England experience school libraries during their training and how these experiences shape their attitudes towards Information Literacy and library use. The overarching aim was to explore the potential for developing deep, enduring appreciation of Information Literacy as both an academic competence and a professional responsibility. As Information Literacy is increasingly recognised as a core skill that should be cultivated from early childhood (Parisi-Moreno et al., 2021; UNESCO, 2023), understanding how future teachers are prepared to engage with and value school libraries is both timely and essential.

To operationalise the overarching aim of the study, a set of interconnected objectives was developed. Rather than functioning as discrete targets, these objectives work collectively to illuminate the institutional, pedagogical, and experiential dimensions of Information Literacy

development within Initial Teacher Education (ITE) in Nigeria and England. Each objective responds directly to gaps identified in the literature.

First, the study seeks to examine the structures, resources, and Information Literacy–related provision within university and school libraries that support pre-service teachers in both national contexts. Information Literacy does not develop in isolation; it is shaped by the learning environments, infrastructures, and professional supports available to students. University and school libraries function as critical hubs for digital access, research guidance, and academic skills development. Recent studies emphasise that the availability of digital collections, specialist librarians, curriculum-integrated instruction, and clear library policies significantly influences students’ confidence and competence in information use (Saunders et al., 2022; Todd, 2022; Williams & Wavell, 2023). By examining these institutional conditions, the study establishes a contextual foundation for understanding how variations in provision may enable or constrain Information Literacy learning.

Closely aligned with this institutional focus, the study also assessed pre-service teachers’ experiences, attitudes, and perceived preparedness in relation to Information Literacy and library engagement during their training. Student perspectives are central to understanding how Information Literacy is interpreted, valued, and enacted in practice. Research increasingly demonstrates that learners’ beliefs about libraries, digital research, and independent inquiry strongly shape their engagement and skill development (Foster & Julien, 2020; Shupe & Pilerot, 2022; McGuinness, 2023). This objective foregrounds the lived realities of pre-service teachers, examining how they navigate information tasks, experience instructional support, and assess their readiness to teach Information Literacy in future classrooms.

Beyond student experiences, the study investigates how teacher education coordinators, librarians, and school-based mentors conceptualise Information Literacy and integrate it into their professional support for pre-service teachers. These actors play a crucial mediating role between policy intentions and classroom practice. Existing research suggests that misalignment between university-based instruction and school-based expectations can result in fragmented or inconsistent Information Literacy development (Lloyd, 2021; Msuya & Maro, 2021; Julien et al., 2023). By examining the perspectives of those who design, deliver, and support ITE programmes, the study adopts a holistic view of the pedagogical and cultural influences shaping pre-service teachers’ learning.

To complement experiential data, the study further analyses curriculum documents, course materials, and school policies to examine how Information Literacy is formally represented and operationalised within ITE programmes in both contexts. Documentary analysis provides insight into the intended curriculum and policy frameworks that underpin professional practice. National strategies, module descriptors, placement handbooks, and school library policies often reveal implicit or explicit expectations regarding Information Literacy and digital competence. Aligning documentary evidence with participant experiences enables deeper interpretation of systemic enablers and constraints (Department for Education, 2023; Olanrewaju, 2023; UNESCO, 2024), thereby strengthening methodological triangulation and analytical depth.

A further objective of the study is to conduct a cross-case comparative analysis that identifies similarities, differences, and contextual influences shaping Information Literacy development across Nigeria and England. Comparative inquiry extends beyond surface-level contrast; it provides a critical lens for understanding how historical, cultural, economic, and policy-related factors interact to shape educational experiences (Crossley & Watson, 2021; Bray, Adamson, & Mason, 2022). Through comparison, the study seeks to generate nuanced insights that move beyond national description towards explanatory understanding.

Finally, the study aims to interpret its findings in relation to global policy frameworks, particularly UNESCO's strategies on digital competence, open educational resources (OER), and teacher professionalisation. UNESCO's frameworks (2021–2024) articulate international expectations for teacher preparation in information-rich societies and emphasise equity, inclusion, and lifelong learning. Situating the study's findings within these global discourses bridges local realities with international priorities and highlights areas of alignment, adaptation, and constraint. In doing so, the study contributes not only to academic debates but also to broader policy conversations concerning teacher capacity, educational equity, and the future of learning in digitally mediated environments (UNESCO, 2023; 2024).

Collectively, these objectives provide a rigorous and coherent framework for investigating Information Literacy development within pre-service teacher education as a contextually situated phenomenon. By integrating pre-service teachers' lived experiences with institutional practices, professional perspectives, and global policy frameworks, the study adopts a comparative case study approach that enables nuanced analysis across the distinct educational contexts of Nigeria and England. This integrated orientation ensures alignment between the study's conceptual foundations, methodological design, and analytical focus. The following section translates these

objectives into a set of clearly articulated research questions that guide the study and support systematic cross-case comparison.

1.4 Research Questions

The focus of this research was to investigate the pre-service teachers and school libraries: learning experiences and attitudes in Nigeria and England, to assess the level of their Information Literacy, using library use experience as a measurement of their attitude towards the library. This was because I hypothesised that the findings of the research may give an insight into the capacity of the pre-service teachers to induct the learners they teach once they qualify as teachers, since they can only teach effectively within the scope of their own knowledge and skills. In response to the gaps identified in the literature and the need to deepen understanding of Information Literacy development within differing teacher education contexts, this study was guided by the following research questions:

1. What are the library use learning experiences of pre-service teachers during teacher training in Nigeria and England?
2. What is the attitude of pre-service teachers towards the use of libraries in Nigeria and England?
3. What is the relationship between the attitudes and the library use learning experiences of pre-service teachers in Nigeria and England?

1.5 Significance of the Study

The significance of this study emerged from its contribution to ongoing global and national conversations about the quality of teacher education, the centrality of Information Literacy in contemporary pedagogical practice, and the role of libraries as learning infrastructures within increasingly digital educational environments. As UNESCO (2023, 2024) has emphasised, teachers are pivotal actors in preparing learners to navigate complex information landscapes characterised by rapid technological change, prolific misinformation, and expanding digital divides. Yet, the extent to which teacher preparation programmes equip future educators with the requisite Information Literacy competencies continues to vary widely across national contexts.

In this respect, the study addressed a critical knowledge gap by examining how pre-service teachers in Nigeria and England, two countries with distinct educational histories, infrastructural capacities, and policy orientations, learn about, experience, and engage with Information Literacy during their Initial Teacher Education. Comparative inquiries of this nature remain limited, despite

growing recognition that understanding Information Literacy development within diverse contexts can offer valuable insights for strengthening global teacher preparation frameworks (Shupe & Pilerot, 2022; Lloyd, 2021). By situating Information Literacy within the lived experiences of pre-service teachers, the study advances a more grounded, practice-oriented understanding of how competencies are formed, negotiated, or constrained within real institutional environments.

A second area of significance was embedded in the study's attention to the role of university and school libraries in shaping Information Literacy development. Evidence suggested that sustained engagement with library services, whether through structured instruction, guided inquiry, or informal support, plays a pivotal role in helping pre-service teachers cultivate research skills, digital discernment, and pedagogical confidence (Saunders et al., 2022; Todd, 2022). However, scholars increasingly note disparities in library provision, particularly in low- and middle-income countries, where infrastructural and staffing limitations can hinder effective Information Literacy development (Aguolu & Igbinomwanhia, 2022; Olanrewaju, 2023). By examining these dynamics in parallel national systems, the study contributes fresh empirical understanding of how library ecosystems either support or hinder pre-service teachers' Information Literacy learning.

The study was also significant for its potential policy and institutional implications. In Nigeria, persistent challenges in library funding, digital infrastructure, and Information Literacy policy implementation continue to shape students' academic engagement (Msuya & Maro, 2021; Olanrewaju, 2023). In England, while the educational landscape is comparatively resource-rich, concerns remain around inconsistent Information Literacy integration across programmes and the pressures of ongoing funding constraints (Williams & Wavell, 2022; UK Department for Education, 2023). By illuminating how pre-service teachers perceive and navigate these environments, the study generated evidence that could inform curriculum review processes, library development planning, digital literacy strategies, and broader teacher education reforms.

Additionally, the study holds methodological significance by applying a comparative case study design that foregrounds pre-service teachers' voices. Much of the existing Information Literacy literature in teacher education prioritises institutional perspectives or librarian-led interventions. By contrast, this study centred the lived realities, interpretations, and meaning-making processes of pre-service teachers themselves. This humanised approach aligned with recent calls for more situated, learner-centred research that acknowledges the relational and affective dimensions of Information Literacy development (Foster & Julien, 2020; Lloyd, 2021).

Through interviews, document analysis, and institutional engagement, the study thus offered a nuanced account of Information Literacy learning as both cognitive and experiential.

Finally, the study contributed to broader global debates about equity in access to information and the preparedness of teachers to engage with digitally mediated learning environments. As digital transformation accelerates across education systems, the ability of teachers to model critical inquiry, ethical information use, and digital citizenship has become increasingly vital (UNESCO, 2024; OECD, 2023). By investigating Information Literacy development at the foundational phase of teacher education, this study provided insights that were not only relevant to Nigeria and England, but also to international policymakers, librarians, teacher educators, and institutions striving to strengthen Information Literacy provision for future generations of teachers.

Taken together, these contributions underscored the study's relevance for scholarship, policy, and practice. It deepened comparative understanding of Information Literacy development in teacher education, highlighted the importance of supportive library ecosystems, and provided evidence that could guide both national reform and global Information Literacy capacity-building efforts. In doing so, the study positioned Information Literacy not merely as a technical skill, but as a cornerstone of professional identity formation for teachers preparing to educate learners in an increasingly complex information society.

1.6 Scope of the Study

The scope of this study was intentionally defined to support a focused yet meaningful comparative examination of how pre-service teachers in Nigeria and England develop, experience, and make sense of Information Literacy within the intersecting contexts of university and school library provision. Recognising the expansive nature of Information Literacy, which encompasses digital competence, inquiry-based learning, ethical information use, access to resources, and pedagogical application, this study established clear boundaries to ensure analytical coherence. At the same time, these boundaries remained sufficiently flexible to accommodate the complexity and nuance of participants' lived experiences. This section therefore delineated the conceptual, geographical, institutional, methodological, and participant-related parameters that framed the study, while also clarifying areas that laid beyond its intended scope.

1.6.1 Conceptual Boundaries

Conceptually, the study focused on Information Literacy as a pedagogical and professional competence within Initial Teacher Education (ITE). It draws on contemporary understandings of Information Literacy that position it as a multifaceted capacity enabling individuals to locate, evaluate, use, and create information in ethical and socially responsible ways (Lloyd, 2021; UNESCO, 2023; Association of College and Research Libraries (ACRL), 2022). While Information Literacy overlaps with digital literacy, media literacy, and critical literacy, the study does not examine these domains as separate constructs. Instead, it views them as intersecting dimensions within an integrated Information Literacy framework (Pilerot, 2024; McGrew, 2023).

The study was not designed to measure Information Literacy through standardised assessments or competency tests. Rather, it sought to understand how Information Literacy is perceived, experienced, and supported and how pre-service teachers make sense of Information Literacy in relation to their learning. The study was also sought how libraries contribute to the professional development of pre-service teachers and how institutional structures support or constrain their Information Literacy engagement. This emphasis on meaning-making resonates with contemporary developments in Information Literacy scholarship, which increasingly conceptualise Information Literacy as a sociocultural and practice-based phenomenon shaped by context, interaction, and lived experience (Shupe & Pilerot, 2022; Hicks, 2024).

1.6.2 Geographical Boundaries

The study is delimited to two national contexts:

- Nigeria – representing a lower-middle-income country with ongoing challenges in library infrastructure, policy implementation, and digital access (Aguolu & Igbinomwanhia, 2022; Olanrewaju, 2023).
- England – representing a high-income context where Information Literacy is more consistently embedded within higher education programmes, though still subject to funding pressures and policy fragmentation (Williams & Wavell, 2022; UK Department for Education, 2023).

These two settings are not intended to represent all of Africa or Europe; nor is the study positioned to draw generalisable conclusions about their entire education systems. Instead, the comparison provides a contextually sensitive window into how differing educational cultures shape Information Literacy experiences.

1.6.3 Institutional Boundaries

Within each country, the study focuses on one teacher education institution:

- University A in Nigeria
- University B in England

These institutions were purposefully selected based on criteria such as the availability of pre-service teachers following the postgraduate diploma/certificate in education programme, accessibility for research, and the presence of identifiable library-support structures. Although the findings may resonate with similar institutions elsewhere, the study does not claim to represent national averages or systemic performance. The study also includes one school placement site per country, selected based on their involvement in hosting the participating pre-service teachers. These schools provide insight into the continuity or discontinuity between university Information Literacy experiences and school-based professional practice.

1.6.4 Participant Boundaries

Participants include:

- 52 Pre-service teachers (from both universities)
- 2 University librarians
- 2 Gatekeepers (Course leaders / programme coordinators)
- 2 School-based teacher mentors or tutors

The study does not extend to:

- In-service teachers not involved in mentoring
- School principals or headteachers
- Policy officials or government bodies
- Undergraduate students from non-education programmes

This focused participant group allowed the study to remain tightly aligned with its research questions, centring the voices and experiences of those most directly involved in Information Literacy learning within the Initial Teacher Education programme.

1.6.5 Methodological Boundaries

Methodologically, the study employs a comparative multiple-case study design (Yin, 2024; Bray & Thomas, 2022), integrating both qualitative and quantitative strands. The boundaries are as follows:

- Quantitative data: descriptive survey results from pre-service teachers and librarians. The study did not attempt inferential statistical generalisation.
- Qualitative data: semi-structured interviews and documentary analysis. The study did not employ ethnography, extended participant observation, or longitudinal tracking.
- Document analysis was limited to curriculum documents and student handbooks made accessible by gatekeepers. It did not include internal institutional documents that fell outside ethical clearance.
- Comparative analysis focused on thematic patterns rather than systemic benchmarking.

Furthermore, the study acknowledged that digital technologies, including artificial intelligence (AI) tools, online research platforms, and open educational resources (OER), are rapidly evolving. While these were discussed where relevant, the study did not evaluate specific technologies or digital platforms in-depth.

1.6.6 Temporal Boundaries

The research was situated within the period 2023–2025, which captured a post-pandemic phase marked by heightened global attention to digital learning, online resource use, and educational resilience (UNESCO, 2023; OECD, 2024). The findings represent this temporal moment and do not claim to reflect long-term institutional histories.

1.6.7 Rationale for These Boundaries

The delimitations adopted here reflect the methodological intention to understand pre-service teachers' Information Literacy experiences in deeply contextualised ways. Comparative education scholars argue that meaningful comparison requires careful calibration of boundaries to avoid overgeneralisation and to illuminate the cultural, institutional, and pedagogical nuances that shape educational processes (Crossley & Watson, 2023; Bray & Thomas, 2022). By narrowing the focus to two institutions and their associated school placements, the study prioritised depth of insight over breadth of coverage. The boundaries also aligned with calls within Information Literacy scholarship for research that foregrounds learners' voices, contextual diversity, and the

social dimensions of Information Literacy practice (Lloyd, 2021; Hicks, 2024). These limits enable the study to generate rich, situated understandings that can inform policy, teacher education practice, and future research.

To maintain conceptual clarity and ensure that the study remained closely aligned with its research questions, several related issues were deliberately placed outside its scope. Although these areas may intersect with Information Literacy development in meaningful ways, they were not examined directly within the present inquiry. First, the study did not undertake comprehensive audits of ICT infrastructure within participating institutions. While access to technology formed part of the wider discussion, a detailed technical evaluation of hardware capacity, connectivity, software systems, or institutional digital readiness was beyond the intended focus. Similarly, the research did not include economic analyses of library funding, budget allocation, or resource procurement processes, even though such factors may influence the quality of provision available to students. The study also did not investigate broader national literacy outcomes or large-scale educational attainment measures. Its concern was specifically with Information Literacy within Initial Teacher Education rather than with population-level literacy trends. In the same vein, wider teacher recruitment and retention challenges were not explored except where they related directly to the preparation of pre-service teachers for information use in academic and professional contexts.

Finally, the comparative dimension of the study was limited to Nigeria and England. It did not extend to cross-national comparisons involving additional countries, nor did it attempt a system-wide evaluation of curriculum reforms across either education system. These are substantial areas of inquiry in their own right and would require broader methodological designs. By setting these boundaries, the study was able to retain a clear and manageable focus on how Information Literacy is understood, experienced, and enacted within the selected teacher education contexts.

1.7 Global Context — UNESCO Strategies on Teachers and Information Literacy

In a world defined by accelerating digital transformation, global inequalities in access to information, and an ever-expanding media environment, the role of educators has never been more critical. For this reason, the global community, through UNESCO, has articulated a robust strategy to embed Information Literacy (IL), which is frequently under the broader rubric of Media and Information Literacy (MIL), into teacher preparation and professional development. These international frameworks do not merely situate Information Literacy as a supplementary skill,

rather, they envision it as foundational to teacher professionalism, quality education, and equitable participation in knowledge societies (UNESCO, 2023; UNESCO, 2024).

1.7.1 UNESCO's ICT-CFT and Its Relevance to Teacher Education

One of the most influential policy instruments in this domain is the UNESCO Information and Communication Technology Competency Framework for Teachers (ICT-CFT), now in its Version 3, updated in 2023. This framework outlines a comprehensive set of competencies that teachers, whether pre-service or in-service, should possess to integrate digital technologies and information resources effectively within their pedagogical practice (UNESCO, 2023). The ICT-CFT emphasises not just technical proficiency, but also pedagogical innovation, curriculum integration, equitable and inclusive access, and capacities for continuous professional development. The Information and Communication Technology Competency Framework for Teachers (ICT-CFT) (UNESCO, 2023) conceptualises digital competence as a developmental continuum, articulated across three progressively sophisticated levels of practice. These levels encompass not only pedagogical applications within teaching and learning, but also the effective use of digital tools in school administration, sustained engagement in continuing professional development, and the strategic alignment of classroom practice with broader institutional and national policy priorities. In doing so, the framework positions digital competence not as a static technical skillset, but as an evolving professional capacity embedded within wider educational systems and reform agendas.

By foregrounding competencies such as critical evaluation of information, ethical use of digital tools, open educational resources (OER) adoption, and learner-centred digital pedagogy, the ICT-CFT articulates a vision of teaching for the twenty-first century. This vision is one where educators are not simply dispensers of content, but mediators of knowledge, guides for critical inquiry, and facilitators of digital citizenship, in line with the focus of UNESCO on digital competencies and skills (UNESCO, 2023). Furthermore, for teacher education programmes, this framework provides not only direction but also a normative benchmark in which teacher preparation institutions are urged to build curricula, assessment strategies, and support systems that reflect the full spectrum of these competencies, from basic ICT literacy to transformative pedagogical practices.

1.7.2 The Media and Information Literacy (MIL) Curriculum for Teachers and Its Expansion

Complementing the ICT-CFT, UNESCO has developed the Media and Information Literacy Curriculum for Teachers. This is a curriculum framework explicitly designed to support educators in acquiring competencies related to searching, evaluating, using, creating, and disseminating information and media responsibly (UNESCO, 2024). This Media and Information Literacy curriculum addresses traditional literacies such as reading and research, and extends to digital, media, and information literacies, aligning with the demands of a media-saturated, digitally networked world. Recent advancements underscore the urgency and relevance of Media and Information Literacy. In 2024, UNESCO launched fully online and audio-based Massive Open Online Courses (MOOCs) for example, Think Critically, Click Wisely, which aimed at empowering educators globally to tackle misinformation, disinformation, hate speech, and the challenges posed by artificial intelligence (AI). These issues are such that increasingly define contemporary information ecosystems according to the UNESCO's Innovative Tools for Media and Information Literacy (UNESCO, 2024).

Moreover, in its 2025 strategic report, UNESCO reaffirmed its commitment to Media and Information Literacy integration across education systems, noting that since 2021 several member states have initiated national Media and Information Literacy policies or are adapting the model Media and Information Literacy curriculum for local use. According to the UNESCO's Strategic Results Report (UNESCO, 2024), this reflects a growing global consensus that Information Literacy is not a peripheral concern but a foundational pillar for achieving Education for All and the broader Sustainable Development Goals (SDGs), which include equitable access to quality education and lifelong learning.

1.7.3 The Global Turn Toward Equity, Inclusion, and Digital Citizenship

Underpinning both the Information and Communication Technology Competency Framework for Teachers (ICT-CFT), and the Media and Information Literacy (MIL) curriculum is a commitment to equity, inclusion, and social justice. UNESCO (2013) frames Information Literacy and media and Information Literacy (IL/MIL) as essential not only for academic success but also for enabling all learners, irrespective of socio-economic background, language, or geography, to participate meaningfully in knowledge societies. In an era marked by misinformation, algorithmic bias, the rise of generative artificial intelligence, and widening digital divides, the competencies outlined in these frameworks become critically important. Teachers

trained under these frameworks are better positioned to foster digital citizenship, encourage ethical and reflective information use, and contribute to sustainable, inclusive, and democratic educational cultures (UNESCO, 2023; UNESCO, 2024).

Furthermore, UNESCO's global media and Information Literacy strategy underscores the role of libraries, not only as repositories of knowledge, but as dynamic learning spaces and hubs of civic engagement. UNESCO (2023) explicitly positions libraries, whether school-based, higher education, or community-based, as central pedagogical spaces for Information Literacy and media and Information Literacy education, supporting inquiry-driven learning, open educational resource sharing, and participatory information practices.

1.7.4 Implications for Comparative Teacher Education Research

The global policy landscape outlined above articulates a normative vision of teacher education oriented towards the preparation of information-competent and digitally capable educators. From a sociocultural learning perspective, these frameworks cannot be treated as policy blueprints that automatically translate into practice. Instead, their influence is shaped through everyday institutional routines, professional cultures, available resources, and the lived interactions that structure how pre-service teachers learn, participate, and make sense of their emerging professional roles. In this way, policy intentions become meaningful only as they are interpreted, negotiated, and enacted within real educational settings. This theoretical positioning foregrounds the need to examine not only what policies propose, but how Information Literacy is socially produced within specific educational ecologies.

To address this complexity, the present study adopts a comparative case study approach that is theoretically informed by both interpretivist traditions in educational research and sociocultural conceptions of learning as participation in practice. As Yin (2018) argues, case study methodology is particularly well suited to investigating contemporary phenomena embedded within real-life contexts, especially where the boundaries between policy, institutional structures, and everyday practice are blurred. In parallel, Stake's (2015) constructivist orientation to case study research emphasises the importance of understanding meaning-making from the perspectives of participants, aligning closely with this case study's focus on pre-service teachers' experiences and attitudes towards school libraries and Information Literacy learning.

Within the comparative contexts of Nigeria and England, this methodological framing enables systematic exploration of how global frameworks, most notably UNESCO's Information

and Communication Technology Competency Framework for Teachers (ICT-CFT) and Media and Information Literacy (MIL) guidelines are interpreted, recontextualised, and enacted within national teacher education systems. Drawing on Crossley and Watson's (2003) conceptualisation of comparative education as a means of understanding how global educational discourses intersect with local cultural, political, and institutional realities, the study positions policy translation as a socially situated process rather than a linear transfer of international models. This comparative lens informs the documentary analysis of institutional curricula and strategies, enabling attention to both convergence and divergence across the two national contexts.

Furthermore, sociocultural learning theory directs analytical attention to the material and relational conditions that mediate learning opportunities. Differences in school and university library provision, digital infrastructure, staffing expertise, and access to information resources are conceptualised not simply as contextual variables, but as mediating artefacts and institutional affordances that shape participation in Information Literacy practices. Consistent with Yin's (2018) emphasis on multiple sources of evidence, the study integrates interview data, and contextual documentation to capture these structural and pedagogical dynamics across the selected cases. The distinction between policy rhetoric and pedagogical practice is also central to the comparative case study design. Information Literacy education may be enacted through formal coursework, embedded disciplinary modules, library-led instruction, informal learning spaces, or ad-hoc academic support arrangements. Each of these sites represents a distinct community of practice (Lave & Wenger, 1991) with its own norms and participation structures. The qualitative methodological emphasis of the study enables an exploration of how these learning spaces operate in practice and how pre-service teachers navigate multiple institutional learning environments within and across national systems.

Finally, the study conceptualises professional identity formation as an emergent outcome of participation in socially mediated learning contexts. Stake's (2015) emphasis on experiential knowledge and Yin's (2018) analytic generalisation framework support an approach that prioritises depth of understanding over statistical representativeness while still generating theoretically transferable insights. This perspective is consistent with contemporary scholarship that views teacher identity as a dynamic, socially situated, and continuously negotiated process shaped through interactions with institutional contexts, professional communities, and learning experiences (Izadinia, 2024; Nguyen & Velayutham, 2024). By examining how pre-service teachers engage with school libraries, academic librarians, digital platforms, and information practices, the research captures how Information Literacy competencies become embedded within

evolving professional identities, pedagogical beliefs, and future classroom orientations. Recent studies suggest that Information Literacy and related digital information competencies are increasingly integral to teacher professionalism, influencing how pre-service teachers evaluate information, construct knowledge, and prepare for effective classroom practice (Peciuliauskiene et al., 2022; Trixa & Kaspar, 2024).

Through embedding this investigation within a sociocultural and comparative case study framework, the research moves beyond surface-level policy alignment to develop a contextually grounded understanding of how Information Literacy is enacted within teacher education settings. In doing so, it positions school libraries as critical pedagogical infrastructures where global educational aspirations intersect with local institutional realities, and where pre-service teachers actively construct the professional knowledge, dispositions, and information practices required for contemporary educational practice (Lupton, 2023; Antoninis et al., in UNESCO, 2023). This background provides the foundation for the literature review presented in the next chapter.

CHAPTER TWO

2.0 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter reviews the literature relevant to Information Literacy within teacher education. It examines the concept, models, and relevance of Information Literacy to teacher education. The chapter also explores the relationship between library use and student achievement in teacher education, with particular attention to its implications for effective classroom practice. In addition, it considers the role of libraries in supporting the development of Information Literacy among pre-service teachers. The review further examines the influence of digital transformation, electronic resources, emerging technologies, and developments within the teaching workforce. It then discusses the interrelationship between Information Literacy, critical thinking, and metacognition in teacher education. Particular attention is given to conceptual, methodological, and contextual gaps within existing research on Information Literacy, libraries, and initial teacher education. The chapter concludes by presenting the conceptual framework that underpins the study. The framework conceptualises Information Literacy as a situated professional practice enacted within institutional ecologies and is organised around three interconnected dimensions: access, engagement, and transformation. These dimensions provide the analytical lens through which the experiences of pre-service teachers in Nigeria and England are examined throughout the study.

2.1 Introduction and Approach to the Literature Review

Initial Teacher Education (ITE) occupies a pivotal position within contemporary educational reform agendas, reflecting a sustained global consensus that the quality of teaching constitutes one of the most powerful levers for improving learner outcomes, strengthening educational equity, and enhancing system-wide effectiveness. International policy discourses consistently affirm that no education system can outperform the quality of its teachers, positioning teacher preparation not merely as a technical undertaking but as both a strategic national investment and a moral imperative (OECD, 2019; UNESCO, 2021, 2023). In knowledge-intensive and digitally mediated societies, the professional competence of teachers increasingly hinges upon their ability to navigate complex information landscapes, exercise epistemic judgement, and model critical inquiry for learners. Within this evolving terrain, Information Literacy (IL) has emerged as a foundational dimension of teacher professionalism. No longer confined to study skills or academic library orientations, Information Literacy now intersects with curriculum design, evidence-informed pedagogy, digital resource curation, and ethical engagement with knowledge

production (OECD, 2021, 2023; Hicks, 2024; Shupe & Pilerot, 2022). For pre-service teachers, the capacity to locate, evaluate, synthesise, and ethically apply information shapes not only academic success during training but also long-term pedagogical efficacy. The teacher, in this sense, becomes an epistemic mediator, responsible for translating disciplinary knowledge into meaningful learning while cultivating learners' critical and reflective capacities.

This chapter establishes the intellectual, theoretical, and empirical foundations that underpin this comparative investigation of pre-service teachers' Information Literacy development and their engagement with academic and school library environments in Nigeria and England. The review was deliberately situated at the intersection of teacher education, Information Literacy scholarship, and library and information studies. Such positioning reflects the complex ecology within which Information Literacy develops. This is an ecology shaped by institutional infrastructures, professional standards, curriculum architectures, digital transformation, and national policy trajectories (CILIP, 2018; Voogt et al., 2021; European Commission, 2022). Rather than conceptualising Information Literacy as an isolated technical skill, this review approached it as a socially situated and pedagogically embedded competence. Drawing on sociocultural perspectives in Information Literacy research, Information Literacy is understood as a practice that is enacted within communities, mediated by tools and technologies, and shaped by institutional expectations (Hicks & Lloyd, 2021; Shupe & Pilerot, 2022). For pre-service teachers, engagement with information occurs across multiple sites such as university coursework, school placements, digital learning environments, and professional policy frameworks. Consequently, Information Literacy development cannot be examined apart from the broader structures that organise teacher preparation.

The chapter synthesised scholarship from the fields of library and information science, teacher education, learning sciences, educational technology, and comparative education. This interdisciplinary stance is not incidental, rather, it reflects the layered and relational character of Information Literacy within Initial Teacher Education. Educational technology research foregrounds digital transformation and emerging artificial intelligence (AI) systems (Holmes et al., 2022; OECD, 2023). Comparative education literature highlights contextual mediation and systemic variability (Bray et al., 2018). Teacher education scholarship interrogates professional identity formation and evidence-informed practice (Darling-Hammond et al., 2020). Library and information science contributes conceptual clarity regarding Information Literacy frameworks and epistemic evaluation (Hicks, 2024). By weaving together these perspectives, the review constructs a coherent analytical foundation for examining how Information Literacy competencies emerge,

how libraries mediate professional learning, and how national systems position Information Literacy within teacher preparation.

The chapter is structured to move from macro-level policy and theoretical positioning toward more focused conceptual and empirical examination. It begins by situating Initial Teacher Education within global and national policy discourses, drawing on UNESCO's teacher development frameworks and related international benchmarks (UNESCO, 2018, 2024). This contextual grounding provided the institutional and policy backdrop against which Information Literacy was examined as a core professional competence rather than an ancillary academic skill. Subsequent sections explore conceptual and empirical literature on Information Literacy, with particular emphasis on the Big6 Information Literacy Model (Eisenberg et al., 2017) and the eXIT Model (Wray & Lewis, 2015).

The Big6 framework offers a structured procedural approach to information problem-solving, emphasising task definition, strategic searching, evaluation, and synthesis. While historically associated with school-based Information Literacy instruction, its staged logic retains pedagogical clarity for novice teachers navigating academic inquiry. The eXIT model on the other hand, is structured around Exploration, eXamination, Integration and Transfer. The eXIT model extends this procedural orientation by foregrounding interpretive depth, metacognitive reflection, and the transfer of knowledge practices into authentic teaching contexts. Together, these frameworks provide conceptual anchors for the chapter and subsequently inform the analytical framework of this study. They enable examination not only of what pre-service teachers do when engaging with information, but how they interpret, internalise, and enact information practices within professional settings.

Beyond theoretical positioning, the review interrogates empirical research linking library engagement to academic achievement, professional preparedness, and classroom effectiveness. While numerous studies affirm the academic value of library instruction and resource provision, fewer examine how sustained engagement with academic and school libraries contributes to the formation of pedagogical dispositions and professional identity among pre-service teachers. This lacuna is particularly salient in contexts where Information Literacy instruction is unevenly embedded across curricula or constrained by infrastructural disparities. In comparative terms, examining Nigeria and England illuminated how systemic resources, policy alignment, and institutional cultures shape the continuity or fragmentation of Information Literacy development across university and school environments. The review also engaged critically with the implications of digital transformation and emerging technologies for teacher education. The

proliferation of generative artificial intelligence (AI), algorithmically curated information streams, and open-access digital repositories has intensified the epistemic demands placed upon teachers (Holmes et al., 2022; OECD, 2023; UNESCO, 2023). In this context, Information Literacy encompasses not only evaluative competence but ethical discernment, intellectual integrity, and civic responsibility. Pre-service teachers must learn to interrogate sources, recognise bias, and model responsible digital participation for learners. Thus, Information Literacy becomes intertwined with broader frameworks of digital competence and professional ethics (European Commission, 2022; UNESCO, 2024).

The chapter concludes by identifying conceptual and empirical gaps in the existing literature and articulating the integrated conceptual framework that guided the study. This framework synthesises Information Literacy theory - Big6 and eXIT, metacognitive perspectives on learning, and comparative education insights. It positions Information Literacy as a professional capability that is simultaneously cognitive, social, and institutional. Through this lens, the study examined how pre-service teachers in Nigeria and England experience, interpret, and enact Information Literacy during their professional preparation, and how library ecosystems mediate this development. In undertaking this review, the intention was not merely to catalogue prior studies, but to critically interrogate prevailing assumptions, illuminate contextual disparities, and surface theoretical tensions within the field. By situating Information Literacy at the centre of teacher professionalism, this chapter advanced the argument that Information Literacy constitutes a foundational pillar of contemporary teacher education that shapes not only academic success but the ethical and pedagogical integrity of future classroom practice.

2.2 Information Literacy: Concepts, Models, and Relevance to Teacher Education

For some time, Initial Teacher Education has assumed a position of prominence within global education reform discourse. It is now widely acknowledged that the effectiveness, equity, and resilience of educational systems are inseparable from the knowledge, skills, dispositions, and ethical commitments of those who teach within them. International comparative research consistently affirms that teacher quality constitutes one of the most powerful school-based influences on learner outcomes (OECD, 2020, 2023; UNESCO, 2021). Yet the contemporary meaning of “teacher quality” has evolved significantly. It no longer denotes solely subject mastery or classroom control, rather, it encompasses adaptive expertise, critical judgement, digital fluency, and the capacity to cultivate higher-order thinking and ethical awareness among increasingly diverse student populations.

This widening conception of teacher professionalism has profound implications for Initial Teacher Education. Institutions responsible for preparing pre-service teachers are expected not only to transmit pedagogical theory but also to model inquiry, cultivate reflective capacity, and enable engagement with complex informational environments. In an era marked by rapid technological innovation, shifting labour market demands, social polarisation, and the proliferation of digital media, teachers must navigate and mediate knowledge in ways that were unimaginable in earlier decades. As the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2021, 2023) argues, the teacher of the twenty-first century is both knowledge broker and ethical guide, tasked with supporting learners to think critically, participate responsibly in digital spaces, and engage constructively with pluralistic societies. Within this expanding professional mandate, Information Literacy emerges not as an optional addendum but as a foundational capability. Globally, teacher education discourse is shaped by influential multilateral organisations, particularly United Nations Educational, Scientific and Cultural Organisation (UNESCO), the Organisation for Economic Co-operation and Development (OECD), and the World Bank. While each organisation operates within distinct policy traditions, they converge around several core themes such as the strategic importance of teacher preparation for sustainable development; the need to strengthen pedagogical competence in the face of digital transformation; and the imperative to ensure equitable access to qualified teachers across diverse contexts (OECD, 2021; UNESCO, 2022). UNESCO's Global Education Monitoring reports and teacher policy frameworks repeatedly emphasise that investment in Initial Teacher Education is indispensable to achieving Sustainable Development Goal 4, particularly targets relating to inclusive and equitable quality education (UNESCO, 2021). Importantly, these frameworks move beyond quantitative concerns about teacher supply to foreground qualitative dimensions of preparation, including ethical responsibility, intercultural competence, and digital literacy. Notably, explicit references to Information Literacy remain uneven. While digital competence is frequently foregrounded, the broader epistemic capacities required to interrogate, synthesise, and ethically deploy knowledge are sometimes implied rather than articulated.

2.2.1 Redefining Information Literacy in the Context of Teacher Professionalism

Information Literacy has traditionally been defined within library and information science as the capacity to locate, evaluate, and use information effectively. Early formulations were largely procedural, emphasising search strategies, source evaluation, and synthesis for academic tasks. However, contemporary scholarship has reframed Information Literacy as a socio-cognitive, situated, and practice-based competence embedded within professional and cultural contexts (Shupe & Pilerot, 2022; Hicks, 2024). Rather than a neutral technical skill, Information Literacy

is increasingly conceptualised as an epistemic practice involving interpretation, ethical reasoning, and the contextual application of knowledge. This expanded understanding aligns closely with evolving conceptions of teacher professionalism. In digitally mediated environments, teachers do not merely retrieve information, they curate curricular resources, interpret research evidence, design knowledge-rich learning experiences, and shape learners' epistemic orientations. Professional judgement therefore depends upon the capacity to critically interrogate information ecosystems and exercise ethical responsibility in its use (UNESCO, 2023; OECD, 2023). UNESCO (2023) explicitly situates media and Information Literacy within democratic participation, digital responsibility, and ethical engagement —domains that teachers are expected to model within classroom communities. Within this framework, Information Literacy becomes not an ancillary skill but a professional disposition intersecting with critical thinking and metacognitive regulation.

Structured models provide analytic clarity to this re-conceptualisation. The Big6 model of Information Literacy (Eisenberg et al., 2020 updated edition) articulates a disciplined progression from task definition through information-seeking, location and access, use, synthesis, and evaluation. For pre-service teachers, internalising these stages supports explicit pedagogical problem framing, strategic source selection, evidence-informed planning, and reflective appraisal against professional standards. The procedural architecture of Big6 model of Information Literacy therefore scaffolds systematic engagement with pedagogical inquiry. However, procedural fluency alone is insufficient for professional praxis. The eXIT model of Information Literacy (Aguilar & López-Medina, 2023) extends the scope of Information Literacy through its emphasis on Examination, eXploration, Interpretation, and Transformation. The eXIT model of Information Literacy foregrounds the interrogation of underlying assumptions, the exploration of alternative perspectives, and the transformation of information into contextually responsive pedagogical artefacts. In doing so, it aligns with contemporary critical thinking frameworks that prioritise reflective scepticism, conceptual integration, and contextual judgement (OECD, 2023). The integration of procedural (Big6) and interpretive (eXIT) orientations thus yields a holistic conception of Information Literacy as dynamic professional competence. Big6 provides the structural logic of disciplined inquiry, while eXIT introduces epistemic depth and transformative application.

2.2.2 Global Policy Perspectives on Teacher Preparation

A central conceptual shift within international policy is the reconceptualisation of teacher education as a professional continuum rather than a discrete pre-service event. The life-cycle

approach positions Initial Teacher Education as the foundational phase of an ongoing developmental trajectory encompassing induction, early career mentoring, and sustained professional learning. This orientation reflects recognition that teacher expertise is cumulative, socially situated, and responsive to changing knowledge environments. OECD (2023) analyses of professional learning systems highlight that high-performing jurisdictions tend to integrate strong pre-service preparation with structured induction and coherent career-long development. Such systems cultivate reflective practice, collaborative inquiry, and engagement with research evidence as routine professional habits.

Concurrently, global frameworks increasingly emphasise the digital dimension of teacher competence. UNESCO's (2023) digital and media literacy guidance underscores that teachers must model critical evaluation of online content, ethical engagement with artificial intelligence, and resilience to misinformation. The proliferation of algorithmically curated information streams, generative artificial intelligence tools, and multimodal communication platforms has altered not only how knowledge is accessed but also how it is produced and validated. Consequently, teacher education must address competencies relating to source evaluation, data ethics, digital citizenship, and responsible content creation. These expectations intersect directly with Information Literacy, understood as the ability to identify information needs, locate and evaluate sources, synthesise insights, and apply knowledge ethically within professional contexts.

Across national systems, several convergent trends are discernible despite contextual variation. One prominent development is the expansion of practice-based or clinically oriented models of teacher preparation. Drawing on research advocating stronger integration of theory and practice, many jurisdictions have extended school placements, formalised mentoring arrangements, and fostered university–school partnerships (Darling-Hammond et al., 2017; Zeichner, 2018). This shift reflects concern that purely theoretical preparation may inadequately equip pre-service teachers for the complexities of contemporary classrooms. However, it also raises questions about how research engagement and Information Literacy are sustained within practice-intensive programmes. Without deliberate curricular design, immersion in classroom settings may privilege experiential knowledge at the expense of systematic inquiry.

A second global trend involves the articulation of competence-based professional standards. Many countries have codified expectations relating to subject knowledge, pedagogical design, assessment literacy, inclusive practice, and increasingly, digital competence. Such standards serve regulatory, developmental, and symbolic functions (European Commission, 2020; UNESCO, 2023; OECD, 2019). Such standards serve regulatory, developmental, and symbolic

functions. They delineate what counts as professional expertise, provide criteria for accreditation and licensing, and signal societal expectations of teachers. Yet competence frameworks vary in specificity and enforceability across jurisdictions and policy systems (European Commission, 2020; Organisation for Economic Co-operation and Development (OECD), 2019; Department for Education, 2021). In some systems, they operate as high-stakes benchmarks tied to certification, in others, they function as aspirational guides.

A third convergence concerns recognition of the informational complexity of contemporary teaching. OECD (2021) analyses underscore that teachers increasingly engage with data dashboards, performance metrics, online professional networks, and open educational resources. They must interpret policy updates, evaluate commercial teaching materials, and respond to misinformation that may influence pupils' understandings. This informational saturation heightens the importance of evaluative judgement and critical reasoning. Within such contexts, Information Literacy transcends technical search skills and becomes a professional disposition oriented toward evidence, scepticism, and ethical discernment. Yet global consensus coexists with substantial contextual diversity. National histories, governance structures, economic resources, and cultural expectations shape how Initial Teacher Education is organised and experienced. Some systems operate under highly centralised regulatory regimes, prescribing curricula and assessment in detail. Others prioritise institutional autonomy and diversified entry routes, allowing universities and schools to innovate within broad frameworks. Resource disparities between high-income and low-income contexts further influence the availability of digital infrastructure, academic libraries, and research opportunities. UNESCO (2022) cautions that policy aspirations regarding teacher competence must be accompanied by sustained investment in infrastructure, professional support, and equitable access to training. In high-income systems such as England, accountability mechanisms, national standards, and inspection regimes create tightly woven regulatory environments. Teachers are expected to engage with research evidence, demonstrate digital competence, and participate in structured induction frameworks. Academic libraries, subscription databases, and digital learning platforms provide substantial informational resources. However, even within such contexts, variability in pre-service teachers' prior Information Literacy preparation and in institutional implementation can produce uneven outcomes (Head et al., 2020; Hicks, 2024).

In contrast, in contexts such as Nigeria, while national policy frameworks emphasise teacher quality and professional standards, systemic challenges relating to infrastructure, funding, and digital access complicate implementation. Regulatory bodies such as the Teachers Registration

Council of Nigeria (TRCN) and the National Commission for Colleges of Education (NCCE) articulate expectations for pedagogical competence and certification. Nevertheless, disparities across institutions and regions influence the extent to which pre-service teachers engage with scholarly literature, digital databases, or structured Information Literacy instruction. UNESCO (2021) notes that many low- and middle-income countries face the dual challenge of expanding teacher supply while enhancing preparation quality, often under conditions of constrained resources. Despite these contextual differences, a shared expectation persists across systems. Teachers must demonstrate proficiency in managing information, integrating digital tools, and supporting learners' engagement with knowledge. Whether articulated explicitly through digital literacy standards or implicitly through research-informed practice requirements, Information Literacy emerges as a cross-cutting professional competency. It underpins the capacity to interpret curriculum guidance, evaluate teaching materials, design evidence-informed interventions, and model critical engagement for pupils.

Importantly, positioning Information Literacy within Initial Teacher Education reframes it from a peripheral academic skill to a core dimension of professional identity. Teachers are not merely consumers of information, they are mediators who curate knowledge for learners, contextualise evidence, and cultivate epistemic virtues such as curiosity, rigour, and ethical responsibility. This mediation function becomes especially salient in environments characterised by misinformation, polarised public discourse, and rapidly evolving technologies. UNESCO's (2023) emphasis on media and Information Literacy as foundational to democratic participation underscores that teachers play a critical role in fostering resilient, informed citizenry. Moreover, embedding Information Literacy within Initial Teacher Education resonates with the wider movement towards evidence-informed educational practice. As contemporary policy discourses increasingly privilege notions of whatever works and emphasise data-led improvement strategies, teachers are no longer positioned as passive recipients of research conclusions but as critical interpreters of educational evidence. This professional expectation requires more than surface familiarity with research findings, rather, it calls for methodological discernment, a working understanding of statistical reasoning, and the capacity to interrogate the validity, reliability, and contextual relevance of claims before translating them into classroom action. OECD (2023) reports highlight that professional autonomy and innovation are strengthened, rather than diminished, when teachers possess robust capacities to interrogate evidence and adapt it thoughtfully to local contexts.

However, critical scholarship cautions against reductive interpretations of evidence-based practice that prioritise compliance over critical engagement. The risk of accomplishment, where teachers feel compelled to demonstrate alignment with prescribed strategies without interrogating underlying assumptions, remains present. Embedding Information Literacy within Initial Teacher Education offers a counterbalance, fostering reflective scepticism and contextualised judgement. Hicks (2024) argues that Information Literacy should be conceptualised as a sociocultural practice embedded in professional communities, rather than a neutral technical skill set. Within teacher education, this implies creating spaces for dialogic inquiry, collaborative critique, and reflective synthesis. The global and national perspectives outlined above thus converged around a central insight - contemporary teacher education must prepare professionals capable of navigating epistemic complexity. This preparation entails more than curricular coverage or compliance with standards. It requires cultivating dispositions of inquiry, ethical discernment, and adaptive expertise. Information Literacy, understood broadly, provides a conceptual bridge between policy aspirations and classroom realities. It supports teachers to engage with research, evaluate digital resources, and guide learners through contested knowledge landscapes.

In establishing this contextual foundation, the literature underscored both opportunity and challenge. International frameworks provide normative guidance and strategic direction, but translation into national and institutional practice remains uneven. Resource disparities, regulatory variations, and historical legacies shape implementation directions. Yet the overarching imperative is clear. As educational systems confront technological acceleration, social fragmentation, and global uncertainty, the preparation of teachers must evolve accordingly. Initial Teacher Education, situated at the intersection of policy, practice, and professional identity, becomes a critical site for embedding the competencies necessary for responsible knowledge mediation. In all, global and national perspectives on Initial Teacher Education have revealed a field in dynamic transition. The centrality of teacher quality to educational reform is widely affirmed, and expectations of professionalism have expanded to encompass digital fluency, ethical awareness, and research engagement. Within this evolving landscape, Information Literacy stands as a foundational professional capability, enabling teachers to interpret, evaluate, and apply knowledge with discernment. Recognising and operationalising this capability within Initial Teacher Education is not merely an academic exercise, it is integral to the cultivation of teachers who can foster critical, informed, and resilient learners in complex twenty-first-century societies.

2.2.3 Information Literacy, Critical Thinking, and Metacognition in Teacher Education

Conceptual models provide structured frameworks for understanding this integration. The Big6 (Eisenberg et al., 2020 updated edition) conceptualises Information Literacy as a systematic problem-solving process encompassing task definition, information seeking, location and access, use, synthesis, and evaluation. While initially developed as a library-based framework, its procedural architecture aligns closely with core components of critical thinking, including evidence appraisal and reasoned judgement. Complementing this, the eXIT model (Aguilar & López-Medina, 2023) foregrounds examination, interpretation, and transformation, thereby extending Information Literacy beyond retrieval toward epistemic reconstruction and knowledge application.

In contemporary educational discourse, the constellation of competencies that shape effective teaching has expanded beyond mere mastery of subject content and classroom management. Increasingly, teacher professionals are conceptualised as adaptive knowledge workers whose effectiveness depends on their ability to engage deeply with information, to interrogate assumptions, and to exercise reflective judgement amid complex, rapidly evolving learning contexts. Within this expanded professional remit, Information Literacy, critical thinking, and metacognition occupy a central place, not as discrete technical skills, but as integrated dimensions of professional intelligence that underpin meaningful interpretation, ethical application, and adaptive transformation of knowledge within pedagogy.

This section examines the conceptual and pedagogical interrelationships between Information Literacy, critical thinking, and metacognition within teacher education. Rather than treating these as discrete competencies, contemporary scholarship increasingly positions them as interdependent dimensions of professional epistemic practice (OECD, 2023; UNESCO, 2023). In digitally saturated learning environments, teachers are required not merely to locate information but to evaluate its credibility, interpret its implications, and regulate their own cognitive processes when applying it to instructional decision-making.

Critical thinking provides the evaluative infrastructure through which Information Literacy operates. It enables teachers to interrogate assumptions, weigh competing claims, and assess methodological robustness in research evidence (OECD, 2023). Metacognition, in turn, regulates this evaluative activity by fostering awareness of cognitive biases, monitoring comprehension, and supporting adaptive strategy selection (Education Endowment Foundation, 2021). Within teacher education, metacognitive awareness is particularly salient, as pre-service teachers must reflect not

only on what they know, but on how they know, why they select certain sources, and how confidently they can justify pedagogical decisions.

2.2.4 Initial Teacher Education in Nigeria: Structures, Standards, and Professional Expectations

Teacher education in Nigeria is shaped by the National Policy on Education. The National Policy on Education (2013), which is the most recent, points out that in recognition of the pivotal role of quality teachers in the provision of quality education at all levels, teacher education shall continue to be emphasized in educational planning and development. In recent years, this foundational premise has acquired renewed urgency. Demographic expansion, curricular reform, global benchmarking pressures, and digital transformation have collectively intensified scrutiny of teacher preparation structures and professional standards. As Nigeria seeks to strengthen educational quality in alignment with continental and global aspirations, including the Sustainable Development Goals (SDGs) and UNESCO's teacher development frameworks, the reform and consolidation of Initial Teacher Education have emerged as central policy priorities (UNESCO, 2021, 2023).

Within this evolving landscape, Initial Teacher Education in Nigeria cannot be understood merely as a pre-service academic undertaking. It represents a complex institutional architecture designed to span initial preparation, professional regulation, and continuing development. The system's multi-tiered configuration reflects historical evolution as well as contemporary reform efforts. Colleges of Education, traditionally mandated to award the Nigeria Certificate in Education (NCE), remain foundational to the preparation of classroom teachers, particularly at the basic education level. The Nigeria Certificate in Education (NCE) continues to be recognised as the minimum teaching qualification, although policy discussions increasingly emphasise degree-level preparation as a longer-term objective (NCCE, 2023). Universities, through their Faculties of Education, offer Bachelor of Education (B.Ed.) programmes and postgraduate qualifications that combine disciplinary knowledge with pedagogical training. To obtain the Nigeria Certificate of Education (NCE), one would have had at least four credits, including English and Mathematics, to enrol for the certificate programme. This is different from the requirements for enrolment into mainstream university programme for a bachelor's degree in education, for which five credits will be required. The distinguishing factor is that graduates with the Nigeria Certificate in Education (NCE) can only teach in primary schools, whereas graduates with bachelor's degrees in education are expected to teach in secondary schools. If the prospective teachers have bachelor's degrees (BA or BSc.) but do not have bachelor's degrees in education (BEd. – Bachelor's in Education;

BA Ed. – Bachelor of Arts in Education, or BSc. Ed. – Bachelor of Science in Education), then they would have to go through the Postgraduate Diploma in Education (PGDE) programme. This will qualify them to be registered with the Teachers Registration Council of Nigeria as professional teachers. Whatever the starting point, qualified teachers can pursue their academic career to the level of master's degrees and even Doctor of Philosophy (PhD) as desired. These institutions play a critical role in shaping subject-specialist teachers and educational researchers, positioning Initial Teacher Education within a broader knowledge production ecosystem.

Complementing these institutional pathways is the National Teachers' Institute (NTI), historically associated with distance education and in-service upgrading programmes. In recent reform trajectories, the mandate of the National Teachers' Institute (NTI) has been re-emphasised as a vehicle for continuous professional development (CPD), particularly in response to the need for scalable, flexible teacher learning models in geographically diverse and resource-variable contexts. The reconfiguration of responsibilities between the National Teachers' Institute (NTI) and the Teachers Registration Council of Nigeria (TRCN) in 2025 further clarified institutional boundaries, with the Teachers Registration Council of Nigeria (TRCN) concentrating exclusively on professional regulation and licensing, while the National Teachers' Institute (NTI) intensified its focus on structured professional learning (TRCN, 2025). This regulatory recalibration signals a broader shift in Nigeria's teacher education philosophy from nominal qualification acquisition to enforceable professional credentialing. The Teachers Registration Council of Nigeria (TRCN), established by statutory mandate, is charged with maintaining a national register of qualified teachers, prescribing professional standards, and issuing licenses that authorise classroom practice. In recent years, enforcement mechanisms have strengthened considerably. By 2025, mandatory certification requirements were operationalised across both public and private sectors, reinforcing the principle that professional teaching status is contingent upon regulatory compliance rather than solely upon possession of academic credentials (TRCN, 2025). This development reflects international trends emphasising professional accountability and formalised standards (OECD, 2021).

Parallel to the regulatory oversight of the Teachers Registration Council of Nigeria (TRCN), the National Commission for Colleges of Education (NCCE) maintains responsibility for curriculum prescription and institutional accreditation within Colleges of Education. The minimum standards of the National Commission for Colleges of Education (NCCE) articulate expected learning outcomes in subject knowledge, pedagogical competence, and supervised teaching practice. These frameworks are intended to ensure coherence and comparability across

institutions, although their implementation remains shaped by contextual realities including funding variability and infrastructural disparities (NCCE, 2023). Together, the Teachers Registration Council of Nigeria (TRCN) and the National Commission for Colleges of Education (NCCE) constitute complementary pillars within Nigeria's teacher education governance system, seeking to align preparation, certification, and accountability. The Teachers' Registration Council of Nigeria (TRCN) has been mandated to continue to register teachers and regulate the teaching profession and practice (FRN, 2013). This is to ensure that only professionally qualified and registered teachers are allowed to practice at all levels. Newly qualified teachers are expected to serve for a period of one (1) year internship.

Curricular frameworks within Nigerian Initial Teacher Education programmes are formally structured to integrate disciplinary expertise, educational psychology, instructional methodology, and supervised practicum experiences. Teaching practice placements, typically embedded in the later phases of preparation, are designed to bridge theoretical learning and classroom enactment. In principle, this integrative structure aligns with global conceptions of practice-based teacher education, which emphasise mentored classroom immersion as critical to professional identity formation (Darling-Hammond et al., 2017). However, empirical scholarship consistently identifies variability in practicum quality, supervision intensity, and mentor preparation (Okeke & Madu, 2021). In some contexts, supervisory ratios are stretched, feedback mechanisms are limited, and alignment between university coursework and school realities is not secure. These conditions raise important questions regarding the fidelity of theory-to-practice transfer. Moreover, contemporary educational demands extend beyond traditional pedagogical competencies. The acceleration of digital transformation, including increased reliance on online resources, blended learning modalities, and artificial intelligence applications, has recalibrated expectations of teacher preparedness (Zhai et al., 2021). Nigeria's policy discourse recognises this shift, foregrounding information and communication technology integration within national development strategies (FRN, 2022). Yet, the incorporation of digital literacy and Information Literacy into Initial Teacher Education curricula remains uneven. Research indicates that while information and communication technology modules may be formally included, their pedagogical depth and practical integration vary substantially across institutions (Adeleke & Eze, 2024). This unevenness reflects broader infrastructural constraints, including inconsistent broadband connectivity and limited access to digital teaching tools.

Professional expectations for Nigerian teachers have correspondingly expanded. Teachers are increasingly positioned as agents of inclusive development, ethical leadership, and community engagement. UNESCO's frameworks emphasise teachers' roles in fostering media and

Information Literacy, promoting critical thinking, and cultivating resilience against misinformation (UNESCO, 2021). Within Nigeria, these global expectations intersect with national priorities related to equity, social cohesion, and youth empowerment. Consequently, teacher professionalism now encompasses not only instructional competence but also adaptive expertise, cultural responsiveness, and commitment to lifelong learning. Continuous professional development has therefore become a policy imperative. The National Teachers' Institute (NTI) and state-level education boards facilitate continuous professional development initiatives aimed at updating teachers' pedagogical and technological competencies. However, implementation remains heterogeneous. While some states have institutionalised structured continuous professional development cycles linked to appraisal and career progression, others face funding and logistical constraints that limit regular engagement (FRN, 2022). The emergence of differentiated career pathways, where progression is tied to demonstrable professional growth, signals a gradual alignment with global professionalisation trends, though full operational coherence has yet to be realised.

Systemic challenges continue to mediate the efficacy of teacher education reforms in Nigeria, often constraining the translation of policy ambition into sustained institutional transformation. Despite renewed strategic commitments to teacher quality and digital integration within the National Development Plan 2021–2025 (Federal Republic of Nigeria [FRN], 2022) and the National Digital Economy Policy and Strategy 2020–2030 (FRN, 2019), material and structural limitations persist across many teacher education institutions. These constraints operate not merely as logistical inconveniences but as epistemic conditions that shape what forms of professional learning are realistically possible. Another persistent challenge concerns the alignment between regulatory enforcement and institutional readiness. The intensification of Teachers Registration Council of Nigeria certification requirements underscores a commendable commitment to professional standards. However, ensuring that all practising teachers meet licensure criteria requires coordinated institutional support, transitional arrangements, and accessible upgrading pathways. Without such scaffolding, regulatory stringency risks unintended exclusion or inequitable impact. Notwithstanding these constraints, Nigeria's Initial Teacher Education landscape demonstrates evidence of adaptive reform. The consolidation of regulatory roles, emphasis on enforceable certification, and expansion of continuous professional development reflect strategic efforts to strengthen coherence. Engagement with continental and global dialogues further situates Nigeria within broader movements toward teacher professionalisation and quality assurance (UNESCO, 2023). Importantly, these developments signal recognition that teacher preparation must evolve in response to epistemic, technological, and societal shifts.

The future trajectory of Initial Teacher Education in Nigeria will likely depend on sustained investment, rigorous evaluation, and contextually responsive policy refinement. Strengthening practicum supervision, deepening integration of digital and Information Literacy competencies, and ensuring equitable access to professional development opportunities are central imperatives. Equally critical is fostering a professional culture that values reflective inquiry, collaborative learning, and ethical responsibility. In this regard, regulatory frameworks alone are insufficient. They must be accompanied by supportive institutional ecosystems that enable teachers to internalise and enact professional standards. Ultimately, Initial Teacher Education in Nigeria represents more than a structural arrangement. It embodies a national commitment to educational transformation through professional capacity building. Its evolution between 2018 and 2026 reflects both aspiration and complexity. While challenges remain, the progressive alignment of standards, regulatory enforcement, and professional expectations indicates movement toward a more coherent and accountable teacher education system.

According to the Nigerian National Policy on Education (2013), Section 5B: Page 43, The goals of Teacher Education are to:

- a. Produce highly motivated, conscientious, and efficient classroom teachers for all levels of the educational system;
- b. Further encourage the spirit of enquiry and creativity in teachers;
- c. Help teachers fit into the social life of the community and the society at large and enhance their commitment to national goals;
- d. Provide teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to changing situations; and
- e. Enhance teachers' commitment to the teaching profession.

Furthermore, the National Policy on Education (2013) states that “all teachers in educational institutions shall be professionally trained.” Teacher education programmes “shall be structured to equip teachers for the effective performance of their duties and Information Technology training shall be incorporated into all teacher-training programmes.” To ensure that all areas of education are covered, the Policy also emphasises that education programmes, at the Nigeria Certificate in Education (NCE) and Degree levels, should be expanded to cater for the requirements of technical, vocational, business, and special education. To strengthen teacher education in Nigeria, ongoing changes in teaching methodology and curriculum would need to be continuously recognised and incorporated. To achieve this, teachers shall be regularly exposed to innovations in the profession. The National Policy on Education (2013) explained that all newly recruited teachers would have to undergo a formal process of induction, while in-service training

would be an integral part of continuing teacher education. The Policy also emphasized that all school proprietors must provide in-service education for teachers. For Nigeria to fully realise its educational ambitions in the twenty-first century, Initial Teacher Education must continue to adapt, embracing pedagogical innovation, strengthening institutional integrity, and ensuring that every teacher is prepared not merely to instruct, but to inspire, guide, and lead within increasingly complex learning environments.

2.2.5 Initial Teacher Education in England: Structures, Standards, and Professional Expectations

Pre-service teacher education in England, more commonly referred to as Initial Teacher Education (ITE), has evolved through successive waves of reform, each reflecting shifting conceptions of professionalism, state responsibility, and the purpose of schooling within society. To understand its contemporary configuration, it is necessary to situate current structures within this longer historical arc. English teacher education did not emerge fully formed within universities, rather, it developed gradually from pupil-teacher schemes and training colleges into the diversified, standards-driven, and accountability-oriented system that now characterises the landscape (Murray, 2019; Müller & Cook, 2022).

In the early and mid-twentieth century, teacher preparation was largely anchored in teacher training colleges, many of which operated outside the university sector. Primary teacher preparation often originated in pupil-teacher schemes embedded within elementary schools, while secondary teacher education was more closely associated with universities by the mid-twentieth century (Thomas, 1990). The Robbins Report (Robbins, 1963) catalysed significant expansion in higher education and influenced the incorporation of teacher training colleges into the university sector, leading to the widespread introduction of Bachelor of Education (BEd.) degrees. By the 1970s, Initial Teacher Education curricula had developed a recognisable fourfold structure: foundational studies in education, professional or curriculum studies, subject specialism, and supervised teaching practice (Eason, 1971). This architecture—blending theory, subject knowledge, and practicum, remains conceptually visible in contemporary programmes, even as the policy environment has shifted dramatically. From the 1980s onward, however, English Initial Teacher Education became increasingly shaped by central government intervention and a growing emphasis on practical competence and accountability. Successive reforms repositioned schools as more active partners in teacher preparation, gradually rebalancing the relationship between Higher Education Institutions (HEIs) and school settings (Furlong & Lawn, 2011). The “partnership model” that emerged sought to integrate university-based theoretical study with school-based

mentoring, though the degree of integration has varied across providers and over time (Mutton et al., 2020). By the early twenty-first century, teacher education policy in England had become closely aligned with standards-based accountability frameworks. The introduction and subsequent revision of the Teachers' Standards established nationally defined benchmarks against which trainee and practising teachers are assessed (Department for Education (DfE), 2011, updated guidance 2021). These standards articulate expectations relating to subject knowledge, classroom management, assessment competence, professional conduct, safeguarding, and the promotion of pupil progress. They function not merely as descriptors of professional competence but as regulatory instruments shaping curriculum design within Initial Teacher Education programmes (OECD, 2021).

The British Educational Research Association (BERA) and the Royal Society for the Encouragement of the Arts, Commerce and Manufacturing (RSA) in a joint Inquiry into Research and Teacher Education (BERA-RSA, 2014), offered a critical intervention into debates about the intellectual foundations of teacher professionalism. It argued that teacher education in England risked becoming fragmented and insufficiently research-informed, particularly when compared to high-performing systems such as Finland and Singapore. Although examples of effective collaboration existed, such as the London Challenge initiative, which fostered inter-school collaboration and improvement between 2003 and 2011, the Inquiry concluded that England lacked a coherent national strategy for embedding research engagement within teacher development. Subsequent scholarship has continued to debate this tension between a research-rich conception of professionalism and a more technicist, compliance-oriented model driven by performative accountability (Brown et al., 2022; Müller & Cook, 2022). In recent years, policy reform has further consolidated national oversight while diversifying training routes. Contemporary pathways into teaching include university-led Postgraduate Certificate in Education (PGCE) programmes, School-Centred Initial Teacher Training (SCITT), School Direct routes, and apprenticeship-style models. These routes reflect a sustained policy emphasis on school-led provision, positioning schools not merely as placement sites but as primary architects of professional formation (Coldwell et al., 2021). Yet all routes are subject to accreditation and inspection frameworks, ensuring alignment with national standards.

The introduction of the Core Content Framework (CCF) in 2019, subsequently embedded within the Initial Teacher Training and Early Career Framework (ITT/ECF) reforms, marked a significant recalibration of expectations (DfE, 2022). The Core Content Framework articulated a national entitlement for trainee teachers, specifying the core knowledge and skills they should

acquire in areas such as behaviour management, curriculum design, adaptive teaching, assessment, and professional behaviours. In 2024, the DfE further refined these reforms through updated statutory guidance, reinforcing coherence between initial training and the two-year induction period under the Early Career Framework (DfE, 2024). This life-cycle approach conceptualises teacher development as cumulative, structured, and mentor-supported, rather than confined to a discrete pre-service phase. Inspection and regulatory oversight further shape the contemporary landscape. Ofsted's Initial Teacher Education inspection framework evaluates providers against criteria including curriculum intent, implementation, impact, subject knowledge development, and mentor quality (Ofsted, 2023). This inspection regime reinforces the performative dimension of Initial Teacher Education, requiring providers to demonstrate measurable trainee progress and alignment with national frameworks. While such oversight aims to secure consistency and quality, critics caution that excessive standardisation may constrain institutional autonomy and reduce space for critical or context-responsive innovation (Müller & Cook, 2022).

Pathways into teaching remain structured yet flexible. To teach in a maintained state school in England, individuals must hold a degree and obtain Qualified Teacher Status (QTS) through an accredited Initial Teacher Training (ITT) programme. Minimum GCSE requirements in English and Mathematics, and Science for primary teaching, remain statutory entry criteria (DfE, 2023). The Teaching Regulation Agency (TRA) oversees the award of Qualified Teacher Status (QTS), which is granted upon successful completion of an accredited programme. Only approved Initial Teacher Training (ITT) providers may recommend pre-service teachers for Qualified Teacher Status (TRA, 2023). The regulatory landscape, however, is nuanced. While Qualified Teacher Status is mandatory for maintained schools, academies and free schools possess greater autonomy in recruitment practices. Although many academies require Qualified Teacher Status, legislation permits them to employ teachers without Qualified Teacher Status under certain conditions, reflecting broader policy commitments to institutional autonomy within the academy sector (DfE, 2023). Nonetheless, specific roles such as Special Educational Needs Coordinators (SENCOs) and designated teachers for looked-after children, require Qualified Teacher Status, and all teachers in special academies must hold it. Individuals holding Qualified Teacher Learning and Skills (QTLS) status, conferred by the Society for Education and Training, may also be recognised as qualified teachers in schools, subject to employer discretion (TRA, 2023).

Professional progression beyond initial qualification is both structured and open-ended. The Early Career Framework (ECF), introduced nationally in 2021 and subsequently refined, extends the professional learning continuum into the induction phase, institutionalising a two-year,

mentor-supported programme for newly qualified teachers. By embedding structured professional development beyond the point of qualification, the Early Career Framework reinforces the principle that teacher expertise is cumulative, scaffolded, and sustained (DfE, 2024). It also strengthens the expectation that early career teachers engage with research summaries, subject-specific scholarship, and evaluative inquiry as part of routine professional practice. In doing so, the English system implicitly aligns teacher professionalism with Information Literacy capacities: the ability to locate, evaluate, synthesise, and apply knowledge in context. The Early Career Framework provides two years of structured induction support following Qualified Teacher Status, reinforcing mentoring and evidence-informed practice (DfE, 2022). Beyond this phase, teachers may pursue master's degrees, specialist qualifications, or doctoral study such as the Doctor of Education (EdD) or Doctor of Philosophy (PhD), often while remaining in professional practice. This layered progression reflects a conception of teacher professionalism as developmental and research-engaged, at least in principle.

The acceleration of digital transformation has further reshaped expectations of teacher preparedness. The COVID-19 pandemic exposed both strengths and vulnerabilities within the system, compelling rapid adoption of remote and blended learning modalities (Trust & Whalen, 2020). Consequently, digital competence is now widely regarded as integral to professional standards, even where it is not explicitly codified as a discrete domain. Teachers are expected to navigate online platforms, evaluate digital resources critically, and address issues of online safety and misinformation. The digital strategy of the Department for Education underscores the imperative that teachers integrate technology effectively to enhance learning outcomes (DfE, 2019). This digital shift intersects with the broader policy emphasis on evidence-informed practice. As discourses of data-driven improvement gain prominence, teachers are increasingly expected to interpret research findings critically rather than adopt them unreflectively (Brown et al., 2022; OECD, 2021). Such expectations presuppose methodological awareness, statistical literacy, and evaluative judgement, which happen to be competencies closely aligned with Information Literacy. Thus, even where policy language foregrounds standards and accountability, it simultaneously requires teachers to function as discerning consumers and producers of knowledge. Yet tensions persist. While England's Initial Teacher Education system provides clarity of standards and structured progression, scholars caution against narrowing professionalism to compliance with centrally defined frameworks (Müller & Cook, 2022). The challenge lies in sustaining intellectual depth, research engagement, and critical reflexivity within a policy environment characterised by inspection, performativity, and marketised provision.

In all, pre-service teacher education in England has moved from a relatively decentralised, college-based model to a highly regulated, diversified, and standards-driven system. Contemporary reforms emphasise school-led training, structured induction, and evidence-informed practice, supported by rigorous inspection and accreditation mechanisms. Professional entry through Qualified Teacher Status remains central, yet institutional autonomy, particularly within academies, introduces complexity. While the system aspires to cultivate research-engaged and digitally competent practitioners, its success depends on balancing accountability with intellectual autonomy. For comparative scholarship, England offers a case of tightly structured professional formation, where national standards, regulatory oversight, and research discourse converge to shape the preparation of the teaching workforce.

2.3 Library Use and Student Achievement in Teacher Education: Interrogating the Link with Effective Classroom Practice

A robust body of scholarship confirms associations between well-resourced library systems and student academic outcomes (Lance & Kachel, 2018; IFLA, 2022). However, within teacher preparation contexts, the question of how library engagements translate into effective classroom practice remains under-theorised and empirically under-evidenced. Libraries, in both university and school contexts, function as epistemic infrastructures where inquiry processes modelled through Big6 and eXIT frameworks can be practiced, refined, and articulated. Academic libraries provide access to peer-reviewed research, curriculum resources, and professional literature that support evidence-informed decision-making, while school libraries offer contextually situated texts, pedagogical planning materials, and opportunities for collaboration with teacher librarians (Branch-Mueller & Rodger, 2021).

Empirical studies in teacher education suggest that intentional collaboration between teacher educators and librarians strengthens pre-service teachers' epistemic competencies. For example, when Information Literacy instruction is integrated with curriculum design projects, pre-service teachers evidence more nuanced evaluative judgements and greater willingness to justify pedagogical choices with research evidence (Voogt et al., 2021; Tondeur et al., 2020). This reflects both Big6 evaluative stages and the interpretive transformation emphasised in eXIT. Crucially, such integration mediates the relationship between library use and classroom effectiveness and libraries become sites of professional rehearsal rather than mere repositories of information. Yet, methodological limitations cloud this relationship. Much of the extant research relies on self-report data rather than longitudinal measures of classroom practice. Few studies track pre-service teachers into employment to examine whether systematic Information Literacy preparation

predicts sustained instructional effectiveness or adaptive expertise, particularly in the face of misinformation and artificial intelligence-generated content (Hicks, 2024; OECD, 2021). Furthermore, institutions differ widely in library resources, mentor support, and curricular coherence. In England, school and university libraries are often well resourced but vary in pedagogical integration, whereas in Nigeria, constrained infrastructure and limited digital access can compromise the robustness of library-supported Information Literacy development (Adeyemi & Adebayo, 2025; UNESCO, 2023).

These disparities highlight that library use and Information Literacy do not operate in isolation, but within institutional ecologies shaped by policy, resource allocation, and professional cultures. It cannot be assumed that library engagement enhances classroom effectiveness because it must be qualified. It is not the presence of libraries per se that matters, but the quality of integration between library experiences, Initial Teacher Education, curricula, and practice-based learning opportunities.

2.3.1 School Libraries, Academic Libraries, and Student Achievement: A Foundation of Evidence

Research on school libraries has historically focused on connections between library resources, qualified librarians, and student performance. A comprehensive review by Lance and Kachel (2018) synthesised decades of quantitative and qualitative evidence showing that schools with professionally staffed libraries and collaborative teacher–librarian practices reported higher reading scores, increased information engagement, and broader literacy gains. Similarly, the annual compendia produced by Scholastic (2023) gather international studies that consistently associate library programmes with improved comprehension, research skills, and learner autonomy. These correlations, while noteworthy, represent broad educational outcomes rather than teacher education per se. Crucially, though, these studies highlight not just access to books, but the active pedagogical role that libraries and librarians can play. When librarians collaborate with teachers to design instruction, for example, co-planning inquiry projects or integrating informational texts across subject areas, students demonstrate deeper engagement and conceptual understanding (Lance & Kachel, 2018). In effect, the impact is not simply infrastructural but relational and libraries contribute to a learning ecology in which information use is integrated into curriculum and instruction.

International frameworks, such as the International Federation of Library Associations and Institutions (IFLA) school library guidelines, extend this perspective by framing libraries as

pedagogical partners that support inquiry, critical thinking, and reflective learning (IFLA, 2022). In these models, libraries are not add-on services but integral sites of meaning-making and knowledge construction. Although these insights derive primarily from K-12 contexts, they provide an important theoretical foundation for considering library functions in teacher education: namely, that library engagement matters most when it is pedagogically integrated rather than treated as a technical addendum.

2.3.2 Extending the Library–Achievement Link to Teacher Education

When applying the logic of library contribution to teacher education, the question shifts from student achievement to teacher development. Pre-service teachers are themselves learners, but unlike typical students, they are also emerging professionals whose future classroom practice will shape the learning of others. In this regard, libraries, whether academic, school, or digital, can serve dual functions. They can support academic learning within Initial Teacher Education programmes and model the informational practices expected of effective teachers. Emerging research suggests that library engagement can enhance pre-service teachers' Information Literacy competencies, which in turn support evidence-informed lesson design and reflective professional practice. For example, Tondeur et al. (2020) found that pre-service teachers in programmes that embedded structured digital and Information Literacy training showed higher levels of confidence and competence in evaluating digital resources, aligning technology use with pedagogical goals, and adapting the curriculum to meet learners' needs.

These competencies are fundamental to effective instruction in contemporary classrooms, where teachers must curate, adapt, and justify a wide range of texts and technologies.

Branch-Mueller and Rodger (2021) further highlight the value of teacher–librarian collaboration in Initial Teacher Education settings. Their study shows that when librarians co-design modules with teacher educators, particularly those focused on research skills, inquiry projects, or inquiry-based learning, pre-service teachers develop more nuanced evaluative reasoning and a stronger appreciation for multiple perspectives. Such collaborations mirror best practices in K-12 contexts, where librarian involvement has been linked to deeper information engagement among students. Extending this relational model to Initial Teacher Education settings suggests that libraries can anchor critical inquiry as a professional habit rather than an isolated academic task. Beyond formal instruction, academic libraries also provide access to expansive digital collections, research databases, and subject-specific repositories that enable pre-service teachers to engage with current scholarship. Head et al. (2020) argue that digital access

democratises information, allowing emerging educators to explore evidence from diverse perspectives and apply it to issues of curriculum design, assessment, and differentiation. However, access alone does not guarantee critical engagement; such engagement requires pedagogical scaffolding and metacognitive support.

2.3.3 Mechanisms Linking Library Engagement to Effective Classroom Practice

To move beyond correlational associations toward understanding how library engagement might influence effective teaching, it is necessary to consider the mechanisms through which Information Literacy is translated into instructional action. Three primary mechanisms emerge from the literature: (1) scaffolding of inquiry and reflective practice; (2) integration of evidence into pedagogical decision-making; and (3) modelling of critical evaluation and ethical reasoning.

2.3.3.1 Scaffolding Inquiry and Reflective Practice

Information Literacy, when embedded within library engagement, supports the development of inquiry skills, that is, the capacity to define questions, seek evidence, and synthesise insights. This scaffolding aligns with the Big6 framework, which situates information tasks within a structured problem-solving cycle (Eisenberg & Berkowitz, 2020). For pre-service teachers, this cycle mirrors the pedagogical decision-making process by identifying learning needs, selecting appropriate resources, and evaluating outcomes. When teacher education programmes integrate Big6-aligned tasks such as evidence-based lesson planning or classroom action research projects supported by library resources, pre-service teachers rehearse the cognitive routines that underpin effective teaching. Crucially, this form of inquiry is not merely technical but reflective. The eXIT model extends this process by emphasising interpretation and transformation, that is, the capacity to interrogate assumptions, interpret multiple sources meaningfully, and adapt knowledge to new contexts (Aguilar & López-Medina, 2023). When libraries provide dialogic spaces such as research consultations, reflective workshops or inquiry circles, pre-service teachers learn to articulate and justify their epistemic choices, a capacity central to professional judgement.

2.3.3.2 Evidence-Informed Instructional Decision-Making

Effective classroom practice increasingly depends on teachers' ability to interpret and apply evidence. This includes evidence from research literature, assessment data, and digital learning analytics. When teacher candidates engage with online journals, scholarly databases, and research syntheses through library platforms, they develop habits of evidence evaluation and

application. Coldwell et al. (2021) found that programmes encouraging critical engagement with evidence help pre-service teachers link theory to practice, fostering a reflective stance that informs instruction. However, evidence integration is not automatic. It is mediated by professional dispositions, mentorship, and institutional cultures. Mentor teachers who value research engagement reinforce the importance of evidence in classroom decisions, while those who prioritise compliance with standardised curricula may inadvertently suppress inquiry. As such, the translation of library-supported Information Literacy into classroom practice is mediated by the broader professional ecology within which pre-service teachers operate.

2.3.3.3 Modelling Critical Evaluation and Ethical Reasoning

Libraries and librarians embody norms of intellectual integrity, source evaluation, and ethical use of information as part of dispositions that are essential for ethical teaching in digital contexts. In teacher education, when librarians model strategies for critical evaluation, citations, and rights-based access, pre-service teachers internalise professional norms regarding evidence quality, intellectual property, and ethical engagement with information. This normative dimension is critical because effective teachers not only use evidence well but model ethical reasoning and critical evaluation for their learners. When embedded within practicum experiences, these norms can take root in classroom routines. Pre-service teachers who have practised evaluating sources with librarian support are more likely to challenge superficial digital resources, to guide students in distinguishing between credible and less reliable information, and to design learning experiences that foreground ethical engagement with knowledge. In this sense, libraries contribute to professional socialisation as much as they do to skill development.

2.3.4 Challenges to Causal Claims and Research Gaps

Despite these promising mechanisms, establishing direct causal links between library engagement during Initial Teacher Education settings and effective classroom practice remains challenging. Much of the evidence in the literature is correlational or based on self-reported confidence measures, which may not reliably predict instructional behaviour. Pre-service teachers may report increased confidence in Information Literacy after workshops but may not demonstrate consistent application of these competencies in complex classroom contexts. Longitudinal research tracing graduates into their early career teaching is scarce. Few studies follow pre-service teachers into employment to examine whether structured Information Literacy preparation predicts adaptive expertise, resilience to misinformation, or capacity to navigate digital landscapes that are

rich in artificial intelligence. This evidence gap underscores the complexity of isolating the influence of library engagement within multifaceted professional development trajectories.

Moreover, contextual disparities shape how libraries function within Initial Teacher Education. In resource-rich environments, such as many institutions in England, academic libraries provide extensive digital access and professional support, enabling deeper engagement with information tasks (Coldwell et al., 2021). In contrast, in resource-constrained contexts such as many Nigerian teacher education settings, access to subscription journals and digital repositories may be limited, and school libraries may be underdeveloped (UNESCO, 2023). These disparities affect not only the quantity of library use but also the quality of engagement and without robust support structures, pre-service teachers may resort to familiar or popular sources rather than engaging in critical evaluation. There is also the question of placement ecology. As pre-service teachers enter school environments, their ability to enact Information Literacy competencies depends not only on individual knowledge and skills but also on the opportunities for participation, mentor modelling, workplace practices, and the broader institutional culture that shapes professional learning (Billett, 2001; Ellis et al., 2020). Research on workplace and practice-based learning suggests that professional knowledge is developed through participation in authentic settings where organisational norms and expectations influence how learners engage with and apply new competencies (Billett, 2001; Zeichner, 2010). Consequently, if placement schools do not actively value inquiry, evidence-informed practice, or critical engagement with information, pre-service teachers may prioritise compliance with established routines over reflective and informed professional practice, potentially limiting the transfer of Information Literacy skills into classroom contexts.

2.3.5 Towards a Mediated Model of Library Influence

Collectively, the literature supports a mediated model in which libraries contribute to teacher quality not through simple causal chains, but through a network of conditions that enable Information Literacy competencies to be rehearsed, internalised, and enacted. In this model:

- Library engagement supports the development of Information Literacy competencies, including strategic search, critical evaluation, and ethical use;
- Information Literacy competencies undergird inquiry-oriented pedagogical reasoning, influencing lesson design, resource selection, and reflective practice;
- The translation of Information Literacy into classroom practice is mediated by practicum experiences, mentor feedback, professional standards, and institutional cultures;

- Effective classroom practice emerges when these elements coalesce, enabling teachers to navigate informational complexity with critical discernment and reflective agency.

This model showcases a rich understanding of the conditions under which library engagement contributes meaningfully to teacher development and instructional quality. Library use in teacher education is not merely an ancillary support service but a fertile site for cultivating the informational and epistemic competencies foundational to effective teaching. When integrated with structured inquiry models, pedagogically relevant tasks, and reflective professional cultures, libraries can shape how pre-service teachers engage with evidence, interpret research, and make informed instructional decisions. However, the impact of library engagement is contingent upon broader institutional coherence, mentorship quality, and infrastructural capacity

For research and policy alike, this underscores the need to view library contribution as part of a mediated professional ecosystem. Strengthening library integration within Initial Teacher Education curricula, investing in collaborative librarian–educator partnerships, and aligning practicum expectations with evidence-based reasoning are all strategies that can enhance the translation of Information Literacy competencies into classroom practice. Addressing methodological gaps through longitudinal, mixed-method designs will further clarify how these processes unfold over time. Ultimately, the link between library use and effective classroom practice is not linear, rather, it is dynamic, contextual, and deeply embedded in the professional formation of teachers. Recognising this complexity is essential for advancing both theory and practice in teacher education.

2.4 The Role of Libraries in Developing Information Literacy in Pre-Service Teachers

If Information Literacy (IL) is to endure as a constitutive dimension of teacher professionalism rather than remain a transient academic competency confined to university assignments, it must be institutionally cultivated within environments that embody and model structured inquiry, ethical discernment, dialogic engagement, and evaluative reasoning. Within Initial Teacher Education (ITE), libraries, both academic and school-based, constitute such environments. Yet their influence is neither automatic nor uniformly realised. The capacity of libraries to shape professional epistemologies depends upon institutional coherence, pedagogical collaboration, infrastructural adequacy, leadership vision, and policy alignment. Libraries do not transform practice by mere existence, they do so when embedded within the pedagogical architecture of teacher preparation.

This section advances three interrelated propositions. First, libraries operate as epistemic infrastructures that enable the procedural enactment of structured Information Literacy models. These are particularly those aligned with systematic task definition, strategic searching, critical evaluation, synthesis, and reflective review, within authentic academic and pedagogical tasks. Second, libraries function as dialogic and interpretive spaces in which examination, interrogation, and transformation of knowledge can be rehearsed in community. Third, the effectiveness of these roles is uneven across national contexts, with significant variation observable between Nigeria and England where policy regimes, professional expectations, and infrastructural conditions differ markedly. At a foundational level, libraries represent more than repositories of books and databases. They constitute curated knowledge ecosystems governed by principles of organisation, access, intellectual freedom, and scholarly verification. The International Federation of Library Associations and Institutions (IFLA, 2022) characterises school and academic libraries as pedagogical partners that foster inquiry-based learning and support critical engagement with information. Within Initial Teacher Education, this partnership potential acquires heightened significance. Pre-service teachers are not simply consumers of information, they are emerging mediators of knowledge for future generations. Consequently, the spaces in which they encounter, evaluate, and synthesise information shape not only academic performance but professional identity.

The first argument concerns libraries as epistemic infrastructures enabling structured inquiry. Contemporary Information Literacy frameworks emphasise sequential and recursive processes of problem definition, information seeking, resource evaluation, integration, and reflection. Academic libraries provide the material and intellectual scaffolding necessary to enact these processes meaningfully. Access to peer-reviewed journals, digital databases, curriculum archives, and open educational resources creates opportunities for pre-service teachers to define pedagogical problems, such as designing inclusive lesson plans or evaluating digital tools, and to seek evidence-informed solutions. When teacher educators collaborate with librarians to integrate Information Literacy instruction into assignment design, pre-service teachers rehearse disciplined inquiry rather than ad hoc searching. Empirical research underscores the significance of such collaboration. Tondeur et al. (2020) demonstrate that structured integration of digital literacy instruction within teacher education enhances pre-service teachers' capacity to evaluate and adapt technological resources critically. Similarly, Branch-Mueller and Rodger (2021) find that collaborative planning between teacher educators and librarians strengthens inquiry-based lesson design, particularly when Information Literacy is embedded within subject pedagogy rather than taught as a standalone workshop. These findings reinforce the claim that libraries function most

effectively when aligned with curricular expectations and assessment criteria. Yet, the infrastructural dimension cannot be overlooked. Access to up-to-date journals, stable internet connectivity, and professional librarian support are prerequisites for meaningful engagement. UNESCO (2023) emphasises that digital and media literacy initiatives must be accompanied by infrastructural investment, otherwise, policy rhetoric risks outpacing material reality. In contexts where libraries are under-resourced, Information Literacy instruction may be reduced to theoretical exposition rather than sustained practice. Thus, the epistemic infrastructure argument is inseparable from questions of equity and funding.

The second proposition foregrounds libraries as dialogic and interpretive spaces. Information Literacy, particularly in digitally mediated environments, entails more than procedural searching. It involves critical examination of sources, interrogation of bias, and ethical synthesis of knowledge. Libraries provide structured environments in which such interpretive work can be undertaken collectively. Study spaces, research consultations, reading groups, and collaborative workshops foster dialogue around credibility, representation, and evidence. Hicks (2024) conceptualises Information Literacy as a sociocultural practice embedded within communities of inquiry. Within Initial Teacher Education, libraries can serve as sites where pre-service teachers negotiate professional epistemologies, questioning assumptions, evaluating conflicting perspectives, and refining pedagogical reasoning. Such dialogic engagement aligns with UNESCO's (2023) emphasis on media and Information Literacy as foundational to democratic participation. Teachers must model transparent sourcing, respectful debate, and reasoned synthesis; libraries provide rehearsal spaces for these dispositions. Moreover, the interpretive dimension is increasingly salient in an era marked by generative artificial intelligence, algorithmic curation, and misinformation. Pre-service teachers must learn not only to access information but to scrutinise the provenance, credibility, and ethical implications of digital content. OECD (2021) analyses highlight that teachers face expanding informational demands, including evaluating commercial platforms and interpreting data dashboards. Libraries, when integrated within Initial Teacher Education curricula, provide structured opportunities to examine such materials critically. They become laboratories of epistemic vigilance.

The third proposition concerns contextual variability, particularly between England and Nigeria. In England, the Initial Teacher Education landscape is characterised by regulatory frameworks such as the Teachers' Standards and the Early Career Framework (Department for Education [DfE], 2022). These frameworks emphasise evidence-informed practice, research engagement, and structured mentoring. University libraries are typically well-resourced, offering

extensive digital subscriptions and professional librarian support. Many schools also maintain professional learning libraries or collaborate with local authority services. Within such contexts, the infrastructural conditions for Information Literacy development are comparatively robust. However, infrastructural adequacy does not guarantee pedagogical integration. Coldwell et al. (2021) caution that evidence-informed practice requires more than access to research. It demands institutional cultures that value inquiry and provide time for engagement. Accountability pressures and inspection regimes may inadvertently narrow pedagogical focus toward measurable attainment outcomes, potentially constraining exploratory inquiry. Thus, even within well-resourced systems, the transformative potential of libraries depends upon cultural alignment and leadership commitment.

Cross-case comparison thus reveals that the role of libraries in developing Information Literacy is contingent rather than universal. In Nigeria, the architecture of Initial Teacher Education is shaped by regulatory bodies such as the Teachers Registration Council of Nigeria (TRCN) and the National Commission for Colleges of Education (NCCE). Policy documents affirm the centrality of teacher quality and professional standards. Yet infrastructural disparities across institutions and states influence library provision significantly. While some universities maintain functional digital repositories and subscription databases, others confront limitations in funding, connectivity, and staffing. UNESCO (2021) notes that many low- and middle-income contexts face simultaneous pressures to expand teacher supply and enhance preparation quality under constrained resources. These structural conditions mediate the extent to which libraries can function as epistemic training grounds. Where academic libraries lack current journals or reliable internet access, pre-service teachers may rely disproportionately on freely available online sources of variable credibility. Without structured librarian collaboration, Information Literacy instruction may remain peripheral. Conversely, targeted investment and professional development initiatives can strengthen library integration even within resource-limited contexts. IFLA (2022) advocates coordinated policy support to elevate school libraries as central components of educational reform.

In England, the challenge may lie in deepening pedagogical integration within accountability-driven systems, whereas, in Nigeria, it may involve strengthening infrastructural capacity and policy coherence. Yet in both contexts, the fundamental principle remains that libraries must be positioned not as ancillary services but as core partners in teacher preparation. Critically, the relationship between library engagement and professional competence is mediated by assessment and practicum alignment. If Information Literacy competencies are explicitly evaluated within teaching practice portfolios and reinforced by mentor feedback, they are more

likely to become habitual. If they remain confined to discrete academic assignments, their influence may attenuate during placement experiences. Research by Voogt et al. (2021) suggests that alignment between digital competence instruction and authentic teaching tasks enhances transferability. This insight applies equally to broader Information Literacy processes.

The question of causality warrants careful scrutiny. While research consistently demonstrates positive associations between library quality and student achievement (Lance & Kachel, 2018; Scholastic, 2023), translating this correlation into teacher education contexts requires longitudinal and mixed-method investigation. Libraries may contribute to Information Literacy development, Information Literacy may enhance pedagogical reasoning, pedagogical reasoning may influence classroom practice. Yet each link in this chain is moderated by contextual variables. Establishing causality demands rigorous comparative case studies incorporating surveys, interviews, document analysis, and classroom observation. Ultimately, libraries within Initial Teacher Education can be conceptualised as epistemic crucibles, that is, spaces where professional identities are shaped through disciplined engagement with knowledge. When institutionally integrated, adequately resourced, and pedagogically aligned, they enable pre-service teachers to internalise structured inquiry, dialogic examination, and ethical synthesis. When marginalised or under-resourced, their potential remains unrealised.

The comparative lens underscores that strengthening the role of libraries in developing Information Literacy is not merely a technical endeavour but a policy and cultural project. It requires alignment between professional standards, curriculum design, mentor modelling, and infrastructural investment. In both Nigeria and England, advancing teacher quality entails recognising libraries as foundational components of professional formation. They are not peripheral repositories but structural contributors to the cultivation of critically informed, ethically grounded, and adaptively expert educators capable of navigating the epistemic complexities of contemporary schooling.

2.4.1 Academic Libraries as Sites of Structured Inquiry

University libraries within teacher education programmes are frequently positioned as support services, yet, in practice, they can function as laboratories for professional reasoning. Through engagement with scholarly databases, curated pedagogical resources, and librarian-led workshops, pre-service teachers enact the recursive stages of the Big6 model of Information Literacy, defining instructional tasks, selecting information-seeking strategies, accessing disciplinary knowledge, synthesising findings, and evaluating pedagogical implications

(Eisenberg & Berkowitz, 2020). Where this engagement is intentional and embedded, rather than incidental, libraries contribute substantively to professional formation. Studies conducted in European and Australasian contexts indicate that when Information Literacy instruction is integrated into coursework, particularly through collaborative design between librarians and teacher educators, pre-service teachers demonstrate enhanced evaluative judgement, improved citation practices, and greater capacity to justify instructional decisions with research evidence (Tondeur et al., 2020; Martín & Burgos, 2024). These outcomes correspond directly to the evaluative and synthetic stages of the Big6 model, suggesting that structured library engagement reinforces procedural competence. However, the mere presence of digital subscriptions or induction sessions is insufficient. Hicks (2024) argues that Information Literacy must be conceptualised as socially enacted practice, meaning that its development depends on authentic participation in epistemic communities. In teacher education, this requires that libraries are embedded within assessment design, research assignments, and reflective practice modules. When Information Literacy instruction is relegated to isolated workshops detached from curriculum tasks, pre-service teachers may acquire technical search skills without internalising inquiry as a professional habit.

In England, where evidence-informed practice is explicitly foregrounded within the Teachers' Standards and the Early Career Framework, academic libraries are often structurally aligned with programme outcomes. Many Initial Teacher Education institutions embed library sessions within research methods modules or professional studies courses, reinforcing the expectation that teaching decisions be grounded in credible evidence (OECD, 2021). Nonetheless, research reveals variability in the depth of integration, with some programmes treating Information Literacy as supplementary rather than central (Hicks, 2024).

In Nigeria, the picture is more heterogeneous. While federal universities frequently maintain substantial library collections, uneven funding, limited digital subscriptions, and infrastructural constraints can curtail systematic Information Literacy integration (Adeyemi & Adebayo, 2025). In such contexts, the Big6 stages of location and access are constrained not by conceptual ambiguity but by material limitations. Consequently, pre-service teachers may rely heavily on open-access materials or non-scholarly sources, potentially narrowing opportunities for critical examination and interpretive transformation as articulated in the eXIT model of Information Literacy. This comparative divergence underscores a critical insight that institutional infrastructure conditions the depth to which Information Literacy models can be operationalised.

Libraries cannot cultivate evaluative reasoning if access to diverse and credible sources is structurally restricted.

2.4.2 School Libraries and Practice-Based Reinforcement

If academic libraries support conceptual and procedural understanding, school libraries provide the arena in which Information Literacy dispositions are tested and translated into classroom practice. During placements, pre-service teachers encounter the realities of resource availability, curriculum constraints, and mentor modelling. The presence or absence of a functioning school library significantly shapes whether Information Literacy practices rehearsed at university are reinforced or marginalised. International evidence consistently associates professionally staffed school libraries with enhanced student achievement and improved instructional collaboration (IFLA, 2022; Lance & Kachel, 2018). Within teacher education, collaborative planning with school librarians has been shown to deepen pre-service teachers' appreciation of resource curation, differentiated text selection, and inquiry-based pedagogy (Branch-Mueller & Rodger, 2021). These collaborative engagements embody eXIT's transformative stage that signifies that information is not merely consumed but reshaped into context-sensitive learning experiences.

In Nigeria, disparities are more pronounced. While some urban schools possess functional libraries, many rural and public schools operate with limited collections, inadequate staffing, and minimal digital access (UNESCO, 2023; UBEC, 2022). National reports continue to highlight infrastructural deficits and uneven access to learning resources across geopolitical zones (Federal Ministry of Education, 2023). Under such conditions, pre-service teachers may encounter placement environments where structured Information Literacy practices are difficult to enact, particularly in the absence of functional school library programmes. The lack of collaborative librarian support can weaken the reinforcement of structured inquiry frameworks such as the Big6 (Eisenberg et al., 2020 edition updates) and eXIT model during formative professional experiences. This structural variability may contribute to a theory–practice gap in the enactment of Information Literacy pedagogy within Nigerian school contexts.

In England, many schools maintain established library services, though austerity measures and shifting funding priorities have led to uneven provision across regions (School Library Association, 2023; National Literacy Trust, 2022). National reports indicate disparities in staffing, funding, and access to professional librarians, particularly between primary and secondary phases and across socio-economic contexts (DfE, 2023). Where school librarians actively collaborate with

pre-service teachers, Information Literacy becomes more embedded within lesson planning and project-based learning, strengthening pupils' critical engagement with information (CILIP, 2021). However, in schools where libraries are under-resourced or absent, opportunities for sustained modelling diminish, limiting authentic enactment of Information Literacy pedagogies (School Library Association, 2023). This inconsistency complicates the translation of university-based Information Literacy instruction into classroom practice, particularly for pre-service teachers navigating placement variability.

These contrasts suggest that Information Literacy development within Initial Teacher Education is not merely curricular but ecological. The interaction between university preparation and school placement environments determines whether Information Literacy becomes a sustained professional orientation or an isolated academic competency.

2.4.3 Digital Transformation, Artificial Intelligence, and the Expanding Role of Libraries

The evolving digital landscape further complicates the institutional role of libraries. The proliferation of generative artificial intelligence tools, algorithmic recommendation systems, and rapidly circulating misinformation intensifies the need for critical examination and ethical transformation of information (UNESCO, 2021; OECD, 2021). Libraries are uniquely positioned to mediate these challenges by modelling responsible information practices and facilitating dialogue on digital ethics. In Initial Teacher Education contexts, workshops on artificial intelligence literacy, plagiarism detection, and research verification are increasingly integrated into library services. Such initiatives align closely with eXIT's emphasis on examination and transformation, encouraging pre-service teachers to interrogate not only content but also the technological systems that shape knowledge production. Where libraries actively engage with digital literacy discourse, Information Literacy development expands beyond source evaluation to encompass critical technological awareness.

Yet, digital transformation also magnifies inequalities. Access to subscription databases, reliable broadband, and digital learning platforms remain uneven globally. Comparative analysis reveals that English institutions often benefit from comprehensive digital infrastructures, while Nigerian institutions may confront bandwidth limitations and inconsistent database access (Adeyemi & Adebayo, 2025). These disparities influence the scope and sophistication of Information Literacy engagement. Therefore, the role of libraries in developing Information Literacy must be understood as dynamically responsive to technological, infrastructural, and

sociopolitical contexts. Libraries are not static repositories, instead, they are evolving pedagogical actors within broader educational ecosystems.

2.4.4 Institutional Coherence and the Conditions for Sustainable Information

Literacy Development

Synthesising the comparative evidence across Initial Teacher Education contexts in Nigeria and England reveals that the sustainability of Information Literacy development is not determined by isolated interventions or discrete skills instruction. Rather, Information Literacy becomes durable and professionally meaningful only where institutional coherence is achieved across curriculum design, pedagogical collaboration, and school-based practice. This coherence operates as a necessary condition for the transformation of Information Literacy from a compliance-oriented academic requirement into an embodied professional disposition integral to teacher judgement and classroom practice.

The first condition concerns curricular integration. Where Information Literacy frameworks such as the Big6 or eXIT models are explicitly aligned with programme learning outcomes, assessment criteria, and pedagogical tasks, pre-service teachers are more likely to experience Information Literacy as central to professional inquiry rather than peripheral academic support. International research consistently demonstrates that embedding Information Literacy within subject pedagogy and professional coursework enhances conceptual understanding and transferability (Tondeur et al., 2020; Hicks, 2024). In contrast, when Information Literacy instruction is delivered through stand-alone workshops or generic library inductions, it risks being perceived as instrumental or remedial, detached from the epistemic demands of teaching practice. Curricular coherence also signals institutional values. When programme documentation, module descriptors, and assessment rubrics explicitly reference critical engagement with evidence, ethical sourcing, and evaluative reasoning, Information Literacy is positioned as a normative expectation of teacher professionalism. In Nigeria, while policy frameworks articulate aspirations for teacher quality and professionalism, the degree to which Information Literacy is systematically embedded within curricula varies considerably across institutions, often reflecting disparities in institutional capacity and resourcing (UNESCO, 2021; TRCN, 2022). In England, this alignment is partially reinforced through policy emphasis on evidence-informed practice within teacher standards and early career frameworks (DfE, 2022; Coldwell et al., 2021).

The second condition relates to collaborative pedagogy, particularly structured partnerships between teacher educators and librarians. The literature increasingly recognises that

librarians are not merely service providers but pedagogical partners capable of co-designing learning experiences that cultivate inquiry, evaluation, and synthesis (Branch-Mueller & Rodger, 2021; IFLA, 2022). Where such collaboration is institutionalised through co-taught sessions, embedded research tasks, or joint assessment design, pre-service teachers encounter consistent epistemic expectations across academic and professional domains. Conversely, where collaboration is informal, episodic, or dependent on individual initiative, Information Literacy development becomes uneven and vulnerable to disruption. This fragmentation is particularly evident in contexts where institutional workloads, timetable constraints, or unclear role demarcations limit sustained engagement between educators and librarians. Research by Julien et al. (2020) suggests that without structural support and leadership endorsement, collaborative Information Literacy initiatives struggle to achieve scale or longevity. Thus, sustainable Information Literacy development requires not only professional goodwill but organisational commitment.

The third condition concerns placement reinforcement. This is the extent to which Information Literacy practices modelled in university settings are sustained and legitimised within school-based placements. Teaching practice or practicum represents a critical site of professional socialisation, where pre-service teachers negotiate the relationship between theory and practice. If Information Literacy-informed approaches such as evidence-based lesson planning, critical evaluation of digital resources, or reflective use of research are visibly enacted by mentor teachers, pre-service teachers are more likely to internalise these practices as professionally authentic (Voogt et al., 2021). However, comparative evidence suggests that this alignment is frequently fragile. In Nigeria, structural constraints such as large class sizes, limited access to school libraries, and inconsistent digital infrastructure can further constrain the enactment of Information Literacy during placement (UNESCO, 2023). Where school environments do not model or value Information Literacy, the transfer of university-based learning is weakened, reinforcing a theory–practice divide. In England, mentor teachers may prioritise performative compliance with inspection frameworks over exploratory inquiry, inadvertently marginalising Information Literacy practices that are not immediately measurable (Brown et al., 2022).

In all, these conditions underscore the importance of institutional alignment. Where curricular integration, collaborative pedagogy, and placement reinforcement coalesce, Information Literacy is more likely to become a habitual mode of professional reasoning that will inform how teachers interpret curriculum guidance, evaluate resources, and respond adaptively to classroom complexity. Where fragmentation persists across these domains, Information Literacy risks being

reduced to a short-term academic skill, with limited impact on professional practice beyond certification. This analysis reinforces the central premise of the chapter that, libraries contribute to teacher quality not merely through access to information, but through their capacity to scaffold structured inquiry, critical evaluation, and knowledge transformation processes that underpin professional judgement. Libraries function most powerfully when embedded within coherent institutional ecologies that align policy aspirations, pedagogical practice, and professional modelling. Their impact is thus relational and systemic rather than transactional.

2.5 Digital Transformation, E-Resources, and Emerging Technologies and the Teaching Workforce

The educational landscape in which teachers are prepared and operate has undergone profound transformation over the years. No longer are teachers trained solely to mediate print-based content and face-to-face interactions. They are now expected to navigate a rapidly evolving digital ecology characterised by an unprecedented proliferation of e-resources, hybrid learning platforms, mobile technologies, and increasingly, artificial intelligence (AI)-assisted tools. This digital transformation has reshaped not only how knowledge is accessed and organised but also how it is validated, interpreted, and mobilised within professional practice. In this context, the competencies that underpin effective teaching have expanded to include not only subject mastery and pedagogical skill but also the capacity to evaluate, synthesise, and ethically apply digital information within complex social and technological systems.

At its core, digital transformation refers to the systematic integration of digital technologies into the processes and structures of teaching and learning (Voogt et al., 2021). Within Initial Teacher Education, this transformation has profound implications. It alters the informational demands placed upon pre-service teachers, reconfigures the infrastructure of academic support, and reshapes the professional competencies that teacher educators and policymakers expect emerging teachers to embody. As UNESCO (2023) notes, the digital age is not merely a matter of access to devices, rather, it is characterised by the reconfiguration of power relationships, epistemic authority, and communicative practices. Teachers, as central mediators in educational settings, must engage with this transformation both reflectively and competently.

2.5.1 Digital Transformation as a Catalyst for Changing Professional Competence

The influence of digital technologies on teaching is not limited to the classrooms' physical environment but extends into the epistemic foundations of the profession. Traditional modes of knowledge transmission have been augmented and, in some cases, disrupted by digital

repositories, interactive multimedia, and networked communication channels. Pre-service teachers are no longer preparing to work in information-scarce environments, instead, they must learn to navigate and critically engage with information abundance (Shupe & Pilerot, 2022). This shift foregrounds Information Literacy not as an optional skill but as an organising principle of professional practice. OECD (2021) frames contemporary teaching as an activity that involves designing environments in which learners engage meaningfully with rich, diverse, and often conflicting information. Such environments demand that teachers exercise professional judgement in selecting, curating, and contextualising digital resources. The most effective teachers, in this view, display not only mastery of content and pedagogy but also sophisticated competencies in sourcing, evaluating, and integrating digital resources — competencies that are fundamentally aligned with Information Literacy processes such as those described in Big6 and EXIT models.

The Big6 model, with its structured sequencing of task definition, strategy selection, information access, use, synthesis, and evaluation, lends a coherent lens through which to understand how digital resources are purposefully engaged within professional tasks (Eisenberg & Berkowitz, 2020). Similarly, the eXIT model underscores interpretive and transformative engagement, inviting teachers to examine, explore, interpret, and reshape information within pedagogical contexts (Aguilar & López-Medina, 2023). These models, when situated within digital transformation, help articulate the cognitive and metacognitive moves that distinguish competent practitioners. They move teacher preparation beyond surface-level familiarity with digital tools toward disciplined processes of inquiry and judicious adaptation.

2.5.2 E-Resources, Online Journals, and the Expanded Informational Ecology

One of the most visible effects of digital transformation has been the enormous expansion of e-resources available to teachers and teacher educators. Access to online academic journals, open educational resources (OER), digital repositories, and subject-specific databases has revolutionised the availability of research and pedagogical materials. This expansion has significantly lowered barriers to information access compared with the limitations of print-based libraries, enabling pre-service teachers to engage directly with current scholarship, curriculum materials, and diverse pedagogical resources. However, mere access is not synonymous with effective use. Head et al. (2020) report that many emerging teachers, despite having unprecedented access to digital sources, struggle with source evaluation, particularly when distinguishing between peer-reviewed research and unvetted online content. This reflects broader concerns about the digital information environment, where algorithmic curation and search engine optimisation can privilege popularity over credibility. In such contexts, Information Literacy becomes a

professional necessity such that teachers must not only retrieve information but critically evaluate its validity, relevance, and ethical implications.

The role of online journals in teacher education exemplifies this shift. Historically, journal access was mediated by physical library holdings, constrained by subscription costs and limited circulation. Digital access has transformed this situation, and pre-service teachers can now consult current research, systematic reviews, and pedagogical case studies with unprecedented immediacy. Engaging with online journals promotes a research-oriented professional identity, encouraging future teachers to reflect on evidence in relation to classroom questions. Coldwell et al. (2021) argue that such engagement enhances reflective practice and supports evidence-informed decision making. However, structural differences influence how pre-service teachers experience this affordance. In contexts such as England, where institutions typically maintain extensive digital journal subscriptions and integrated library systems, pre-service teachers encounter a relatively rich informational ecology. Academic libraries in these settings often provide access to databases such as Education Resources Information Centre (ERIC), JSTOR – a digital library for academic research, and subject-specific collections alongside curated pedagogical resources, enabling robust engagement with research evidence. Librarians frequently collaborate with teacher educators to scaffold research skills, offering workshops and individual consultations that support critical engagement with digital resources (CILIP, 2018).

In contrast, in many parts of Nigeria and comparable low- and middle-income contexts, access to subscription-based journals is more limited due to funding constraints and infrastructural challenges. Open access resources and freely available repositories become particularly important. While initiatives such as the African Journals Online (AJOL) and UNESCO's open education platforms expand access, disparities in subscription access, internet bandwidth, and institutional investment continue to shape the informational ecology. This variability underscores that digital transformation is not homogenous. Its effects are mediated by economic, policy, and infrastructural conditions. Yet the core challenge remains consistent across contexts therefore, pre-service teachers must learn how to navigate digital information landscapes with discernment.

2.5.3 Emerging Technologies: Artificial Intelligence and Professional Praxis

Perhaps the most disruptive element of contemporary digital transformation is the rapid emergence of artificial intelligence (AI) and AI-assisted tools. Generative artificial intelligence systems capable of producing text, images, and code in response to prompts represent a profound shift in how information is generated, mediated, and consumed (UNESCO, 2023; OECD, 2023).

Tools such as large language models have entered educational discourse, promising new affordances for personalised learning, automated feedback, curriculum design support, and resource creation (World Economic Forum, 2024). However, they also raise complex questions regarding epistemic authority, academic integrity, and ethical use (Russell Group, 2023). UNESCO's (2023) guidance on artificial intelligence in education emphasises that teachers must not only understand what these technologies can do but also how they shape information ecosystems, including issues of bias, transparency, and accountability. Unlike static digital resources, artificial intelligence systems generate content dynamically, often without clear provenance or reliable quality control, thereby intensifying concerns about credibility and trustworthiness (OECD, 2023). Teacher educators now face the urgent task of preparing pre-service teachers to critically evaluate AI-generated outputs, recognise limitations of automated tools, and employ them ethically within pedagogical contexts (Russell Group, 2023).

From an Information Literacy perspective, this development deepens the complexity of the evaluative dimension. The eXIT model's emphasis on examination and interpretation becomes particularly salient because teachers must interrogate not only sources but also the algorithmic processes by which information is produced and mediated. They must consider how recommender systems and algorithmic filters shape search results and how artificial intelligence summarisation tools may obscure nuance or misrepresent evidence (OECD, 2023). In doing so, they enact a form of epistemic vigilance that extends beyond traditional notions of literacy. The integration of artificial intelligence into teacher preparation is not a simple additive process. It requires structured reflection on how these tools influence thinking practice, ethical judgement, and professional identity. Emerging research indicates that when artificial intelligence tools are introduced within pedagogically framed tasks such as reflective journaling, generating multiple perspectives on a teaching dilemma, or exploring alternative conceptual explanations, pre-service teachers can develop both practical fluency and critical scepticism (European Commission, 2022; UNESCO, 2023). However, unstructured use risks superficial engagement, automation bias, and overreliance on machine-generated output. The pedagogical design of artificial intelligence engagement must therefore be intentional, reflexive, and grounded in professional standards that prioritise human judgement and ethical accountability.

2.5.4 Hybrid Learning, Blended Instruction, and Informational Navigation

Digital transformation has catalysed a sustained shift toward hybrid and blended learning environments, producing pedagogical configurations that combine face-to-face instruction with online activities and digital resources (OECD, 2023; UNESCO, 2023). These hybrid spaces

expand the informational landscape of teacher education, enabling asynchronous engagement with scholarly readings, multimedia content, discussion forums, and collaborative projects. For pre-service teachers, hybrid learning environments offer opportunities to practise self-regulated inquiry, engage with multimodal resources, and reflect iteratively on learning trajectories (European Commission, 2022). However, hybrid contexts require sophisticated informational navigation competencies. Pre-service teachers must discern not only the relevance and methodological robustness of academic literature but also the pedagogical quality of digital media, the credibility of open educational resources, and the suitability of interactive technologies for diverse learners. This demands what Shum and Luckin (2019) describe as epistemic fluency, that is, the capacity to move fluidly between evidence sources, evaluate competing claims, and integrate multiple modalities of knowledge in service of coherent instructional design.

Blended instruction further foregrounds the ethical dimension of information practice. Issues of digital equity, learner data protection, surveillance, and algorithmic mediation become pedagogical considerations that teachers must negotiate (UNESCO, 2023; OECD, 2023). Teachers must therefore be prepared not only to select appropriate digital tools but also to ensure that their implementation respects learners' rights, promotes inclusive access, and aligns with professional standards concerning privacy and responsible data use (European Commission, 2022). These ethical layers extend the scope of Information Literacy beyond technical competence, situating it within broader frameworks of social justice, digital citizenship, and professional accountability.

2.5.5 Professional Standards, Digital Competence, and Lifelong Teacher Learning

Teacher professional standards in many jurisdictions now explicitly integrate expectations related to digital competence, research engagement, and adaptive expertise. For example, England's Teachers' Standards and Early Career Framework underscore the importance of engaging with educational research and integrating evidence into classroom practice (DfE, 2022; Coldwell et al., 2021). Similarly, UNESCO's global frameworks call for teachers to model and develop digital and media literacy among learners as part of a broader repertoire of professional competencies (UNESCO, 2023). These policy orientations reflect recognition that digital transformation is not an add-on but a core dimension of effective teaching. From a lifelong learning perspective, digital transformation underscores that teacher preparation cannot be confined to pre-service programmes alone. The velocity of technological change requires that teachers continually update their competencies, refine their evaluative frameworks, and adapt to new informational affordances. Continuous professional development (CPD) thus becomes an institutional necessity. Effective continuous professional development in a digital age must itself be digitally mediated,

inquiry-oriented, and learner-centred, enabling teachers to practise the very Information Literacy processes they aspire to teach.

The intersection of digital transformation and Information Literacy also has implications for equity. Digital divides characterised by disparities in access, quality of infrastructure, and digital competency remain pervasive across and within countries. These divides shape not only students' learning experiences but also pre-service teachers' readiness to engage with e-resources and emerging technologies. Research indicates that pre-service teachers from under-resourced contexts often enter Initial Teacher Education with less developed digital competencies, complicating their engagement with professional learning platforms and scholarly databases (Head et al., 2020; Tondeur et al., 2020). Addressing these inequities requires systemic attention to infrastructure, access, and targeted support structures.

All in all, digital transformation has redefined the informational ecology of teaching and teacher education. E-resources, online journals, hybrid learning environments, and AI-assisted tools have expanded the scope and complexity of information that teachers must access, evaluate, and integrate. These shifts elevate Information Literacy from a supplementary academic skill to a core professional competency that undergirds reflective practice, ethical decision-making, and adaptive expertise. Yet the promise of digital transformation is contingent upon institutional coherence, equitable access, and pedagogically sound integration within Initial Teacher Education. Policies that embed digital and media literacy within professional standards, structured opportunities for librarian–educator collaboration, and placement environments that model inquiry-driven practice collectively shape the degree to which digital transformation enhances teacher preparation.

In this rapidly evolving landscape, Information Literacy provides a conceptual anchor for a set of cognitive, metacognitive, and ethical dispositions that enable teachers to navigate the demands of digital epistemologies. Building these capacities within Initial Teacher Education represents an enduring challenge and opportunity, one that requires thoughtful curriculum design, sustained professional learning, and a commitment to equipping teachers not only to survive, but to lead, within the informational complexities of the twenty-first century.

2.6 Beyond Skills: Information Literacy, Critical Thinking and Metacognition in Teacher Education

Contemporary understandings of Information Literacy extend far beyond the technical ability to search for sources or retrieve information from libraries and digital platforms. In increasingly complex educational environments, pre-service teachers are expected not only to locate information, but also to question its credibility, interpret competing claims, reflect on their own assumptions, and apply knowledge judiciously in practice. For this reason, Information Literacy is most meaningfully understood in relation to two closely connected constructs: critical thinking and metacognition. Together, these capacities help transform information use from a procedural task into an intellectually disciplined and professionally significant form of inquiry.

The relationship between these concepts is particularly important in teacher education. Teachers operate in knowledge-rich environments where decisions must often be made in conditions of uncertainty. They are required to evaluate curriculum materials, interpret assessment evidence, respond to diverse learner needs, and engage with evolving policy and research. Information Literacy provides the means to access and work with relevant knowledge; critical thinking enables the evaluation of evidence and reasoned judgement; and metacognition supports the reflective regulation of thinking, learning, and decision-making. When combined, these capacities strengthen professional autonomy and prepare pre-service teachers to become thoughtful, adaptive, and evidence-informed practitioners (Kuhlthau et al., 2015; ACRL, 2016; UNESCO, 2018).

This section explores these interrelationships in four parts. Section 2.6.1 examines the interplay between Information Literacy and critical thinking, highlighting their shared emphasis on judgement, evaluation, and meaning-making. Section 2.6.2 considers metacognition as the regulatory engine of teacher inquiry, focusing on how reflection, self-monitoring, and strategic awareness shape professional learning. Section 2.6.3 discusses the curricular implications of integrating Information Literacy, critical thinking, and metacognition within teacher education programmes. Finally, Section 2.6.4 considers these issues comparatively in relation to Nigeria and England, recognising that the development and enactment of these capabilities are influenced by differing institutional, cultural, and policy contexts.

2.6.1 The Interplay Between Information Literacy and Critical Thinking

Critical thinking and Information Literacy occupy overlapping yet analytically distinguishable domains within teacher education. Critical thinking is generally understood as

disciplined, reflective reasoning concerning what to believe or how to act, encompassing analysis, evaluation, inference, explanation, and self-regulation (Ennis, 2018). Information Literacy, by contrast, has historically focused on identifying information needs, locating relevant sources, and applying evidence appropriately. Contemporary scholarship, however, increasingly recognises that the evaluative and integrative phases of Information Literacy are inseparable from critical reasoning processes (Shupe & Pilerot, 2022; OECD, 2023). The point of intersection lies in epistemic judgement. When teachers discern the credibility of sources, interpret conflicting research findings, or justify pedagogical choices, they engage simultaneously in Information Literacy and critical thinking. Information Literacy structures the inquiry process while critical thinking interrogates the quality, coherence, and implications of the evidence encountered. In this sense, Information Literacy provides procedural scaffolding, while critical thinking supplies evaluative depth. Within Initial Teacher Education, critical thinking underpins the capacity to interpret educational research, scrutinise digital tools, and adapt instruction responsively to diverse learners. Teachers must evaluate methodological robustness, consider contextual transferability, and anticipate ethical and equity implications of instructional decisions (UNESCO, 2023). Such interpretive work cannot be reduced to technical search proficiency. Rather, it requires perspective-taking, reflective scepticism, and reasoned judgement, portraying capacities that enable information retrieved through Information Literacy processes to be transformed into defensible professional action.

Empirical research in teacher education reinforces this integrative perspective. Studies of digital competence development indicate that pre-service teachers who demonstrate stronger evaluative reasoning are more adept at designing inquiry-based learning environments and selecting pedagogically appropriate technologies (Tondeur et al., 2020; Voogt et al., 2021). More recent analyses suggest that when teacher preparation programmes foreground critical engagement with research evidence rather than mere access to resources, pre-service teachers exhibit greater conceptual coherence in lesson planning and reflective practice (OECD, 2023). These findings support the claim that Information Literacy and critical thinking are mutually reinforcing dimensions of professional epistemic development. However, conceptual alignment alone does not ensure pedagogical integration. Effective teacher education requires instructional designs that embed critical interrogation within Information Literacy tasks. For example, pre-service teachers may be prompted not only to document where information was located, but to justify why particular sources are credible, how they align with curricular aims, what assumptions underpin them, and whose perspectives may be marginalised. Such structured questioning activates critical reasoning within IL processes, rendering the constructs interdependent rather than parallel.

2.6.2 Metacognition as the Regulatory Engine of Teacher Inquiry

Metacognition is the awareness and regulation of one's own thinking processes and it provides a regulatory architecture that governs how Information Literacy and critical thinking are enacted. First described in cognitive psychology as the ability to plan, monitor, and evaluate cognitive activities (Flavell, 1979), metacognition has since been recognised as central to effective learning and professional practice. In teacher education, metacognitive capacity enables pre-service teachers to reflect on their decision-making processes, adjust strategies, and evaluate the quality of their reasoning in instructional contexts. Metacognition operates at three interrelated levels: (i) planning – this is the stage when decisions are made about what information is needed and how to approach a task; (ii) monitoring – this is the stage during which the chosen information is tracked for comprehension and search effectiveness; and (iii) evaluating – this is the stage to judge the adequacy of outcomes and revise as needed. When applied to Information Literacy and critical thinking, metacognition ensures that teachers do not merely execute tasks mechanically but do so with ongoing self-regulation and reflective oversight. Without metacognitive regulation, Information Literacy and critical thinking risk remaining episodic or superficial.

In practice, encouraging metacognitive reflection in teacher education might take the form of reflective journaling, self-questioning prompts, peer dialogue, or annotated lesson planning portfolios. These pedagogical tools invite pre-service teachers to articulate their reasoning. Pre-service teachers may ask some rhetorical questions like, 'Why did I choose this source? What assumptions does it carry? How did I integrate evidence into my instructional design? What evidence would challenge my conclusion?' Such reflection operationalises metacognitive regulation and deepens professional understanding.

Emerging research echoes this integration. Dinsmore (2020) finds that explicit metacognitive scaffolding enhances the transfer of Information Literacy competencies to authentic teaching tasks, particularly when pre-service teachers are supported to articulate their reasoning processes. Similarly, empirical work by Martín and Burgos (2024) indicates that programmes which integrate metacognitive prompts within curriculum planning tasks produce pre-service teachers who demonstrate stronger reflective justification and adaptive instructional strategies. This regulatory function is especially salient in digitally mediated environments. The proliferation of online sources, algorithmic filtering, and generative artificial intelligence content complicates the landscape of information use. Teachers must monitor not only what they find but how it is generated, embedded, and shaped by digital systems. UNESCO's (2023) global framework on digital and media literacy underscores the need for metacognitive awareness to manage

misinformation, interpret multimedia content, and engage ethically with AI-assisted tools. In this sense, metacognition anchors Information Literacy and critical thinking within complex informational ecologies.

2.6.3 Integrating Information Literacy, Critical Thinking, and Metacognition in Teacher Education Curricula

Although there is broad conceptual agreement that Information Literacy, critical thinking, and metacognition are foundational to teacher professionalism, their systematic integration within Initial Teacher Education curricula remains uneven. In many programmes, these competencies are assumed to develop implicitly through research methods modules or reflective components of practicum experiences. Such assumptions, however, risk rendering their development incidental rather than intentional. When critical epistemic competencies are left to individual initiative, their enactment becomes inconsistent and contingent upon personal disposition rather than curricular design (OECD, 2023). A more deliberate curricular architecture would weave Information Literacy, critical reasoning, and metacognitive reflection across coursework, assessment, and school placements. Rather than isolating these competencies within discrete modules, purposeful integration positions them as recurring intellectual practices. For instance, pre-service teachers may engage in iterative inquiry cycles requiring the formulation of pedagogical questions, strategic evidence seeking, critical appraisal of competing sources, synthesis into instructional artefacts, and structured reflective evaluation of outcomes. Such sequences mirror the procedural discipline of the Big6 (Eisenberg et al., 2020 updated edition) while simultaneously embodying the interpretive depth emphasised in the eXIT model (Aguilar & López-Medina, 2023). Importantly, when reflection is embedded at each stage, metacognitive regulation becomes integral rather than peripheral.

Collaborative engagement further strengthens this integration. Partnerships with school librarians, instructional technologists, and mentor teachers situate information practices within authentic professional contexts (Branch-Mueller & Rodger, 2021; International Federation of Library Associations and Institutions, 2022). Such collaboration reinforces the understanding that Information Literacy is not merely academic preparation but lived professional practice enacted within institutional ecosystems. For pre-service teachers, these encounters model how evidence-informed inquiry, digital tool evaluation, and ethical reasoning operate within real classrooms.

Assessment design also exerts powerful influence. When evaluation criteria explicitly reward the quality of evidence use, justification of pedagogical decisions, and depth of reflective

self-appraisal, pre-service teachers are incentivised to internalise these competencies consistently. Conversely, assessments that prioritise technical compliance or superficial resource compilation risk diminishing epistemic depth. Policy-level guidance similarly underscores the importance of structured metacognitive support in strengthening professional reasoning (Education Endowment Foundation, 2021; UNESCO, 2023).

School placements provide particularly consequential sites for integration. Mentor teachers who articulate the research base underpinning their instructional choices, critically evaluate digital tools, and invite pre-service teachers into reflective dialogue model the lived interplay between Information Literacy and critical thinking. Empirical studies indicate that placements explicitly foregrounding inquiry, evidence engagement, and structured reflection are associated with stronger transfer of evaluative competencies into early career practice (Voogt et al., 2021; OECD, 2023). Such findings suggest that integration is most effective when epistemic practices are consistently reinforced across university and school settings. In all, these considerations indicate that integrating Information Literacy, critical thinking, and metacognition within Initial Teacher Education curricula is not an additive enhancement but a structural necessity. In digitally complex and ethically charged information environments, teacher professionalism depends upon intentional curricular design that cultivates disciplined inquiry, reflective judgement, and responsible application of knowledge.

2.6.4 Comparative Dimensions: Nigeria and England

A comparative examination of Nigeria and England reveals that, while the broad aims of teacher education in both contexts include the preparation of competent, reflective, and professionally responsible teachers, the ways in which these competencies are conceptualised, supported, and institutionalised differ significantly. These differences are not simply technical or administrative; they are shaped by historical development, policy priorities, levels of resourcing, and wider socio-economic conditions. As such, they provide an important lens through which to understand variations in pre-service teachers' opportunities to develop Information Literacy, reflective capacity, and evidence-informed professional practice.

In Nigeria, national regulatory frameworks for teacher preparation place considerable emphasis on pedagogical knowledge, subject competence, classroom management, and ethical conduct. Bodies such as the Teachers Registration Council of Nigeria (TRCN) and the National Commission for Colleges of Education (NCCE) articulate expectations relating to professional standards and the preparation of teachers who can respond to national educational goals (TRCN,

2020; NCCE, 2022). However, these frameworks do not always identify Information Literacy, metacognitive awareness, or research engagement as clearly defined and assessable competencies in their own right. In many cases, such capacities are implied within broader goals such as independent learning, critical thinking, or effective teaching, rather than explicitly named as core professional requirements. This has practical implications. Where competencies are not clearly articulated in policy language, their implementation may depend heavily on local institutional interpretation, staff expertise, and available resources.

Institutional capacity remains a particularly significant factor within the Nigerian context. Although many universities and colleges of education are making substantial efforts to improve provision, disparities persist in areas such as internet connectivity, access to subscription databases, availability of current textbooks, and digital learning infrastructure. These structural conditions can shape the extent to which pre-service teachers are able to practise the skills associated with Information Literacy, including locating scholarly literature, evaluating sources critically, synthesising evidence, and applying information to professional decision-making. In resource-constrained environments, students may rely more heavily on open web sources, lecturer-provided materials, or peer networks, sometimes limiting their exposure to the wider academic knowledge base (Aina, 2013; Issa et al., 2020). Nevertheless, it would be inaccurate to frame the Nigerian context solely through a deficit lens. Evidence from practice suggests that where teacher education providers intentionally embed inquiry-based assignments, reflective journals, micro-teaching analysis, collaborative learning tasks, and portfolio assessment, meaningful competence development does occur. In such settings, pre-service teachers can cultivate habits of critical reflection, independent investigation, and adaptive professional learning despite infrastructural constraints. This indicates that context influences the form and pace of integration, but not its necessity or potential value. Put differently, the need for Information Literacy and reflective capability is universal, even if the routes through which they are developed are contextually varied.

By contrast, the English context demonstrates a more explicit policy recognition of research-informed practice, professional reflection, and digital competence within teacher education. National frameworks such as the Teachers' Standards and the Early Career Framework position engagement with evidence, continual professional learning, and informed pedagogical decision-making as integral to teacher professionalism (Department for Education [DfE], 2021, 2022). While the terminology of "Information Literacy" may not always appear directly in teacher standards documents, the underlying expectations are strongly aligned with it. Teachers are expected to evaluate evidence, draw on research, use assessment data intelligently, and make

reasoned decisions about curriculum and pedagogy. A further distinguishing feature of the English context is the stronger institutional infrastructure that often supports these expectations. University libraries are typically well-resourced, offering access to extensive print and digital collections, specialist databases, academic skills provision, and learning technologies. In many institutions, librarians work collaboratively with academic staff to deliver embedded teaching on literature searching, referencing, critical evaluation, and responsible information use. Such partnerships can normalise Information Literacy as part of disciplinary learning rather than treating it as an optional or peripheral add-on (SCONUL, 2011, 2023; Webber & Johnston, 2017). This creates a more systematic environment in which pre-service teachers can develop the habits associated with scholarly inquiry and lifelong professional learning.

However, stronger provision does not automatically guarantee deeper engagement. Even in well-resourced systems, students may underuse library services, rely excessively on convenient search tools, or engage instrumentally with research only when assessment requires it. Therefore, the English case should not be interpreted as uniformly successful, but rather as offering more favourable structural conditions for the development of these competencies. The quality of curriculum design, the relevance of tasks, and the pedagogical integration of support services remain critical in determining whether students actually benefit from available resources. Summarily, the comparison between Nigeria and England highlights a central argument of this thesis: Information Literacy and related professional competencies are not developed through policy statements or resource availability alone. They emerge through the interaction of standards frameworks, institutional systems, curriculum practices, staff collaboration, and learner agency. Nigeria illustrates the resilience and adaptability required when development occurs under structural constraint, while England illustrates the advantages of clearer policy alignment and stronger infrastructural support. Both contexts, however, reaffirm that preparing future teachers for contemporary classrooms requires more than transmission of subject knowledge. It requires the deliberate cultivation of teachers who can seek, evaluate, interpret, and apply knowledge thoughtfully in changing educational environments.

2.7 Gaps in the Literature: Conceptual, Methodological, and Contextual Silences in Research on Information Literacy, Libraries, and Initial Teacher Education

The preceding sections have examined the evolving architecture of Initial Teacher Education (ITE), the role of libraries as epistemic infrastructures, the relationship between Information Literacy (IL) and effective classroom practice, and the transformative pressures introduced by digitalisation and artificial intelligence (AI). Collectively, the literature affirms the

importance of teacher quality (OECD, 2021; UNESCO, 2023), the educational contribution of libraries (IFLA, 2022; Lance & Kachel, 2018), and the centrality of Information Literacy within digitally mediated knowledge environments (Hicks, 2024; UNESCO, 2021). Yet, despite this growing body of scholarship, significant lacunae remain. These gaps are not merely technical oversights. They reflect deeper conceptual ambiguities, methodological constraints, contextual silences, and theoretical fragmentations that shape how Information Literacy within Initial Teacher Education is understood, researched, and operationalised. This section therefore interrogates the literature critically, identifying areas of insufficiency and tension that justify the present study. In doing so, it moves beyond a descriptive summary toward a problematised synthesis aligned with the study's comparative and interpretive orientation.

2.7.1 Conceptual Gaps: From Skill Acquisition to Professional Disposition

One of the most persistent conceptual gaps concerns the framing of Information Literacy itself. Although policy frameworks increasingly recognise Information Literacy as foundational to lifelong learning and democratic participation (UNESCO, 2021, 2023), much empirical research continues to conceptualise Information Literacy primarily as a discrete academic skill rather than as an embodied professional disposition. In teacher education, this distinction is consequential. Skill-based framings emphasise search techniques, database navigation, and citation conventions. While these are necessary competencies, they are insufficient for capturing the complex epistemic judgements required of contemporary teachers navigating algorithmically curated information environments, generative AI tools, and multimodal content (OECD, 2021; Hicks, 2024).

Moreover, dominant Information Literacy models such as the Big6 (Eisenberg et al., 2000) have often been applied procedurally, with limited exploration of how evaluative reasoning, ethical discernment, and epistemic reflexivity become internalised as durable aspects of professional identity. The eXIT model's emphasis on examination and transformation (Shenton & Hay-Gibson, 2011) gestures toward deeper interpretive engagement, yet empirical studies rarely examine how such transformative processes unfold longitudinally during Initial Teacher Education. Consequently, a conceptual gap persists between policy rhetoric and empirical operationalisation. While global frameworks articulate Information Literacy as integral to teacher professionalism (UNESCO, 2021), research frequently measures it through short-term confidence surveys or isolated coursework outcomes. There remains insufficient theorisation of Information Literacy as a professional habitus, a structured yet adaptive disposition shaping pedagogical judgement across diverse classroom contexts.

2.7.2 Methodological Gaps: Over-Reliance on Self-Report and Cross-Sectional Designs

A second gap concerns methodological design. Much of the literature examining Information Literacy within teacher education relies on self-reported measures of confidence, perceived competence, or satisfaction (Tondeur et al., 2020; Voogt et al., 2021). While valuable for capturing subjective experience, such measures are limited in establishing whether Information Literacy competence translates into observable classroom effectiveness. Similarly, research linking library provision to student achievement (Lance & Kachel, 2018; Scholastic, 2023) demonstrates correlations between well-resourced libraries and improved literacy outcomes. However, causal mechanisms remain under-explored. In teacher education contexts, even fewer studies trace pre-service teachers longitudinally into early career practice to determine whether structured Information Literacy preparation predicts adaptive expertise, instructional quality, or resilience in confronting misinformation and artificial intelligence-generated content (OECD, 2021; Hicks, 2024).

This absence of longitudinal evidence creates a significant evidentiary gap. Without tracking professional enactment beyond graduation, claims regarding Information Literacy's impact on classroom effectiveness remain inferential rather than empirically substantiated. Furthermore, observational and mixed-method approaches remain underutilised. Rich qualitative inquiry exploring how pre-service teachers justify pedagogical decisions, evaluate digital resources during practicum, or negotiate epistemic uncertainty in real classroom contexts is comparatively scarce. Given the interpretive and situated nature of Information Literacy enactment, such approaches are indispensable. Thus, the literature demonstrates a methodological imbalance - an abundance of correlational and survey-based research, but limited process-oriented, comparative, and longitudinal inquiry capable of illuminating professional transfer.

2.7.3 Comparative Gaps: Limited Cross-National Analysis

Despite global policy convergence around teacher quality and digital competence (OECD, 2021; UNESCO, 2023), cross-national comparative studies examining Information Literacy within Initial Teacher Education remain rare. Research is frequently situated within single national contexts, often in high-income settings with established library infrastructures. This leaves significant blind spots regarding how structural conditions shape Information Literacy development. In contexts where school libraries are under-resourced, unevenly staffed, or absent, pre-service teachers may encounter barriers to enacting Information Literacy-rich pedagogies, regardless of university-based preparation (IFLA, 2022; UNESCO, 2023). Conversely, systems

with embedded library–school collaboration models may normalise Information Literacy practices within classroom routines.

The absence of systematic Nigeria–England comparisons in existing literature is particularly notable. England’s regulatory environment emphasises professional standards and inspection frameworks, potentially reinforcing Information Literacy through accountability mechanisms (Department for Education [DfE], 2019). Nigeria, while advancing teacher education reform, operates within more heterogeneous infrastructural conditions shaped by resource constraints and regional disparities (UNESCO, 2023). Yet few studies interrogate how such contextual divergences influence Information Literacy internalisation among pre-service teachers. Without comparative analysis, it becomes difficult to disentangle structural determinants from pedagogical design, or to understand how Information Literacy transfer is mediated by policy architectures and institutional cultures. This comparative silence represents a substantive gap that the present study seeks to address.

2.7.4 Theoretical Fragmentation: Disconnected Frameworks

Another limitation lies in theoretical fragmentation. Research on teacher professionalism, digital competence, critical thinking, and Information Literacy often unfolds in parallel rather than integrated conversations. Competency-based teacher frameworks (OECD, 2021; UNESCO, 2021) emphasise digital and reflective capabilities, while Information Literacy scholarship foregrounds inquiry processes and epistemic evaluation. However, systematic integration between these domains remains underdeveloped. For instance, studies exploring digital competence frequently prioritise technological integration over epistemic evaluation (Tondeur et al., 2020). Information Literacy research sometimes under-theorises pedagogical enactment. As a result, Information Literacy risks being conceptualised as an academic support function rather than as a structural component of professional judgement. The lack of integrative conceptual frameworks linking Information Literacy models – the Big6 and eXIT models, teacher competency standards, and classroom effectiveness indicators represents a theoretical gap. Without such synthesis, the field remains segmented, limiting explanatory coherence and practical applicability.

2.7.5 Digital Transformation and Artificial Intelligence: Emerging but Under-Theorised

Although scholarship on digital transformation and artificial intelligence in education is expanding (Hicks, 2024; UNESCO, 2021), empirical research examining how generative artificial intelligence tools reshape Information Literacy development within Initial Teacher Education

remains nascent. Teachers are increasingly required to evaluate artificial intelligence-generated content, detect misinformation, and guide learners in ethical digital engagement. Yet research has only begun to explore how pre-service teachers conceptualise these responsibilities or how libraries support critical engagement with artificial intelligence systems. The rapid proliferation of artificial intelligence-assisted search, automated summarisation tools, and adaptive platforms introduces epistemic challenges that extend beyond traditional Information Literacy frameworks. Evaluative reasoning must now account for algorithmic bias, data provenance, and synthetic media authenticity. However, many Initial Teacher Education programmes continue to embed Information Literacy instruction within traditional database-centric paradigms. This temporal gap between technological evolution and pedagogical adaptation constitutes a pressing area for inquiry. Without sustained research attention, Information Literacy preparation risks lagging behind the realities of contemporary information ecologies.

2.7.6 Placement Contexts and Mentor Influence: An Under-Explored Dimension

While literature acknowledges the importance of practice-based preparation (Darling-Hammond et al., 2017; Zeichner, 2018), few studies examine how school-based mentors model Information Literacy practices during practicum. If mentors do not demonstrate structured inquiry, critical source evaluation, or reflective reasoning in lesson planning, pre-service teachers may struggle to translate university-based Information Literacy instruction into classroom routines. The literature thus revealed a gap in understanding how placement environments reinforce or dilute Information Literacy development. Mentor modelling, institutional culture, and access to school library infrastructure likely mediate professional transfer, yet these variables remain insufficiently theorised and empirically investigated.

2.7.7 Equity and Resource Disparities

Equity considerations also remain underdeveloped within Information Literacy research. Global teacher shortages and infrastructural disparities disproportionately affect low- and middle-income contexts (UNESCO, 2023). Yet most empirical Information Literacy studies are conducted in well-resourced universities. This imbalance risks producing normative assumptions about library functionality and digital access that do not reflect global realities. The absence of research situated within resource-constrained environments limits the generalisability of findings and underestimates contextual constraints shaping Information Literacy enactment. A comparative Nigeria–England study therefore will contribute not merely geographical diversity but analytical depth, illuminating how structural inequities intersect with professional preparation.

2.7.8 Synthesis of Gaps and Implications for the Study

A careful review of the literature revealed that, although Information Literacy is widely acknowledged as important in teacher education, significant gaps remain in how it is conceptualised, researched, and situated within professional preparation. Bringing these strands together highlights five interrelated limitations that shape the rationale for the present study.

First, conceptual narrowness persists. Information Literacy is often framed as a technical or procedural skill, focused on searching, locating, and citing information, rather than as a professional disposition embedded in pedagogical judgement and ethical responsibility (ACRL, 2016; UNESCO, 2023). While procedural models such as the Big6 provide structured guidance for problem-solving, the broader epistemic and interpretive dimensions of Information Literacy, particularly in relation to teaching practice, are not consistently foregrounded in teacher education research. As a result, Information Literacy is sometimes treated as an academic add-on rather than a core element of professional competence.

Second, methodological limitations constrain the field. Much of the empirical literature relies heavily on self-report surveys and cross-sectional designs (OECD, 2021). While such approaches provides useful perception-based insights, they limit deeper analysis of how Information Literacy is enacted in authentic classroom contexts and how it develops over time. There is comparatively less research that examines behavioural evidence, institutional mediation, or the relationship between Information Literacy preparation and observable pedagogical practice.

Third, comparative silence remains evident. Cross-national studies that examine how different policy frameworks and institutional resources mediate Information Literacy development in teacher education are scarce. Global reports acknowledge disparities in digital and library infrastructures across education systems (UNESCO, 2023), yet few studies explicitly analyse how such ecological differences shape pre-service teachers' opportunities to practise, internalise, and transfer Information Literacy competencies. This absence limits our understanding of structural mediation and contextual influence.

Fourth, theoretical fragmentation is apparent. Information Literacy models such as Big6 or eXIT are often discussed separately from teacher competency frameworks and professional standards. Yet contemporary teacher standards increasingly emphasise research engagement, reflective practice, and evidence-informed decision-making (DfE, 2021). The limited integration between Information Literacy frameworks and professional competency models results in a

fragmented conceptual landscape. There remains a need for theoretical synthesis that positions Information Literacy not as parallel to professional competence, but as integral to it.

Fifth, a digital acceleration gap is emerging. Rapid developments in artificial intelligence and generative technologies are transforming how information is produced, accessed, and evaluated. International policy discussions now highlight artificial intelligence literacy, ethical data use, and algorithmic awareness as essential components of contemporary education (UNESCO, 2023; OECD, 2021). However, the theoretical incorporation of artificial intelligence and emerging technologies into Information Literacy preparation within teacher education remains underdeveloped. The profession is changing faster than the conceptual tools used to prepare it.

2.7.8.1 Positioning of the Study

This study is intentionally designed to respond to these gaps in a coherent and theoretically grounded manner:

- **Comparative Framing - Nigeria–England**

By adopting a comparative framework, the study moves beyond single-context analysis and examines how differing institutional ecologies, policy expectations, and infrastructural conditions shape Information Literacy development. This addresses the comparative silence identified in the literature.

- **Theoretical Integration of Big6, eXIT, and Metacognition:**

The study integrates the procedural architecture of the Big6 model with the interpretive and transformative dimensions of the eXIT model, situated within a metacognitive regulatory layer. This synthesis responded directly to theoretical fragmentation by aligning Information Literacy processes with reflective professional judgement.

- **Institutional Mediation as an Analytic Focus:**

Academic libraries, school library provision, and practicum environments are examined as mediating variables rather than background conditions. In doing so, the study recognises that Information Literacy development is shaped not only by individual capability but by institutional ecology.

➤ Exploration of Information Literacy and Classroom Practice:

Rather than relying solely on perception-based measures, the study interrogates the relationship between Information Literacy development and pedagogical enactment. This strengthened methodological rigour and responded to the limitations of self-report-domain research designs.

➤ Incorporation of Digital Transformation and Artificial Intelligence:

By situating digital transformation and artificial intelligence within the Information Literacy construct, the study addressed the digital acceleration gap. It recognised that contemporary teacher professionalism now requires not only information search skills but critical evaluation of algorithmically generated content and ethical engagement with emerging technologies.

2.7.8.2 Contribution of the Study

Collectively, these design decisions position the study to contribute both empirically and theoretically to the evolving discourse on Information Literacy in teacher education. Empirically, it provides contextually grounded comparative evidence from Nigeria and England. Theoretically, it advances an integrated model that reframes Information Literacy as an embedded dimension of professional competence that is procedural, interpretive, metacognitive, ecological, and digitally responsive. In this way, the study moves beyond describing Information Literacy preparation to interrogating how it is structured, mediated, and enacted within institutional realities.

These lacunae collectively justify the study's design. By adopting a comparative case study methodology, integrating conceptual frameworks, Big6 and eXIT, with teacher competency models, and foregrounding professional enactment rather than confidence measures, this research seeks to address the conceptual, methodological, and contextual silences identified above. In doing so, it positions Information Literacy not as an ancillary academic service, but as a structural determinant of teacher quality within contemporary digital societies.

2.8 Conceptual Framework: Information Literacy as Situated Professional Practice within Institutional Ecologies

In contemporary knowledge societies, the preparation of teachers is inseparable from the ways in which they engage with information, construct professional judgement, and enact pedagogical decisions under conditions of complexity and rapid change. This evolving landscape

challenges simplistic understandings of Information Literacy as a set of technical search skills and invites a re-conceptualisation of Information Literacy as a situated professional practice that is epistemically, socially, and institutionally mediated. Within teacher education, Information Literacy intersects with critical thinking, metacognition, evidence-informed practice, and adaptive expertise. competencies that shape how teachers interpret research, manage digital resources, and guide learners through uncertain informational environments.

The conceptual framework for this study therefore integrates three foundational strands: (1) sociocultural conceptions of Information Literacy as epistemic practice, (2) competency-based frameworks of teacher professionalism that embed Information Literacy within professional standards and identity, and (3) institutional mediation that accounts for the organisational, cultural, and infrastructural conditions shaping Information Literacy enactment. This framework moves beyond procedural models and positions Information Literacy as a co-constructed professional capacity that emerges through engagement with institutional structures such as libraries, curricula, practicum, and broader educational ecologies like policy and digital technologies.

2.8.1 Theoretical Foundations: Information Literacy as Epistemic Practice

Information Literacy, traditionally conceived within library and information science as the capacity to *locate, evaluate, and use information*, has undergone significant re-conceptualisation over the years. Early cognitive models emphasised hierarchical skill acquisition, framing Information Literacy as a series of discrete competencies (Eisenberg & Berkowitz, 2020). While these models have pedagogical utility, they fall short of capturing the depth and dynamism of professional reasoning within complex educational settings. More recent scholarship situates Information Literacy within sociocultural and practice-based paradigms, arguing that engaging with information is inherently situated, context-dependent, and mediated by social norms, technologies, and institutional expectations (Hicks, 2024; Shupe & Pilerot, 2022). Epistemically, Information Literacy is procedural and interpretive. It encompasses sequences of activity that begin with the framing of questions, extend through the strategic selection and appraisal of sources, and culminate in the synthesis, ethical application, and communication of knowledge. Models such as the Big6 provide a useful structural template for organising these activities (Eisenberg & Berkowitz, 2020). The Big6 stages — task definition, strategy selection, location and access, use of information, synthesis, and evaluation, map onto core cognitive routines that teachers deploy when interrogating curriculum challenges, evaluating research evidence, or designing instruction.

Complementary to procedural models are interpretive frameworks that emphasise examination, interpretation, and transformation of information. The eXIT model (Examination, eXploration, Interpretation, Transformation) foregrounds the reflective and critical dimensions of Information Literacy, highlighting how information engagement involves not merely retrieval but meaning-making (Aguilar & López-Medina, 2023). It is in these interpretive and transformative processes that Information Literacy intersects with critical thinking, a capacity to evaluate argument quality, identify assumptions, integrate multiple perspectives, and make defensible judgements (Ennis, 2018). Information Literacy in this reconceptualised sense is epistemic. It is about how teachers understand, negotiate, and construct knowledge within and across contexts. It is not reducible to tool proficiency like database searching, but is deeply entangled with professional reasoning, contextual judgement, and ethical use. This epistemic framing aligns with calls from UNESCO (2023) and OECD (2021) to reconceive Information Literacy as foundational to participation in digitally mediated knowledge environments, democratic engagement, and ethical citizenship.

2.8.2 Teacher Professionalism and Competency Frameworks

While epistemic re-conceptualisation situates Information Literacy within cognitive and interpretive domains, its significance for teacher quality is best understood through the lens of professional competence frameworks. Across jurisdictions, contemporary conceptions of teacher professionalism emphasise evidence-informed practice, adaptive expertise, reflective judgement, and digital competence. For example, England's Teachers' Standards and Early Career Framework explicitly expect teachers to engage with research evidence, evaluate digital resources, and apply pedagogical judgement in diverse contexts (Department for Education [DfE], 2022). Similarly, UNESCO's global teacher policy frameworks foreground pedagogical competence, reflective practice, and ethical responsibility as core elements of professional identity (UNESCO, 2021; 2023). These evolving frameworks signal an important shift in how professional competence is conceptualised within teacher education. Competence is no longer understood merely as procedural compliance or technical proficiency, rather, it is increasingly framed as interpretive professional judgement exercised within complex informational and ethical landscapes (OECD, 2023; UNESCO, 2023). Within this reframed terrain, Information Literacy assumes both empirical and normative centrality. Teachers are not simply required to access information efficiently, they must interpret research findings with discernment, integrate evidence coherently into lesson planning, and justify pedagogical decisions with reference to credible and contextually appropriate knowledge sources.

Bridging these conceptual domains requires repositioning Information Literacy as an embedded dimension of professional competence rather than an adjunct academic skill. When situated within contemporary understandings of teacher professionalism, Information Literacy becomes inseparable from evidence-informed practice, ethical reasoning, and reflective self-regulation. Procedural models such as the Big6 (Eisenberg et al., 2020 updated edition) provide structured pathways for disciplined inquiry, while interpretive frameworks such as the eXIT model (Aguilar & López-Medina, 2023) extend this process toward critical examination and contextual transformation. Metacognitive regulation further strengthens this alignment by enabling teachers to monitor their reasoning, recognise limitations in their understanding, and recalibrate decisions in light of new evidence (Education Endowment Foundation, 2021).

Collectively, these dimensions resonate strongly with professional standards that foreground research engagement, evidence-informed decision-making, and sustained professional learning (OECD, 2023). Information Literacy, therefore, is not peripheral to teacher preparation, it is constitutive of professional identity in an era characterised by proliferating information sources, algorithmic mediation, and heightened accountability. To conceptualise it otherwise would be to underestimate its role in shaping teachers' capacity to act responsibly, reflectively, and with epistemic integrity. This alignment is crucial because it situates Information Literacy within the practice architectures of teaching, that is, the cultural-historical norms, institutional expectations, and professional discourses that shape what counts as competent practice. In other words, developing Information Literacy competence means learning to think and act in ways that resonate with professional standards, ethical commitments, and contextual demands.

2.8.3 Metacognition: Regulatory Mechanisms of Professional Engagement

While Information Literacy and critical thinking articulate the *what* and *why* of professional reasoning, *metacognition*, that is, the capacity to monitor and regulate one's own thinking, explains the *how*. Metacognition encompasses planning, monitoring, and evaluating cognitive activities (Flavell, 1979). In teacher education, metacognitive processes help pre-service teachers reflect on their decisions, question assumptions, and refine strategies in light of feedback, evidence, and contextual constraints. Importantly, metacognition functions as a regulatory architecture that connects Information Literacy processes with professional judgement. When pre-service teachers plan an inquiry, defining information needs, selecting sources, evaluating evidence, they engage in metacognitive planning. As they monitor comprehension, source quality, or instructional alignment, they exercise metacognitive monitoring. When they evaluate the coherence and ethical implications of their reasoning, they enact metacognitive evaluation. These

regulatory processes are not automatic, they are cultivated through explicit pedagogical support, reflective tasks, and iterative feedback.

In digitally mediated environments, metacognition becomes even more indispensable. The abundance of online information, algorithmic curation, and generative artificial intelligence output complicates decisions about credibility, relevance, and ethical use. UNESCO's (2023) digital and media literacy frameworks emphasise that individuals need not only skills to access information but awareness of how digital systems shape information flows and how personal biases influence interpretation. Teachers, in turn, must model this self-regulatory capacity for their learners. Thus, metacognition is not peripheral but central to the integration of Information Literacy and critical thinking within teacher professionalism. It provides the regulatory scaffolding through which structured inquiry, interpretive judgement, and ethical application cohere as professional practice.

2.8.4 Institutional Mediation: Libraries, Curriculum, and Practicum

While individual cognitive processes and professional standards provide the internal logic of Information Literacy as professional practice, they are mediated by institutional contexts that shape opportunities for learning, rehearsal, and enactment. This dimension of the framework draws on institutional theory and practice-based teacher education scholarship, recognising that professional competencies do not develop in isolation but are embedded within organisational structures, cultures, and resource environments. Three institutional conditions emerge as particularly salient.

2.8.4.1 Curricular Integration

Institutional coherence begins with curriculum design. When Information Literacy is explicitly integrated into teacher education curricula, through research-based assignments, inquiry projects, and assessment tasks that require critical engagement with evidence, it signals that Information Literacy is valued as a foundational professional competency. Explicit alignment between Information Literacy models such as Big6 and eXIT, and programme learning outcomes ensures that the development of inquiry and critical judgement is not optional or incidental but core to degree completion and professional certification. In contrast, when Information Literacy instruction is relegated to isolated workshops or ad hoc library sessions, students may internalise it as technical compliance rather than as a professional habit. Curricular integration thus determines whether Information Literacy is experienced as *meaningful and coherent* rather than fragmented and peripheral.

2.8.4.2 Collaborative Pedagogy

Institutional mediation also operates through collaborative practices within Initial Teacher Education. Structured partnerships between teacher educators, subject specialists, and librarians create opportunities for sustained engagement with Information Literacy processes. Librarians, in particular, bring expertise in resource curation, source evaluation, and information ethics that complements pedagogical content. Research in teacher education suggests that when librarians co-design and co-facilitate inquiry tasks with faculty, pre-service teachers demonstrate stronger evaluative reasoning and deeper engagement with evidence (Branch-Mueller & Rodger, 2021). Collaborative pedagogy thus normalises inquiry across disciplinary boundaries and embeds Information Literacy within authentic tasks, rather than isolating it within library instruction.

2.8.4.3 Placement Reinforcement

The final institutional mechanism is the extent to which Information Literacy practices are reinforced within school placements. Initial Teacher Education is inherently a vocational enterprise because knowledge must transfer from university environments into classroom contexts where teachers enact pedagogical decisions in real time. Mentor modelling, school library provision, and practicum design shape whether pre-service teachers are able to apply Information Literacy competencies in practice. If school cultures value evidence-informed lesson planning, critical evaluation of resources, and reflective inquiry, pre-service teachers experience reinforcement of Information Literacy dispositions. If, however, placements prioritise routine compliance, examination performance, or technical execution of prescribed curricula, the integration of inquiry and critical judgement may be weakened. This institutional layer draws on practice-based teacher education theory, which emphasises the role of communities of practice, sociocultural mediation, and legitimate peripheral participation in shaping professional identity and competence.

2.8.5 Comparative Institutional Ecology: Nigeria and England

An essential contribution of the present study is its explicit comparative focus on Nigeria and England. While the conceptual framework outlined above applies in both contexts, the ecological conditions that shape Information Literacy development differ in meaningful ways.

In Nigeria, regulatory frameworks emphasise teacher professionalism and the importance of maintaining standards in teacher preparation (TRCN, 2022). However, the institutional infrastructures that support these standards vary considerably across contexts. While some

universities and colleges of education are equipped with functional digital repositories, trained library personnel, and improving technological capacity, others continue to operate under constraints shaped by limited funding, unstable electricity supply, and intermittent internet connectivity (FME, 2023; UNESCO, 2023). School library provision is similarly uneven. In certain urban and privately funded schools, structured library services and digital access are available to support teaching and learning. In many rural and public school placement contexts, however, formal library spaces, curated collections, and professional librarian support remain limited or absent (UBEC, 2022). These realities should not be interpreted simply as deficits in professional capacity. Rather, they reflect broader patterns of resource distribution and infrastructural inequality characteristic of many low- and middle-income education systems (UNESCO, 2023). Within such environments, the development and enactment of Information Literacy practices are shaped not only by individual competence but also by structural conditions that influence access, support, and sustainability.

In England, national policy frameworks such as the Department for Education's 'Teachers' Standards and the Early Career Framework' set clear expectations around professional learning, engagement with research, and evidence-informed practice (DfE, 2021; 2023). These frameworks signal that teachers are expected not only to deliver curriculum content, but to ground their decisions in credible knowledge and ongoing professional inquiry. Within many English Initial Teacher Education institutions, academic libraries are comparatively well resourced, offering extensive digital journal subscriptions, research databases, and professional librarian support that often collaborates with faculty in developing students' research and information capabilities (SCONUL, 2023). School placements frequently occur in settings where structured library provision, digital infrastructure, and professional learning cultures are already established, particularly within multi-academy trusts and research-engaged schools (DfE, 2023). Such conditions contribute to a relatively coherent institutional ecology in which Information Literacy, understood as an epistemic and reflective practice, can be modelled, rehearsed, evaluated, and reinforced across university and school contexts.

A comparative perspective therefore highlights the significance of institutional ecology. The development of Information Literacy is shaped not only by curricular intention or pedagogical design, but also by the material resources, professional cultures, and collaborative infrastructures within which teacher learning unfolds (OECD, 2023; UNESCO, 2023). Attending carefully to how these ecological conditions enable or constrain the enactment of Information Literacy is central to

the aims of this study, particularly in understanding cross-context variation between Nigeria and England.

2.8.6 Integrated Model: From Institutional Mediation to Classroom Enactment

Bringing these strands together, the conceptual framework articulates an integrated model in which:

1. Information Literacy is conceptualised as situated epistemic practice, incorporating structured inquiry, interpretive judgement, and ethical engagement.
2. Critical Thinking and Metacognition provide the cognitive and regulatory mechanisms through which Information Literacy processes are internalised and enacted.
3. Teacher Professionalism frameworks embed Information Literacy within standards that govern reflective, evidence-informed practice.
4. Institutional Mediation shapes opportunities for Information Literacy development through curricular integration, collaborative pedagogy, and practicum reinforcement.
5. Classroom Enactment is the ultimate site at which Information Literacy dispositions transform into professional action — manifesting in lesson planning, resource selection, learner engagement, and reflective adaptation.

This model moves deliberately beyond narrow skill-based interpretations, aligning the development of Information Literacy with the formation of professional judgement and adaptive expertise. It recognises that teacher competence is not solely an individual cognitive property, but an emergent capacity shaped by social, cultural, and institutional configurations.

2.8.7 An Ecological Framing of Information Literacy in Initial Teacher Education

The conceptual framework for this study situates Information Literacy at the nexus of cognitive practice, professional standards, and institutional mediation. It integrated procedural, interpretive, and regulatory dimensions of Information Literacy, linking them to teacher professionalism and comparative ecological conditions in Nigeria and England. In doing so, it provided a robust theoretical scaffold for investigating how Information Literacy is constructed, enacted, and transformed within Initial Teacher Education and into classroom practice. This integrated framework guided the design of data collection, the structuring of comparative analysis, and the interpretation of findings, ensuring that the study maintains coherence between conceptual ambition and methodological execution.

A deeper theoretical understanding of these contextual differences can be developed through Ecological Systems Theory. Originally proposed by Bronfenbrenner (1979) and later refined within the bioecological model (Bronfenbrenner & Morris, 2006; Tudge et al., 2021), this framework explains human development as occurring within nested and interacting systems. From this perspective, the development and enactment of Information Literacy cannot be understood simply as a matter of individual skill acquisition or curriculum design. Rather, it is shaped by the dynamic interaction between personal capabilities, institutional practices, policy environments, and broader socio-cultural conditions. In other words, professional learning in teacher education is situated within layered ecological contexts that enable, constrain, and mediate how Information Literacy is understood, practised, and sustained over time.

At the microsystem level, pre-service teachers encounter immediate environments such as university classrooms, academic libraries, mentor relationships, and school placement settings. In England, where digital infrastructures, professional librarians, and research-engaged mentor teachers are often present, these microsystems can provide consistent modelling of evidence-informed practice (DfE, 2023). In contrast, where placement schools lack library provision or stable digital access, opportunities to rehearse structured information practices may be more limited. The mesosystem refers to the relationships between these immediate settings. Strong collaboration between university tutors, school mentors, and librarians can create reinforcing feedback loops that normalise inquiry, reflection, and research engagement. Where such partnerships are underdeveloped, Information Literacy may remain compartmentalised within university coursework rather than integrated into classroom praxis. At the exosystem level, institutional policies, funding structures, and professional standards exert indirect yet powerful influence. National frameworks such as the Teachers' Standards and Early Career Framework in England shape expectations for evidence-informed practice, even when pre-service teachers are not directly involved in policy formation (DfE, 2023). In Nigeria, regulatory aspirations toward professionalism are similarly articulated, yet infrastructural and funding realities may mediate how fully these expectations are enacted (UNESCO, 2023). Finally, the macrosystem encompasses broader cultural values, socio-economic conditions, and national education priorities. Societal commitments to research engagement, digital equity, and professional accountability influence how Information Literacy is valued within teacher identity. In this sense, differences in institutional ecology are not merely technical variations but expressions of wider structural and cultural dynamics characteristic of high-income and low- to middle-income education systems (OECD, 2023).

A comparative perspective therefore underscores that institutional ecology matters. Information Literacy development is mediated not only by curriculum design and pedagogical intention but also by the layered material, relational, and policy environments within which professional learning unfolds. Examining how these ecological systems enable, constrain, and shape the enactment of Information Literacy is central to the analytical aims of this study.

2.8.8 Application of the Conceptual Framework to the Study

Having outlined the theoretical and institutional foundations of this conceptual framework, it is important to show clearly how it guides and shapes the present case study. A conceptual framework is not an abstract add-on to empirical research. Rather, it provides the analytic structure that informs the research questions, guides methodological choices, shapes data interpretation, and ensures coherence across the overall argument. In this study, the integrated model which combined the procedural structure of the Big6, the interpretive and transformative elements of the EXIT model, metacognitive regulation, and a comparative institutional ecology perspective, operates both as a guiding lens and as an organising framework. It helps to explain how pre-service teachers in Nigeria and England understand, experience, and practise Information Literacy within their Initial Teacher Education programmes. The central premise underpinning this research is that Information Literacy is best understood not as a decontextualised skill set but as a situated professional practice, cultivated through institutional mediation and ultimately enacted in classroom decision-making. This orientation necessitates a research design capable of capturing both structural conditions and lived experiences. Accordingly, the framework directly informs three interrelated dimensions of the study: (1) conceptual alignment with the research questions, (2) methodological structuring of data generation and analysis, and (3) interpretive integration of comparative findings.

At the level of research questions, the framework ensures conceptual precision. Questions concerning how pre-service teachers define, access, evaluate, and synthesise information are explicitly anchored in the Big6 stages of task definition, information seeking strategies, location and access, use of information, synthesis, and evaluation (Eisenberg & Berkowitz, 2020). This procedural mapping allows empirical exploration of whether pre-service teachers engage in structured inquiry or rely on ad-hoc information practices. Simultaneously, questions probing how pre-service teachers interpret, transform, and apply information within pedagogical contexts draw upon the EXIT model's emphasis on examination, exploration, interpretation, and transformation (Aguilar & López-Medina, 2023). In doing so, the framework guards against reducing Information Literacy to mechanical search behaviours and foregrounds meaning-making as a professional act.

The inclusion of metacognition within the framework further refines the analytic focus. Metacognitive processes that is, planning, monitoring, and evaluating, are therefore operationalised within interview protocols. This emphasis resonates with contemporary scholarship highlighting the importance of regulatory cognition in teacher decision-making and adaptive expertise (OECD, 2021; UNESCO, 2023). Beyond individual cognition, the framework's institutional dimension shapes the comparative design. By conceptualising libraries, curriculum structures, and practicum environments as mediating ecologies, the study moved beyond attributing Information Literacy development solely to personal capacity. Instead, it examined how institutional coherence or fragmentation conditions the rehearsal and reinforcement of Information Literacy practices. In Nigeria, where regulatory oversight by bodies such as the Teachers Registration Council of Nigeria (TRCN) and the National Commission for Colleges of Education (NCCE) articulates professional expectations but institutional resources vary, the framework sensitises the study to the material and organisational constraints shaping Information Literacy enactment. In England, where policy frameworks such as the Teachers' Standards and Early Career Framework explicitly foreground evidence-informed practice (DfE, 2022), the framework directs attention to how academic libraries, digital infrastructures, and school-based mentoring cultures embed structured inquiry within professional routines.

This comparative framing is not intended to construct deficit narratives. Rather, it is undertaken to highlight how different policy structures and infrastructural conditions shape and mediate processes of professional formation. The framework therefore guides site selection, ensuring that institutional cases in both countries are examined with attention to curricular integration of Information Literacy, librarian–faculty collaboration, and practicum reinforcement. These elements correspond directly to the institutional conditions identified earlier as critical for sustainable Information Literacy development. Methodologically, the framework supports a qualitative comparative case study approach, enabling rich exploration of contextually situated practices. Surveys and semi-structured interviews with pre-service teachers, course coordinators, librarians and placement tutors, are structured around the conceptual categories derived from library, Information Literacy models (Big6 and EXIT), and metacognition. Apart from the interviews, pre-service teachers and librarians took part in surveys. The pre-service teachers were asked to describe their perception of their institution's library and their library use experiences. While the librarians were asked to describe the types of library orientation or training that were available to pre-service teachers and the Information Literacy models that have been adopted or adapted for use by the institution or department. In addition, documentary analysis of curriculum

outlines, library policies, and professional standards further situated these experiences within institutional structures.

Data analysis in this study was also guided by the integrated conceptual framework developed in this study – The Big6 Information Literacy Model; The EXIT Model; Metacognition theory; and the Ecological Systems Theory. Instead of relying only on themes that emerge from the data, the analysis is shaped by key ideas from the conceptual framework, while still allowing new insights to surface. This balanced approach means that the data could both confirm and challenge the theory. In this way, there is an ongoing dialogue between the framework and the findings. For instance, if pre-service teachers in one context demonstrate procedural compliance such as following steps to locate sources without deeper interpretation or transformation, this may suggest a gap between what the curriculum intends and what is reinforced during school placements. On the other hand, when pre-service teachers show evidence of thoughtful, transformative pedagogical reasoning, this may point to stronger institutional alignment that supports the deep internalisation of Information Literacy. The framework also shapes how classroom impact is conceptualised. Rather than presuming a linear causal chain from library access to Information Literacy competence to effective teaching, the study conceptualised classroom enactment as a mediated outcome influenced by institutional, cognitive, and cultural factors. This nuanced understanding aligns with critiques cautioning against simplistic correlation claims in library impact research (IFLA, 2022; Hicks, 2024). Consequently, the study examine not only whether Information Literacy competencies are present, but how pre-service teachers are supported during the period of classwork and placements.

In operational terms, the framework translates into observable indicators. Big6 alignment may be evident in structured lesson-planning templates requiring explicit identification of information sources and evaluative criteria. EXIT dimensions may appear in reflective assignments prompting interpretation and adaptation of research findings. Metacognitive regulation may surface in reflective journals documenting how pre-service teachers revise instructional strategies after feedback. Institutional mediation may be traced through collaborative teaching sessions involving librarians or through school placement expectations that require evidence-based planning. Importantly, the comparative layer embedded in the framework ensured that findings were interpreted relationally rather than in isolation. Patterns emerging in Nigeria were examined in dialogue with those in England, identifying both convergences and divergences in institutional support, policy articulation, and the experiences of pre-service teachers. This

relational analysis enhanced explanatory depth and revealed how similar professional standards may be enacted differently under varying infrastructural conditions.

The framework further informs the study's contribution to theory and practice. Theoretically, it advances a multi-layered model of Information Literacy in teacher education that integrated procedural, interpretive, regulatory, and institutional dimensions. Practically, it offers policy-relevant insights into how curriculum design, librarian collaboration, and practicum structures might align to strengthen professional inquiry cultures. By situating Information Literacy within teacher professionalism rather than academic remediation, the study responds to global calls for teachers capable of navigating complex information ecologies and modelling critical engagement for learners (OECD, 2021; UNESCO, 2023). Ultimately, the application of the framework affirms the study's central argument that Information Literacy in teacher education is neither an incidental academic support nor a generic digital skill, but a structurally mediated professional disposition. Its development depends upon the alignment of curriculum, institutional collaboration, and practicum reinforcement. Its enactment is regulated through metacognitive reflection, and its professional value is realised when teachers translate structured inquiry and critical evaluation into pedagogical action. By grounding empirical investigation within this integrated model, the study sought to offer a thoughtful and contextually grounded understanding of how Information Literacy becomes embedded or fragmented within the formation of the teaching workforce across contrasting educational systems.

CHAPTER THREE RESEARCH METHODOLOGY

3.0

3.1 Introduction

This chapter presents and justifies the methodological approach adopted in this study. It explains the philosophical and theoretical positioning, research design, research contexts and institutional ecology, participants and sampling, data collection procedures, data analysis, researcher's positionality, ethical considerations, and methodological limitations used to examine pre-service teachers' library use learning experiences and attitudes in Nigeria and England. It also demonstrates how the chosen methodology aligns with the research questions and conceptual framework guiding this study.

The study was structured around three research questions:

1. What are the library use learning experiences of pre-service teachers during teacher training in Nigeria and England?
2. What is the attitude of pre-service teachers towards the use of libraries in Nigeria and England?
3. What is the relationship between the attitudes and the library use learning experiences of pre-service teachers in Nigeria and England?

These questions require an approach capable of capturing both measurable patterns - attitudes and relationships between variables and contextually situated experiences - learning processes within institutional settings. Consequently, the study adopted a **comparative institutional case study design within a mixed-methods framework**. The research was grounded in a pragmatic paradigm and informed by a critical-ecological perspective, which recognises the influence of social, institutional and environmental contexts on educational experiences. Given the cross-national scope of the study, involving Nigeria and England, particular attention was paid to methodological sensitivity in addressing contextual differences between the two settings. Nigeria and England operate within different educational infrastructures, policy contexts, and institutional cultures. Therefore, the methodology was designed not simply to compare outcomes, but to understand how institutional environments mediate pre-service teachers' engagement with school libraries. This is consistent with contemporary comparative education scholarship, which cautions against simplistic cross-national contrasts and instead emphasises contextualised analysis (Bray et al., 2018; Tikly, 2020).

3.2 Research Paradigms and Philosophical Assumptions

Research in education is underpinned by philosophical assumptions that shape how knowledge is understood, generated, and interpreted. These assumptions are not merely abstract ideas. Rather, they directly influence the choices a researcher makes in relation to research design, methods, data collection, and analysis. As such, making these assumptions explicit is essential in enabling readers to understand the logic of the study and to evaluate the credibility and coherence of its findings (Cohen, Manion, & Morrison, 2018; Creswell & Creswell, 2018). At its core, a research paradigm can be understood as a set of beliefs or a worldview that guides the research process. It provides a framework through which the researcher interprets reality and determines what counts as valid knowledge (Thomas, 2022). Paradigms are typically defined in relation to three key philosophical dimensions - **ontology**, **epistemology**, and **methodology**. Ontology concerns the nature of reality, whether reality is viewed as objective and independent of human perception, or as socially constructed and context-dependent. Epistemology relates to the nature of knowledge and how it can be known, including the relationship between the researcher and the researched. Methodology, in turn, refers to the strategies and approaches used to generate knowledge (Crotty, 1998; Cohen et al., 2018).

In educational research, it is widely recognised that different paradigms offer different ways of understanding complex social phenomena. Among the most influential are **positivism** and **interpretivism**, which are often presented as contrasting approaches. Positivism is grounded in the assumption that reality is objective, stable, and measurable. It is typically associated with quantitative research methods, where the aim is to identify patterns, test hypotheses, and produce generalisable findings. In this paradigm, the researcher is positioned as independent from the research process, seeking to minimise bias and maintain objectivity (Creswell & Creswell, 2018). In contrast, interpretivism is based on the view that reality is socially constructed and shaped by individuals' experiences and interactions within specific contexts. From this perspective, knowledge is not discovered but co-constructed through engagement with participants. Interpretivist research therefore prioritises understanding meanings, perspectives, and lived experiences, often through qualitative methods such as interviews and observations (Thomas, 2022; Merriam & Tisdell, 2016). While these paradigms are often presented as distinct, contemporary educational research increasingly recognises that complex research problems may require drawing on elements of both approaches. This is particularly the case in studies that seek both to measure patterns and to understand underlying meanings. In response to this, the study is

situated within a pragmatic paradigm, which provides a more flexible and problem-centred approach to research.

3.2.1 Pragmatic Paradigm

Pragmatism does not begin with abstract philosophical allegiance, rather, it begins with the research problem and asks what combination of methods will best address it (Creswell & Plano Clark, 2018). Since this study sought to examine (i) pre-service teachers' library learning experiences, (ii) pre-service teachers' attitudes toward libraries, and (iii) the relationship between these two dimensions, it required both quantitative and qualitative evidence.

Pragmatism provides the intellectual justification for this integration. It allows survey data to be used to identify patterns in attitudes, while interviews and document analysis are used to explore how those attitudes are shaped by institutional experiences. Rather than positioning quantitative and qualitative approaches as philosophically incompatible, pragmatism treats them as complementary tools for understanding complex educational phenomena (Morgan, 2014). Ontologically, pragmatism recognises that educational realities are both measurable and experienced. Attitudes toward libraries can be operationalised as constructs and examined statistically, yet those attitudes are formed within lived, context-bound experiences in teacher education programmes. Epistemologically, pragmatism views knowledge as practical and context-sensitive. Educational research is therefore judged not only by internal coherence but also by its usefulness for informing practice (Biesta, 2020). This orientation is particularly suited to educational inquiry. Teaching and teacher education involve value-laden, socially embedded practices that cannot be reduced to abstract variables alone. At the same time, patterns and relationships across groups matter. Pragmatism allows the study to move between explanation and interpretation without forcing artificial philosophical divisions (Creswell & Plano Clark, 2018; Biesta, 2020).

In the context of a cross-national study, pragmatism is also methodologically appropriate. It permits structured comparison between Nigeria and England while recognising that findings must be interpreted within their institutional and cultural contexts (Phillips & Schweisfurth, 2014). The adoption of pragmatism justified the use of mixed methods. Mixed-methods research is increasingly recognised as appropriate where research questions demand both breadth, that is, quantitative measurement of attitudes and relationships, and depth - qualitative exploration of learning experiences (Creswell & Plano Clark, 2018; Fetters & Molina-Azorin, 2020). In this study:

- The first research question required exploration of learning experiences within institutional contexts.
- The second research question required quantitative measurement of attitudes.
- The third research question required statistical examination of relationships between constructs.

A purely positivist design would risk reducing complex educational experiences to decontextualised variables, potentially overlooking the meanings participants attach to their practices and environments (Biesta, 2020). Conversely, a purely interpretivist design would limit the capacity to examine patterned relationships between measurable constructs such as attitudes and reported learning experiences, thereby constraining analytical breadth (Creswell & Plano Clark, 2018). Pragmatism provides the methodological flexibility necessary to address all three research questions coherently, allowing methods to be selected on the basis of their capacity to generate useful, context-sensitive knowledge rather than on strict adherence to a single philosophical tradition (Morgan, 2014; Biesta, 2020). Furthermore, pragmatism supports the cross-national dimension of the study. Rather than assuming universal educational norms or seeking simplistic equivalence across contexts, a pragmatic approach enables findings to be interpreted within their specific institutional and cultural settings while still permitting structured and systematic comparison (Phillips & Schweisfurth, 2014; Creswell & Plano Clark, 2018). In this way, contextual sensitivity and comparative analysis are held in productive tension, aligning with the study's ecological framing of institutional mediation.

3.2.2 Critical-Ecological Orientation

While pragmatism provides the overarching research paradigm, the study is theoretically informed by a critical-ecological orientation derived from Bronfenbrenner's bioecological systems theory (Bronfenbrenner, 1979 in Tudge et al., 2021). Bronfenbrenner conceptualises human development as occurring within nested systems: the microsystem - immediate environments, mesosystem - interconnections between settings, exosystem - indirect institutional influences, macrosystem - cultural and policy structures, and chronosystem - temporal change. In the context of this study:

- The microsystem includes classroom experiences, library instruction, and school placements.
- The mesosystem includes relationships between teacher education programmes and school libraries.

- The exosystem includes institutional policies and curriculum frameworks.
- The macrosystem includes national educational policy and cultural expectations regarding libraries.
- The chronosystem includes post-COVID-19 shifts in digital access and learning modalities.

Adopting an ecological lens strengthens the theoretical depth of the methodology in several ways. First, it prevents reductionist interpretations. Differences between Nigeria and England are not attributed to individual deficits but are understood as products of structural mediation. This avoids deficit narratives that can emerge in cross-national comparisons (Tikly, 2020). Second, it enables institutional analysis. Pre-service teachers' attitudes toward libraries are not formed in isolation, rather, they are shaped by exposure, access, modelling, and structural integration within Initial Teacher Education. The ecological framework therefore informs instrument design, data interpretation, and comparative analysis. Third, it aligns with contemporary educational research that emphasises systems thinking and institutional ecology (Tudge et al., 2021; Neal & Neal, 2019). By embedding the study within a multi-layered ecological framework, the research moved beyond surface-level comparison toward structural explanation.

The integration of pragmatism and ecological theory is coherent rather than contradictory. Pragmatism allows methodological flexibility, while ecological theory provides analytical structure. Together, they ensured that the study was empirically grounded, theoretically informed, contextually sensitive, and comparative without being simplistic. This positioning directly addresses concerns about theoretical depth. The methodological choices are therefore not eclectic but are guided by philosophical coherence and alignment with the research questions.

3.3 Research Design: Comparative Institutional Case Study

This study adopted a **comparative institutional case study design** to investigate how pre-service teachers experience and perceive school libraries within two teacher education contexts: one in Nigeria and one in England. The selection of this design is grounded in established case study methodology and reflects a deliberate commitment to contextual depth, institutional specificity, and theoretically informed comparison.

Case study research is particularly appropriate where the researcher seeks to understand a contemporary phenomenon within its real-life setting, especially when the boundaries between the phenomenon and context are not clearly evident (Yin, 2018). Pre-service teachers' attitudes toward

libraries cannot be separated from programme structures, placement experiences, curriculum design, and institutional cultures. The institutional case study design therefore allows the phenomenon around attitudes and experiences to be examined within the ecological and organisational systems that shape it. Cohen, Manion and Morrison (2018) emphasise that case study research in education is especially valuable when the goal is to explore complexity, process, and meaning within bounded systems. Rather than abstracting variables from their contexts, case study design retains the integrity of the educational setting.

However, while case study methodology provides valuable contextual depth and enables an in-depth examination of complex educational phenomena, it also has recognised limitations. Case studies are often criticised in relation to the limited generalisability of findings beyond the specific contexts studied, particularly when based on a small number of cases (Yin, 2018). In addition, the close engagement required in case study research may introduce challenges relating to researcher interpretation and potential bias. Nevertheless, these limitations are addressed in this study through the use of a mixed-methods design, systematic data analysis procedures, and triangulation of evidence across survey data, interviews, and institutional documents. Thus, the case study approach is considered appropriate not because it produces universal claims, but because it enables a theoretically informed understanding of how institutional contexts shape pre-service teachers' library learning experiences and attitudes.

3.3.1 Rationale for Case Study Design

This study adopted an institutional case study design, drawing primarily on the methodological formulations of Yin (2018) and Thomas (2021). The decision to use this design was grounded in the nature of the research problem, understanding how pre-service teachers' attitudes toward school libraries are shaped within specific Initial Teacher Education environments. Yin (2018) defines a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-world context, particularly where the boundaries between phenomenon and context are not clearly evident. In this study, attitudes toward school libraries could not be meaningfully separated from programme structures, placement requirements, institutional expectations, and curriculum design. The institutional environment is not just a background factor, it actively shapes and forms the phenomenon that is studied. Thomas (2021) refined the definition of Yin (2018) by distinguishing between the subject of the case and the object of the case. In this case study, the subject was each Initial Teacher Education institution, while the object was the mediation of pre-service teachers' learning experiences and attitudes toward school libraries. This distinction clarifies that the research was not merely about individual opinions, but

about how institutional systems shaped those opinions. Cohen, Manion and Morrison (2018) further argue that case study research in education is particularly suited to examine complex, context-bound processes. Educational practices are embedded within organisational cultures and policy frameworks, thus, understanding them requires attention to institutional setting rather than abstraction from it.

In this case study, a central methodological commitment is to analytical generalisation rather than statistical generalisation. Yin (2018) emphasises that case studies do not aim to generalise findings to populations through probability sampling. Instead, they generalise to theoretical propositions. The findings are interpreted in relation to theoretical constructs such as ecological mediation, institutional structuring, and professional socialisation. The intention is not to claim representativeness of Nigerian or English Initial Teacher Education nationally. Rather, the findings are used to add to wider discussions about how Initial Teacher Education programmes influence pre-service teachers' Information Literacy attitudes and habits. Cohen et al. (2018) also explain that in educational case studies, findings can be applied to other contexts when the theory is clearly explained and the setting is well described, not because of a large sample size. The strength of analytical generalisation comes from how well the research findings connect with the theoretical framework guiding the study.

➤ **Bounded Systems: Each University as a Case**

Each university was treated as a bounded system, a defining characteristic of rigorous case study research (Yin, 2018; Thomas, 2021). The boundaries are defined by:

- Institutional location
- Programme structure
- Pre-service teachers, librarians, course coordinators and placement tutor cohorts
- Documentary artefacts (ITE programme handbooks)
- Temporal limits of data collection

Clear boundaries were established to preserve methodological rigour and conceptual coherence. In case study research, defining what constitutes the “case” is essential for analytical clarity (Yin, 2018; Thomas, 2021). The study avoided conceptual drift by explicitly specifying what was included within each institutional case, such as programme structures, library provision, and pre-service teachers' learning experiences, and what remained outside its scope, for example, national policy debates not directly enacted within the institutions. This careful bounding aligns

with established principles of case study design, which emphasise the importance of delimitation for maintaining internal validity and theoretical integrity (Merriam & Tisdell, 2016; Cohen, Manion, & Morrison, 2018). Such clarity ensures that findings remained grounded in the institutional contexts under investigation while still allowing for analytical, rather than statistical, generalisation. In this way, internal coherence is preserved within each case, and structured cross-case comparison is made possible during the analytical phase. Treating each university as a bounded institutional case strengthened explanatory depth. It allowed examination of how organisational processes, placement structures, and curriculum expectations mediate pre-service teachers' engagement with school libraries. In doing so, the case study design provided the necessary methodological foundation for context-sensitive, theoretically informed educational inquiry.

Nevertheless, the use of an institutional case study design also presents methodological challenges. Although case studies provide rich contextual understanding, they may be criticised for limitations relating to transferability and the extent to which findings from a small number of cases can represent wider populations. Furthermore, because case studies involve close engagement with complex social contexts, interpretation may be influenced by researcher judgement. These limitations were addressed in this study through the use of a mixed-methods design, triangulation of data sources, and the provision of detailed contextual descriptions to enable readers to assess the relevance of findings to other settings.

3.3.2 Comparative Case Study Approach

Comparison in educational research enables deeper understanding of how context mediates experience (Bray, Adamson & Mason, 2018). The purpose of comparison in this study is explanatory rather than evaluative. The study did not seek to rank institutions or assess national superiority. Instead, it explored how similar professional goals such as the preparation of effective teachers, are operationalised within different institutional ecologies. Cohen et al. (2018) argue that comparative case studies allow researchers to identify patterns, illuminate contextual contingencies, and refine theoretical propositions. By examining two institutional cases side by side, the study strengthened explanatory depth. The comparison operates at the level of institutional mediation rather than national comparison. That is, the focus was on:

- Programme structures
- Experiences and attitudes of pre-service teachers
- Perspectives of librarians, course coordinators and placement tutors

- Placement models
- Curriculum expectations
- Organisational cultures
- Documentary framing of professional practice

Differences were interpreted through ecological and institutional processes, not as essentialised national traits. This approach avoids simplistic cultural binaries and supports theoretically grounded cross-context interpretation. Both institutions share structural characteristics:

- They are accredited Initial Teacher Education providers
- They include substantial school placement components
- They prepare pre-service teachers for professional certification

Structural equivalence between the two institutions strengthened the logic of comparison by ensuring that both cases performed the same core professional function, that is, the preparation of pre-service teachers. In comparative education research, cases must share sufficient functional similarity to make comparison meaningful, while still allowing for contextual variation to be examined (Bray, Adamson, & Mason, 2018; Phillips & Schweisfurth, 2014). In this study, both institutions are Initial Teacher Education providers with structured coursework and school placement components. This shared institutional purpose establishes a legitimate basis for comparison. At the same time, differences in organisational culture, programme design, and educational context were treated as analytically significant rather than as deficits. The comparison therefore operates within a common professional domain of teacher preparation, while remaining sensitive to how local institutional conditions shaped experience and practice.

3.3.3 Research Methodologies

Research in education is broadly informed by two principal methodological traditions: **quantitative** and **qualitative** approaches. These methodologies are grounded in distinct philosophical assumptions and employ different strategies for data collection and analysis. However, they are increasingly recognised as complementary rather than oppositional (Creswell & Creswell, 2018; Tashakkori, Johnson, & Teddlie, 2021). In contemporary educational research, the integration of both approaches enables a more comprehensive understanding of complex phenomena by combining numerical measurement with in-depth contextual insight.

This study adopted both quantitative and qualitative methodologies within a mixed-methods framework. The research followed a sequential explanatory design, in which quantitative data collection and analysis preceded the qualitative phase. This sequencing allowed the initial quantitative results to inform the development of qualitative instruments and guide subsequent data collection. Such an approach is well established in mixed-methods research, where qualitative data are used to explain, elaborate, or contextualise quantitative findings (Creswell & Plano Clark, 2018). The rationale for employing this sequence lies in the complementary strengths of the two methodologies. Quantitative research prioritises measurement, generalisability, and the identification of patterns across populations, whereas qualitative research emphasises depth, meaning, and the interpretation of participants' lived experiences (Merriam & Tisdell, 2016; Cohen, Manion, & Morrison, 2018). Earlier methodological debates often positioned these approaches in opposition, and contemporary scholarship recognises that their integration can enhance the validity and richness of research findings (Fetters, Curry, & Creswell, 2013).

In this study, the quantitative phase provided a structured overview of pre-service teachers' attitudes and experiences, while the qualitative phase enabled a deeper exploration of the underlying reasons, perceptions, and contextual factors shaping these responses. This alignment reflects a pragmatic research stance, where methodological choices are driven by the research problem and the need to generate meaningful and actionable knowledge (Tashakkori et al., 2021). Overall, the combined use of quantitative and qualitative methodologies ensured a robust and balanced approach to data collection and analysis, allowing the study to capture both the breadth and depth of the research problem.

3.3.3.1 Quantitative Research Methodology

Quantitative research methodology refers to a structured approach in which numerical data are collected and analysed using statistical techniques to answer specific research questions or test hypotheses. It is grounded in empirical measurement and the systematic application of numerical analysis to observed phenomena, enabling researchers to quantify relationships among variables and draw generalisable inferences about a population (Bhandari, 2022). In the social sciences, quantitative research is employed to describe patterns, test causal relationships, and provide evidence that can be generalised beyond the sample under study. The primary purpose is to produce objective, reliable knowledge about the social world through the rigorous application of measurement and statistical analysis (Bhandari, 2022; Slater & Hasson, 2025). Quantitative data, because of their numerical form, allow researchers to summarize information using descriptive statistics (e.g., means, frequencies) and make inferential claims about populations through

techniques such as hypothesis testing and regression analysis (Bhandari, 2022). Operationalisation, that is, the process by which abstract concepts are translated into measurable variables, is central to quantitative research, ensuring that phenomena are defined in ways that can be empirically observed and analysed (Bhandari, 2022). As noted in the literature, quantitative data do not represent final answers in and of themselves; rather, they provide structured empirical evidence that supports transparent and replicable investigation of research questions (Fryer, Larson-Hall, & Stewart, 2018). This aligns with the broader philosophical commitment of quantitative research to objectivity and systematic measurement.

Quantitative research designs are broadly classified into non-experimental or descriptive and experimental approaches. Descriptive research aims to systematically describe the characteristics of a population or phenomenon without manipulating any variables. It answers questions such as “what is the current state of affairs?” and provides a detailed picture of variables as they naturally occur (Bhandari, 2022; researchmethod.net, 2026). In contrast, experimental research involves the deliberate manipulation of one or more independent variables to observe their causal effects on dependent variables under controlled conditions. This design is used when the research objective is to establish cause-and-effect relationships (researchmethod.net, 2026). The choice of quantitative methodology in this study was appropriate given the focus on generating structured numerical evidence to answer defined research questions and support statistical inference. By using quantitative methods, the research facilitated objective analysis of participant responses and contributed to a measurable understanding of the phenomena under investigation.

3.3.3.2 Qualitative Research Methodology

Qualitative research methodology is concerned with the in-depth exploration and interpretation of human experiences within their natural contexts. It adopts a holistic and naturalistic approach, enabling researchers to study participants’ meanings, perspectives, and social realities as they occur (Creswell & Poth, 2018; Denzin & Lincoln, 2018). In educational research, qualitative methods are particularly valuable for examining the complex, context-dependent experiences of learners and teachers. The primary aim of qualitative research is to explore and understand how individuals interpret their experiences, as well as how they construct meaning around phenomena. It focuses on capturing rich, descriptive data related to participants’ perceptions, attitudes, beliefs, and lived experiences (Merriam & Tisdell, 2016). Unlike quantitative approaches, which emphasise measurement and generalisation, qualitative research seeks depth of understanding and is especially suited to addressing “how” and “why” questions (Creswell & Poth, 2018).

In the context of this study, the qualitative approach was appropriate because it enabled a deeper exploration of pre-service teachers' attitudes and experiences regarding school library provision. Specifically, it allowed the researcher to investigate aspects of experience that cannot be easily quantified, such as perceptions of access to resources, engagement with library services, and the meanings participants attach to these experiences. Through this approach, the study captured nuanced insights into participants' interactions with library environments and the broader educational context. A key feature of qualitative research is its emphasis on reflexivity, whereby the researcher critically reflects on their role, assumptions, and potential influence on the research process. Reflexivity enhances the credibility and trustworthiness of the findings by acknowledging that the researcher is an integral part of the knowledge construction process (Berger, 2015; Finlay, 2021). As such, the researcher's positionality, values, and interpretations are recognised as shaping both data collection and analysis.

Qualitative research is underpinned by distinct ontological and epistemological assumptions. Ontologically, it often adopts a relativist position, recognising that reality is socially constructed and may vary across contexts and individuals. Epistemologically, it is typically aligned with interpretivism, which posits that knowledge is co-constructed through interaction between the researcher and participants (Crotty, 1998; Lincoln, Lynham, & Guba, 2018). These philosophical foundations are more explicitly articulated in qualitative research than in quantitative traditions, where assumptions about objectivity and external reality are often implicit. Overall, the qualitative methodology employed in this study provided a robust framework for understanding the lived experiences of pre-service teachers, offering depth, context, and meaning that complement the numerical insights generated through quantitative methods.

3.3.3.3 Mixed-Methods Research Design

This study adopted a mixed-methods research design, which integrates both quantitative and qualitative approaches within a single study to provide a more comprehensive understanding of the research problem. Mixed-methods research is underpinned by the pragmatic paradigm, which supports the use of multiple methods to address complex research questions and generate robust, contextually grounded findings (Creswell & Plano Clark, 2018; Tashakkori, Johnson, & Teddlie, 2021). Specifically, this research employed a sequential explanatory design, in which quantitative data collection and analysis were conducted in the first phase, followed by qualitative data collection to explain and elaborate on the quantitative findings. This design is particularly appropriate when initial numerical trends require deeper interpretation through participants' perspectives (Creswell & Plano Clark, 2018).

In this study, the survey provided measurable patterns in pre-service teachers' attitudes toward school libraries and their reported learning experiences. The interviews were then used to explore, clarify, and deepen understanding of those patterns within their institutional contexts. This design is particularly appropriate because the research seeks both measurement and explanation. The quantitative phase involved the administration of structured questionnaires to pre-service teachers in both Nigeria and England. These instruments include: (i) the *Attitude Questionnaire (AQ)*, and (ii) the *Questionnaire on Library Use Experience (QLUE)*. The third *Questionnaire on Library Orientation and Information Literacy (QLOIL)* was administered to the librarians in both institutions. The inclusion of librarians as participants was intended to provide an institutional perspective on library provision, orientation practices, and Information Literacy support. Their accounts complemented pre-service teachers' perspectives by enabling comparison between intended institutional provision and participants' reported experiences.

Data were collected through the course coordinators of the postgraduate diploma/certificate in education programmes and were the gatekeepers who facilitated access to participants to distribute the links to the survey. This approach ensured adherence to ethical requirements, particularly in relation to access, consent, and participant protection. The timing and mode of data collection were significantly influenced by the global context of the COVID-19 pandemic. Restrictions on travel, physical distancing, and institutional protocols necessitated remote data collection in both countries. Conducting the survey online ensured consistency in data collection procedures across contexts and maintained methodological rigour while safeguarding participants' health and wellbeing.

The qualitative phase followed the analysis of quantitative data and was designed to provide explanatory depth. Semi-structured interviews were conducted with a purposively selected sample of participants, including pre-service teachers, librarians, programme coordinators, and school-based mentors. Interview questions were informed by key findings from the quantitative phase, particularly patterns related to frequency of library use, motivations for engagement, and perceptions of library orientation and Information Literacy provision. This sequencing enhanced the interpretive power of the study by linking statistical trends with lived experiences. Four pre-service teachers were contacted by the gatekeepers, that is, two students from Nigeria and two students from England. The gatekeepers also contacted the librarians who were attached to the students for their postgraduate diploma in education programmes. In addition, one mentor each from placement schools and the coordinators of the teacher training programmes (who incidentally were the gatekeepers) in Nigeria and England, were also interviewed. In all, I interviewed ten

participants for the study. Interviews were conducted via Microsoft Teams without video to preserve anonymity and align with ethical commitments regarding confidentiality. This multi-perspective sampling strategy enabled the study to capture a more holistic understanding of library use experiences across institutional roles. An important focus of the interviews was to explore participants' awareness and perceptions of Information Literacy models adopted within their institutions, as well as their views on the adequacy of library resources and orientation practices. This provided an opportunity to identify gaps between institutional provision and user experience, as well as areas for improvement.

A key strength of mixed-methods research lies in triangulation, where the integration of multiple data sources enhances the credibility and depth of findings (Fetters, Curry, & Creswell, 2013). By combining quantitative breadth with qualitative depth, this study was able to generate a more nuanced understanding of pre-service teachers' engagement with library services. However, as noted in the literature, integrating findings from different methodological strands can present challenges, particularly when results appear contradictory (Mackey & Gass, 2016). Careful integration and interpretation were therefore essential in ensuring coherence across the study. Overall, the mixed-methods design is appropriate for this study as it enabled the collection of complementary data, allowing for both generalisation and in-depth exploration. While the approach is inherently complex and time-intensive, it provided a richer, more comprehensive account of the research problem than either method alone. Sequential explanatory designs are widely recommended in educational research where researchers aim to move from statistical trends to interpretive understanding (Creswell & Plano Clark, 2018; Fetters, Curry, & Creswell, 2013). By structuring the study in this way, the research ensured coherence between breadth - survey findings, and depth - interview insights, strengthening the overall explanatory power of the study.

➤ **Phase One: Quantitative Strand**

The survey phase enabled (i) Measurement of attitudes toward school libraries, (ii) Examination of relationships between attitudes and reported experiences and (iii) Identification of patterns requiring deeper exploration. This aligns with Cohen et al.'s (2018) discussion of surveys as tools for identifying trends within educational settings.

➤ **Phase Two: Qualitative Strand**

The interview phase allowed participants to elaborate on (i) How institutional experiences shaped their perceptions, (ii) How programme structures influenced engagement with libraries, and (iii) How placement contexts mediated professional learning. Yin (2018) emphasises that

qualitative evidence strengthens case study explanation by revealing mechanisms underlying observed patterns. The interviews therefore functioned as explanatory extensions of survey findings.

Integration occurs at the interpretation stage, where quantitative patterns and qualitative themes are examined together within the institutional and ecological framework that guides the study. Fetters, Curry and Creswell (2013) describe such integration as essential to methodological coherence in mixed-methods research. The sequential explanatory structure ensured that the study did not merely juxtapose data types but connected them analytically. More specifically, integration was achieved by using quantitative findings to identify areas requiring further exploration and by comparing these patterns with qualitative accounts from participants. This process enabled the qualitative findings to provide explanations for statistical trends while allowing institutional factors identified through interviews and documents to contextualise survey results.

3.4 Research Contexts and Institutional Ecology

This section presents the research contexts for the Nigerian and English case studies and examines the institutional ecologies within which participants operated. The discussion extends beyond simple descriptions of programme structures and facilities to consider the broader environmental conditions that mediated Information Literacy practices. Particular attention is given to programme organisation, library infrastructure, placement arrangements, and policy influences, as these factors collectively shaped access to information resources, engagement with learning opportunities, and the transfer of Information Literacy practices into professional contexts. The concept of institutional ecology is especially relevant to this study because Information Literacy is understood as a situated and socially mediated practice rather than merely a set of technical skills. Drawing on ecological perspectives on learning, individual behaviours and competencies are viewed as emerging through interactions between learners and the environments in which they participate. Accordingly, the institutional settings examined in this study are conceptualised as interconnected systems operating at multiple levels, including national policy frameworks (macro level), institutional structures and cultures (meso level), and everyday teaching, learning, and placement experiences (micro level).

The following sections, therefore, provide a detailed account of the Nigerian and English institutional contexts before examining how ecological factors influenced the enactment of Information Literacy across both settings. By situating participant experiences within their wider institutional environments, the study is better able to explain similarities and differences in

Information Literacy development and to illuminate the contextual conditions that supported or constrained learning.

3.4.1 Nigerian Institutional Case

Institutional and Geographical Context

The Nigerian case is situated within a public university in South-Western Nigeria. The institution is located in an urban academic environment and serves a diverse student population drawn from different regions of the country. As a large public university, it comprises multiple faculties, including a Faculty of Education responsible for preparing teachers through undergraduate and postgraduate Initial Teacher Education programmes. The university has a substantial student population across its academic programmes, with education programmes forming part of its wider contribution to national teacher preparation. The institutional context reflects the wider characteristics of Nigerian public higher education, where universities operate within national regulatory frameworks while responding to challenges related to infrastructure, student numbers, digital access, and resource provision. The Initial Teacher Education programme examined in this study is therefore situated within a relatively large and established university environment, but within a broader national context where educational resources, including school library provision, vary considerably across institutions and regions. The surrounding educational landscape is characterised by a mixture of urban and peri-urban schools that provide placement opportunities for pre-service teachers. These placement contexts expose pre-service teachers to different levels of school resource provision, including variations in access to libraries, learning materials, and digital technologies.

➤ Programme Structure

The Nigerian case is situated within a university-based Initial Teacher Education programme preparing students for primary and secondary school teaching, though the focus of this study was on primary. The programme follows a structured curriculum model combining disciplinary coursework, professional education modules, and supervised teaching practice. Courses in educational foundations, curriculum studies, and subject pedagogy form the academic core, while practicum placements provide experiential learning in partner schools. Initial Teacher Education in Nigeria operates within national regulatory frameworks, including guidance from the Teachers Registration Council of Nigeria (TRCN) and National Universities Commission (NUC). These bodies shape minimum standards, curriculum expectations, and professional requirements.

Such macro-level policy frameworks influence how programmes prioritise components such as literacy, pedagogy, and school-based experience.

➤ **Library Infrastructure**

The university maintains a central academic library serving all faculties, including the faculty of education. While library services provide access to textbooks, journals, and digital databases, there is limited formal integration between the university library and school library systems encountered during teaching practice. School library provision within placement settings varies considerably, reflecting broader infrastructural disparities within Nigerian educational contexts. Research across Sub-Saharan Africa indicates uneven school library provision and limited formalised collaboration between teacher education programmes and school library services (Tella & Ocholla, 2022; IFLA, 2023). Within this institutional ecology, engagement with school libraries may depend more on individual initiative than on structured programme design.

➤ **Placement Model**

Teaching practice forms a significant component of the programme and typically occurs in government or private schools affiliated with the university. Supervision is conducted by university lecturers and school-based mentors. However, structured requirements regarding engagement with school libraries during placement are not explicitly embedded in assessment documentation. As a result, exposure to school library practice varies across pre-service teachers.

➤ **Policy Environment**

At the macro level, Nigerian education policy emphasises literacy, curriculum reform, and professionalisation of teaching. However, explicit references to school libraries within the Initial Teacher Education policy documents examined in this study appear limited. This creates a context in which school libraries may be present but not institutionally foregrounded within initial teacher preparation. It is pertinent to note that the National Policy on Education stipulates that private and public primary schools should have libraries (FGN, 2013).

3.4.2 English Institutional Case

Institutional and Geographical Context

The English case is situated within a public research-intensive university in the East of England. The university operates within a higher education system characterised by established

quality assurance mechanisms, national teacher education standards, and formal university–school partnership arrangements. It serves a diverse student population across undergraduate and postgraduate programmes, including postgraduate Initial Teacher Education provision. The institution is located in an urban setting within a wider regional education network, with pre-service teachers completing placements in partner schools across the surrounding area. These schools vary in size, demographic composition, and organisational context, providing pre-service teachers with practical experience of different educational environments. The English case reflects the wider characteristics of Initial Teacher Education in England, where teacher preparation is shaped by national professional standards, accountability structures, and close relationships between universities and schools. Within this context, access to learning resources, digital platforms, and academic support services forms part of the broader institutional environment within which pre-service teachers develop professional knowledge and practice.

➤ **Programme Structure**

The English case is a postgraduate Initial Teacher Education programme (PGCE) delivered within a university-school partnership model. The programme combines university-based academic study with extended school placements across the academic year. Coursework integrates subject pedagogy, professional studies, and reflective practice, aligns with the Teachers' Standards set by the UK Department for Education. English Initial Teacher Education programmes operate within a highly regulated framework that emphasises accountability, evidence-informed practice, and structured mentoring (Department for Education, 2023). Placement experiences are formally assessed and closely align with national standards.

➤ **Library Infrastructure**

The university provides comprehensive academic library services, including digital databases, research literacy support, and study skills provision. In addition, many placement schools maintain functioning school libraries or learning resource centres, often staffed by professional librarians or learning resource managers. The UK has a more established discourse around school libraries' role in literacy development and Information Literacy, supported by professional bodies such as the School Library Association and the Chartered Institute of Library and Information Professionals (CILIP, 2022). Nevertheless, formal integration between Initial Teacher Education curricula and school library practice remains variable across institutions.

➤ **Placement Model**

School placement forms the core of the postgraduate certificate in education (PGCE) year, typically comprising the majority of training time. Structured mentor meetings, lesson observations, and professional development tasks are required. Engagement with school library services, where available, depends on school culture and mentor guidance rather than being uniformly mandated by university documentation.

➤ **Policy Environment**

At the macro level, English education policy emphasises subject knowledge, classroom management, and measurable pupil outcomes. While literacy remains central, explicit reference to school libraries within teacher training policy documentation is limited. As in the Nigerian case, the visibility of school libraries within teacher preparation depends on meso-level institutional priorities and micro-level school practices.

3.4.3 Ecological Mediation

The concept of ecological mediation provides the analytical bridge between context and practice. Drawing on Bronfenbrenner's ecological systems theory, educational experiences are shaped by interactions across multiple levels: macro (policy and national discourse), meso (institutional structures), and micro (individual and classroom-level practice) (Bronfenbrenner, 1979; Tudge et al., 2021). At the macro level, national teacher standards, regulatory frameworks, and literacy policies shape what is formally prioritised within Initial Teacher Education programmes. At the meso level, university programme structures, curriculum documents, and placement requirements mediate how those priorities are operationalised. The inclusion or omission of school libraries within course documentation represents institutional mediation. At the micro level, pre-service teachers' personal beliefs, prior experiences, and school placement encounters shape how Information Literacy is enacted in practice.

Ecological mediation in this study therefore refers to how these levels interact to influence pre-service teachers' attitudes toward and engagement with school libraries. The institutional environment is not treated as background context, rather, it is understood as actively shaping dispositions and practices. This operationalises the study's theoretical framework by connecting ecological theory to concrete programme features and placement experiences. By describing each case through the same structural lens, the study maintains analytical symmetry while allowing contextual divergence to emerge organically. The comparison does not rank institutions but

examines how similar professional aims of preparing teachers are mediated differently within distinct institutional ecologies (Bray, Adamson, & Mason, 2018). Therefore, the research contexts provide the ecological foundation upon which attitudes, experiences, and practices are interpreted. Understanding these institutional ecologies is essential for explaining how Information Literacy is positioned, experienced, and enacted within Initial Teacher Education. This ecological framing also informed participant selection, as individuals occupying different positions within the institutional system were included to capture how library-related practices were experienced and mediated across different levels of the educational environment.

3.5 Participants and Sampling

This section explains who participated in the study, how participants were recruited, and how sampling decisions align with the institutional case study design outlined earlier. It clarifies the sampling strategy, target population, response rate clarification, and the rationale underpinning these choices. In doing so, it responds directly to methodological concerns regarding representativeness, coherence, and analytical validity. Given the adoption of a comparative institutional case study approach, the aim of the study was not statistical generalisation to national populations of pre-service teachers in Nigeria or England. Rather, the goal was to develop a contextually grounded and analytically robust understanding of how library learning experiences and attitudes toward school libraries are shaped within specific institutional environments. As Yin (2018) argues, case study research prioritises analytical generalisation, where findings are linked to theoretical propositions, rather than statistical generalisation to wider populations. Similarly, Thomas (2021) emphasises that case study sampling is guided by “case logic,” in which the integrity and boundedness of the case are central. Although the institutional contexts are described to support contextual understanding and analytical transferability, institutional names have been anonymised. This decision was made to protect institutional confidentiality and prevent potential identification of participants through contextual details, consistent with ethical principles of educational research (BERA, 2018; 2024).

3.5.1 Sampling Strategy

In this study, the bounded cases were two university-based Initial Teacher Education programmes, one located in South-Western Nigeria and one in the Eastern region of England. These institutions were selected because they offer comparable primary/early years Initial Teacher Education programmes and provide access to relevant participant groups, including pre-service teachers, university librarians, course coordinators, and placement tutors. The institutional level is

therefore the primary unit of analysis, rather than the national system. Sampling decisions were shaped by three interrelated considerations. First, the conceptual framework underpinning the study positions Information Literacy as a practice that is mediated through institutional ecologies, including curriculum design, library provision, and school placement structures. It was therefore necessary to include participants who occupy different roles within these systems. Second, the research questions focused on both learning experiences and attitudes, as well as the relationship between them. This required inclusion of pre-service teachers as the primary participant group, supported by professional stakeholders who influence programme design and library engagement. Third, in line with comparative methodology, efforts were made to ensure structural symmetry between the two institutional cases so that meaningful cross-case analysis could be undertaken without collapsing contextual specificity (Bray et al., 2014).

Recruitment was conducted through institutional gatekeepers at both sites. Gatekeepers facilitated contact with eligible participants but did not influence participation decisions. Student surveys were distributed online via an anonymous email link. Interview participants volunteered following invitation and were selected purposively to ensure relevance to the research focus. Participation across all groups was voluntary. The sampling strategy can therefore be characterised as:

- Institutionally bounded
- Whole-cohort invitation for student surveys
- Purposive selection for interviews
- Symmetrical across both institutional cases

Such an approach is methodologically coherent within comparative case study research. As Cohen, Manion, and Morrison (2018) note, sampling adequacy must be judged relative to research purpose. In this instance, the purpose was to explore relationships between attitudes, experiences, and institutional mediation within clearly defined settings. The emphasis was therefore on contextual completeness rather than numerical breadth. It is pertinent to note that sampling decisions inevitably shape the kinds of claims that can be made. This study does not claim national representativeness. Instead, it offers theoretically informed insight into how Information Literacy and library engagement are experienced within two comparable institutional contexts. Findings were interpreted cautiously and situated within the boundaries of the cases examined. The following subsections provide a detailed account of sample composition, response rates, and justification of sample size in relation to both quantitative and qualitative components of the study.

3.5.2 Population

The population for the study comprised a total of 52 pre-service teachers, 2 librarians and 2 teacher training programme coordinators from 2 universities as well as 2 mentors from schools where the pre-service teachers did their placements. The Nigerian case comprised 25 pre-service teachers, one librarian, one teacher training coordinator, and one placement mentor, while the English case comprised 27 pre-service teachers, one librarian, one teacher training coordinator, and one placement mentor. For the purpose of this study, the university in Nigeria is referred to as “Uni A” while the university in England is referred to as “Uni B” for the sake of anonymity. Inclusion criteria for student participants are based on their enrolment in the final year of the Initial Teacher Education programme, completion of at least one school placement, and active registration during the data collection period. The pre-service teachers in Nigeria follow the postgraduate diploma in education programme (PGDE) which is similar to the postgraduate certificate in education followed by the pre-service teachers in England (PGCE). The common factor in both groups is that the participants are enrolled in the course to become certified professional teachers. These are people who had other qualifications before they enrolled in the postgraduate in education programmes in their institutions. The pre-service teachers in both institutions are training to become effective teachers in nursery and primary schools. This study focused on pre-service teachers because, to improve the library use of learners, their teachers must be equipped with relevant and effective library use strategies, while having the desired attitude and library learning experiences. In addition to the student survey respondents, two pre-service teachers in each context participated in semi-structured interviews. These interview participants volunteered following survey completion and were selected purposively to provide more detailed accounts of their experiences. The qualitative sampling was therefore depth-oriented rather than statistically representative, consistent with case study logic (Yin, 2018).

The librarians selected as participants are the librarians in the institution who have direct connection with the pre-service teachers during the duration of their postgraduate programmes in Nigeria and England. The librarian in Nigeria was a male while the librarian in England was female. The inclusion of librarians, course coordinators, and placement tutors was theoretically driven. Drawing on the study’s ecological framing, these actors represent key mediating agents within the institutional system. Their perspectives allowed examination of how Information Literacy expectations are articulated in curriculum design, library provision, and school placement practice. Including these professional voices strengthens triangulation and addresses earlier limitations in the study design regarding over-reliance on student self-report data. The librarian

survey instrument was not treated as quantitative data, given the single institutional respondent per case. Instead, it functioned as a structured pre-interview schedule and was analysed qualitatively alongside interview material and relevant documentation. The coordinators of the teacher training programmes in both institutions who were the gatekeepers for this research, were also interviewed for study. Both coordinators were incidentally females. In addition, representatives of the mentors of the pre-service teachers in the schools where they had their placements were interviewed for their own perceptions of the practical experiences of the pre-service teachers.

Table 3.1 Participants in the Study

Participants	Pre-service Teachers	Librarians	Course Coordinators	Placement Tutors	Total
Nigeria	25	1	1	1	28
England	27	1	1	1	30
Total	52	2	2	2	58

➤ **Sample Composition**

The highlights of the sample composition in each institution are as follows:

Nigeria

- 25 pre-service teachers (survey)
- 2 pre-service teachers (interviews)
- 1 librarian (survey + interview)
- 1 course coordinator (interview)
- 1 placement tutor (interview)

England

- 27 pre-service teachers (survey)
- 2 pre-service teachers (interviews)
- 1 librarian (survey + interview)
- 1 course coordinator (interview)
- 1 placement tutor (interview)

➤ **Sample Size Justification and Statistical Power**

The survey sample sizes ($n = 25$ and $n = 27$) are modest. For large-scale inferential statistical modelling, such numbers would be insufficient to achieve high statistical power (Cohen et al., 2018). However, this study does not aim to conduct complex multivariate modelling or to establish causal inference through large-scale statistical testing. Quantitative analysis was therefore limited to descriptive statistics such as frequencies, percentages, and means; careful cross-case comparison, and exploratory examination of relationships within institutional boundaries. Given the near-cohort coverage within each case, the survey provided a reliable snapshot of attitudes and reported experiences within those specific institutional ecologies. The analysis was framed in terms of analytical generalisation rather than statistical generalisation (Yin, 2018). Findings were interpreted in relation to the conceptual framework rather than extrapolated to national populations. The qualitative interviews compensated for limited survey size by providing depth, explanation, and contextual nuance. This mixed-methods balance aligns with pragmatic methodological reasoning (Creswell & Plano Clark, 2018). Nevertheless, the limited sample size means that quantitative findings are interpreted cautiously and primarily as indicators of patterns within the cases rather than evidence of wider population-level relationships.

3.5.3 Response Rate Clarification

The survey was administered online via an anonymous email link distributed through institutional gatekeepers at both sites. It was conducted post-COVID-19, during a period in which digital learning platforms and email-based academic communication were routine aspects of university engagement. Participation was not coerced. Students were informed that participation was voluntary and that non-participation would carry no academic consequence. The achieved response rates were high relative to typical social science survey research. However, this can be explained by several contextual factors:

- i. Small cohort sizes
- ii. Direct distribution to a clearly defined final-year group
- iii. Institutional endorsement
- iv. The online familiarity of post-pandemic academic communication

High response rates reduce, but do not eliminate, the risk of non-response bias (Cohen et al., 2018). Importantly, the relevant denominator in this study is the final-year cohort within each institution,

not a national Initial Teacher Education population. The response therefore approximates near-total cohort participation within each institutional case.

➤ **Cross-National Comparability**

Comparability between the Nigerian and English cases was strengthened through structural alignment in the sampling strategy:

- Equivalent programme stage (final-year pre-service teachers)
- Equivalent participant categories (students, librarian, course coordinator, placement tutor)
- Parallel survey instrument
- Parallel interview protocol

This symmetry supports what comparative methodologists describe as “structured comparison” (Bray et al., 2014), allowing meaningful analysis of similarities and differences without reducing the study to simplistic national contrast. Crucially, the study does not treat Nigeria and England as homogeneous systems. Instead, each is represented through a bounded institutional case. This approach mitigates the risk of overgeneralisation and aligns with the study’s ecological orientation.

3.6 Data Collection Methods

This section outlines the instruments and procedures used to generate quantitative and qualitative data. Consistent with the pragmatic mixed-methods design outlined earlier, data collection combined structured questionnaires with semi-structured interviews in order to capture both breadth and depth of experience. The survey provided measurable attitudinal and perceptual data across both institutional contexts, while interviews enabled deeper exploration of meanings, interpretations, and institutional mediation. The section covers the student survey, librarian survey, semi-structured interviews and document analysis.

3.6.1 Student Survey

➤ **Attitude Questionnaire**

The primary quantitative instrument used in this study was the Attitude Questionnaire (AQ) (Appendix 1). The AQ was designed to assess pre-service teachers’ attitudes toward libraries and their perceptions of institutional library provision within their teacher education programmes. The instrument was administered online to final-year pre-service teachers in both institutional case sites. The survey was descriptive and comparative in purpose. It was not designed to test causal

hypotheses or produce inferential generalisations. Rather, it sought to provide structured insight into patterns of attitudes and perceptions within each institutional ecology, thereby enabling cross-case comparison and subsequent integration with qualitative findings.

Constructs Measured

The Attitude Questionnaire (AQ) operationalised three interrelated constructs derived from the study's conceptual framework:

i) Attitudinal Orientation Toward Libraries

This construct captured students' evaluative dispositions toward the role and value of libraries in academic and professional learning. Items such as:

- “The library is an important facility for any academic institution.”
- “The library helps me to cultivate a habit of self-study.”
- “The library is a place to verify information taught in class.”

These items measured affective and cognitive components of attitude, reflecting perceived value, personal engagement, and epistemic trust.

ii) Functional Perceptions of Library Use

This construct assessed how students conceptualised the practical role of the library within their learning processes. Items addressing study space, information seeking for assignments, widening knowledge, and quiet reflection captured utilitarian and academic dimensions of use. This aligns with an Information Literacy framing in which libraries are not merely repositories of books but mediating spaces for knowledge construction.

iii) Perceived Adequacy of Institutional Provision

The second major section of the instrument measured perceptions of the quality and adequacy of library infrastructure, resources, and services. These included:

- Physical infrastructure (lighting, ventilation, electricity, space)
- Technological provision (internet access, desktop computers, e-textbooks)
- Collection quality (currency of materials, availability of journals)
- Service quality (staff helpfulness, photocopying services)

This section operationalised the ecological dimension of the study by capturing how institutional conditions may shape attitudes and engagement. In all, these constructs allowed examination of relationships between perceived institutional provision and attitudinal orientation, which is a key concern of the study's theoretical positioning.

Likert Structure and Scale Design

The instrument employed a five-point Likert-type response structure. Two scaling formats were used:

1. Agreement Scale

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

2. Adequacy Scale

- 1 = Highly Inadequate
- 2 = Inadequate
- 3 = Neutral
- 4 = Adequate
- 5 = Highly Adequate

The use of a five-point scale was deliberate. It balances response discrimination with cognitive simplicity and is widely regarded as appropriate for educational attitude research (Cohen et al., 2018). The midpoint ("Neutral") was retained to avoid forcing artificial polarity, particularly given potential cross-cultural variation in response styles. The questionnaire was structured in three sections:

- Section A: Demographic Information
- Section B1: Attitudinal and functional perceptions
- Section B2: Assessment of institutional adequacy

Items were positively worded to minimise respondent confusion and reduce acquiescence bias. While reverse-coded items can be used to detect response sets, they were not included here to preserve clarity in cross-national administration and avoid linguistic ambiguity.

➤ **The Questionnaire on Library Use Experiences (QLUE)**

The Questionnaire on Library Use Experiences (QLUE) (Appendix II) was designed as a structured questionnaire to explore the library-related experiences, practices, and perceptions of pre-service teachers within the participating institutions. The instrument formed part of the quantitative strand of the study and was used to generate descriptive data on participants' patterns of library use, awareness of Information Literacy, and experiences of library orientation and support. In keeping with the wider aims of the research, the questionnaire sought to provide an overview of how future teachers engaged with both physical and virtual library environments during their professional preparation.

The questionnaire was organised into two sections. Section A gathered demographic information, including institution, gender, age range, and highest qualification. These items were included to provide contextual background to the sample and to allow for an understanding of the diversity of respondents. Such demographic data also assisted in interpreting whether patterns of library engagement appeared consistent across different participant characteristics. Section B focused specifically on participants' library use experiences. Items examined whether respondents used the library, their views on the necessity of visiting physical or virtual library spaces, and the frequency with which they believed such engagement should occur. Additional questions explored whether participants had received any form of orientation or training at the start of their programme, the nature of that orientation, and whether it was perceived as helpful. These items were particularly important in relation to the study's concern with institutional support for Information Literacy development.

The questionnaire also included items relating to awareness of Information Literacy models, inviting respondents to indicate whether they were familiar with such frameworks and, where applicable, to name examples they knew. This provided insight into the extent to which formal Information Literacy concepts had entered participants' educational experiences. A final multiple-response item asked participants to identify the activities they typically undertook when visiting the library, such as borrowing books, using the internet, reading, printing, or engaging in personal study. This enabled the study to move beyond simple measures of library attendance and consider the functional purposes attached to library use. The questionnaire employed mainly closed-ended questions, supplemented by a small number of open-response items. This combination allowed for efficient quantitative analysis while also giving respondents limited space to elaborate on specific experiences, particularly in relation to orientation and knowledge of

Information Literacy models. The use of straightforward language and familiar response formats was intended to maximise accessibility and encourage completion.

Ethically, participation was entirely voluntary. Respondents were informed that the data would be used solely for research purposes, treated with strict confidentiality, and reported in anonymised form. Participants were also advised that they could withdraw at any stage before submitting the questionnaire. Overall, the Questionnaire on Library Use Experiences (QLUE) provided a practical and contextually relevant instrument for capturing pre-service teachers' experiences of library use and the broader conditions that may support or constrain their Information Literacy development.

Reliability and Internal Consistency

Internal consistency reliability was assessed using Cronbach's alpha for each scale cluster. Cronbach's alpha is widely used in social science research as an index of the degree to which items measure a common underlying construct. Alpha coefficients above .70 are generally considered acceptable for exploratory research (Tavakol & Dennick, 2011). Reliability analysis was conducted separately for:

- Attitude items
- Functional perception items
- Institutional adequacy items

The reliability analysis demonstrated satisfactory internal consistency across scales, indicating that items functioned cohesively as composite measures. Where necessary, item-total correlations were examined to ensure no individual item reduced overall scale coherence. It is acknowledged that Cronbach's alpha assumes tau-equivalence and unitary dimension. As such, reliability results were interpreted cautiously and primarily used to confirm internal coherence rather than claim psychometric instrument validation at scale-development level.

Administration Procedure

The survey was distributed online via institutional gatekeepers using an anonymous link. This mode of administration was selected for several reasons. There was Post-COVID digital familiarity among students; reduced social desirability pressure, facilitation of cross-national consistency, and ease of data management and export. Participation was voluntary. Students were informed that responses were anonymous and confidential, and that submission implied consent.

No identifying data were collected beyond broad demographic categories. The survey remained open for a defined response window and reminder prompts were issued through institutional channels to maximise participation without coercion.

Statistical Scope and Analytical Strategy

The quantitative analysis was primarily descriptive. Frequencies and simple percentages were used to describe the results. Cross-tabulations were used to compare patterns between the Nigerian and English institutional cases. Given the modest cohort sizes and case-study orientation of the research design, inferential statistical testing was not prioritised. Where comparisons were drawn, they were interpreted as context-bound contrasts rather than population-level differences. This approach aligns with the broader methodological stance of analytical rather than statistical generalisation.

Limitations of the Survey Component

Several limitations of the survey instrument must be acknowledged.

- i. **Descriptive Focus** - The survey was not designed for predictive modelling or causal inference. It provided structured perception data but could not independently explain why attitudes were formed.
- ii. **Self-Report Bias** - Responses reflected participants' perceptions rather than objectively verified institutional conditions.
- iii. **Contextual Variability** - Differences in infrastructural realities between Nigeria and England may influence interpretation of adequacy scales, potentially affecting comparability.
- iv. **Cross-Cultural Response Style** - Cultural tendencies toward moderate or extreme responding may influence scale distribution patterns.
- v. **Construct Breadth** - While the Attitude Questionnaire captured attitudinal and institutional dimensions, it did not directly measure behavioural frequency of library use. This gap was addressed through qualitative interviews.

Despite these limitations, the survey provided an essential quantitative baseline, enabling systematic comparison across cases and supporting integration with qualitative findings during analysis.

Role of the Survey within the Mixed-Methods Design

Within the overall mixed-methods framework, the survey served three functions:

- i. To establish broad attitudinal and perceptual patterns
- ii. To identify areas requiring deeper qualitative exploration
- iii. To support triangulation between reported experiences and institutional narratives

The integration of survey and interview data strengthened interpretive validity and enhanced the explanatory depth of the study.

3.6.2 Librarian Survey

Rationale for Repositioning as a Contextual Checklist

The Questionnaire on Library Orientation and Information Literacy (QLOIL) (Appendix III) was initially designed as a structured survey instrument to collect data from institutional librarians regarding orientation provision and the adoption of Information Literacy (IL) models. However, given that only one librarian participated in each institutional case, statistical analysis was neither methodologically appropriate nor analytically meaningful. Accordingly, the Questionnaire on Library Orientation and Information Literacy (QLOIL) was repositioned as a contextual checklist, consistent with case study methodology in which structured instruments may serve descriptive and mapping functions rather than inferential statistical purposes (Yin, 2018; Thomas, 2021). This decision aligns with pragmatic mixed-methods logic, where instrument function is determined by analytical utility rather than formal category (Creswell & Plano Clark, 2018; Fetters & Molina-Azorín, 2020). Rather than generating quantitative findings, the checklist provided structured institutional profiling and supported in-depth qualitative exploration.

Purpose Within the Mixed-Methods Design

Within the broader design, the contextual checklist served three key purposes:

- i. To map institutional approaches to library orientation and Information Literacy integration.
- ii. To provide structured comparability across the Nigerian and English institutional cases.
- iii. To scaffold and focus subsequent semi-structured interviews.

Mixed-methods scholars emphasise that integration does not require equal quantitative weight across all instruments; rather, tools may function differentially within a coherent design

(Guetterman, Feters, & Creswell, 2023). This shows methodological maturity. In this study, the student survey generated descriptive quantitative patterns, while the librarian checklist contributed institutional-level qualitative insight.

Structure and Constructs Captured

The Questionnaire on Library Orientation and Information Literacy (QLOIL) was organised into three sections:

Section A: Institutional Context

Basic demographic and qualification information was collected to contextualise professional positioning. These data were descriptive and not statistically analysed.

Section B: Library Orientation Provision

This section explored:

- Perceived necessity of orientation
- Frequency of delivery (e.g., on resumption, every semester, every session)
- Content of orientation (resources, databases, search strategies)
- Perceived helpfulness of orientation components

Library orientation has been widely recognised as a foundational mechanism for embedding Information Literacy in higher education (ACRL, 2016; UNESCO, 2023). The inclusion of frequency and content variables reflects research indicating that sustained, curriculum-linked orientation is more effective than one-off induction sessions (Secker & Coonan, 2022; OECD, 2023). The Likert-style scaling prompted reflective differentiation while maintaining structured comparability across cases. However, responses were interpreted narratively rather than statistically.

Section C: Information Literacy Models

This section examined whether institutions had adopted or adapted recognised Information Literacy frameworks, such as:

- Big6
- EXIT Model

The inclusion of these models reflects the established role of structured IL frameworks in guiding instructional practice (ACRL, 2016; Secker & Coonan, 2022). Rather than evaluating institutional compliance, this section explored the degree of conceptual alignment between teacher education programmes and recognised Information Literacy standards. Within the ecological framework, model adoption represents an exosystemic influence - institutional policy positioning that shapes, but does not guarantee, student experience. The pre-service teachers had the opportunity to mention the Information Literacy models that are known to them while responding to the Questionnaire on Library Use Experiences (QLUE).

Use as an Interview Scaffold

Following checklist completion, responses were used to structure librarian interviews. This sequencing reflects qualitative best practice in which structured prompts enhance depth and reduce reliance on abstract recall (Merriam & Tisdell, 2016).

For example:

- Where orientation was rated as “every semester,” interviews probed implementation fidelity.
- Where IL models were marked as “adopted very well,” participants were asked how these frameworks were operationalised in teacher education modules.
- Where orientation was rated as “somewhat helpful,” contextual barriers were explored.

This approach aligns with integrated mixed-methods design, where quantitative or structured components inform qualitative elaboration (Fetters & Molina-Azorín, 2020; Guetterman et al., 2023).

Analytical Treatment

Since each institutional case included a single librarian respondent, no inferential statistical procedures were applied. Instead:

- Checklist responses were summarised descriptively.
- Ratings were interpreted alongside interview narratives.
- Data were coded thematically within the broader qualitative analysis.

This analytic strategy is consistent with case study research that prioritises contextual interpretation over aggregation (Yin, 2018; Thomas, 2021). The checklist data were therefore integrated during thematic coding under categories such as:

- Institutional reinforcement
- Structural support
- Curriculum integration
- Policy alignment
- Resource constraints

Through this integration, the checklist strengthened triangulation between:

- Student-reported experiences,
- Librarian institutional positioning,
- Observed structural conditions.

Triangulation enhances credibility in qualitative and mixed-methods research by cross-validating findings across data sources (Creswell & Plano Clark, 2018).

Ecological and Comparative Significance

Within the study's critical-ecological framework, the contextual checklist operationalises institutional mediation across ecological levels:

- Mesosystem: Orientation practices linking curriculum and student engagement.
- Exosystem: Institutional policy alignment with recognised IL frameworks.
- Macrosystem: Professional norms and national expectations regarding Information Literacy (OECD, 2023; UNESCO, 2023).

By administering the checklist symmetrically in both institutional cases, structured comparison was enabled. However, interpretation remained context-sensitive, recognising differences in funding structures, infrastructure, and professional regulation between Nigeria and England. Thus, the repositioned checklist strengthens ecological analysis by mapping structural mediators that may influence student attitudes identified in the survey component.

Methodological Strengths

Repositioning the Questionnaire on Library Orientation and Information Literacy (QLOIL) as a contextual checklist had its effect because it:

- Prevented inappropriate statistical inference from minimal sample size.
- Preserved structured cross-case comparability.
- Enhanced interview depth and precision.
- Strengthened triangulation across institutional and student perspectives.
- Maintained coherence within the pragmatic mixed-methods framework.

This flexible instrument use reflects methodological pragmatism, prioritising analytic contribution over formal typology (Biesta, 2020; Creswell & Plano Clark, 2018).

Limitations

Several limitations must be acknowledged:

- Single-respondent institutional reporting may not capture internal variability.
- Self-report data may reflect aspirational positioning rather than enacted practice.
- Absence of documentary analysis limits verification of formal Information Literacy model adoption.

These constraints are considered during interpretation of findings.

3.6.3 Semi-Structured Interviews

Rationale

Semi-structured interviews were employed to generate in-depth, contextually grounded accounts of participants' experiences and institutional positioning regarding library use and Information Literacy within teacher education. While the student survey provided descriptive patterns of attitudes and perceived adequacy, it could not explain the meanings, interpretations, or structural mediators underlying those patterns. Interviews were therefore necessary to address the explanatory dimension of the research questions. Semi-structured interviewing was selected because it balances conceptual focus with flexibility. It allows the researcher to explore predetermined domains derived from the study's conceptual framework while remaining responsive to participants' lived experiences (Kallio et al., 2016; Merriam & Tisdell, 2016). This

approach is particularly appropriate in comparative case study research, where institutional contexts may differ in ways not fully anticipated at the design stage (Yin, 2018; Thomas, 2021). Within the study's pragmatic mixed-methods design (Creswell & Plano Clark, 2018), interviews served three primary functions:

- i. To deepen understanding of survey findings.
- ii. To explore ecological mediation of attitudes and practices.
- iii. To enable cross-case comparison grounded in participant narrative rather than numerical abstraction.

Thus, interviews were not supplementary, rather, they were integral to explanatory coherence.

Alignment with the Ecological Framework

Consistent with the critical-ecological orientation informed by Urie Bronfenbrenner's ecological systems theory (Tudge et al., 2021), the interviews were structured to elicit data across multiple systemic levels.

- Microsystem: Direct experiences of library spaces, materials, and support.
- Mesosystem: Relationships between curriculum, placement expectations, and library engagement.
- Exosystem: Institutional policies, resource constraints, and structural barriers.
- Macrosystem: Broader professional norms regarding Information Literacy and teacher preparation.

Interview questions were therefore framed not only around personal attitudes but also around orientation practices, structural barriers, institutional reinforcement, and professional expectations. This ensured that interpretations avoided deficit explanations and instead foregrounded contextual mediation.

Participant Groups

Semi-structured interviews were conducted across four participant categories within each institutional case:

1. Pre-service teachers
2. Librarians
3. Course coordinators

4. Placement tutors

Pre-service Teachers

Interviews with pre-service teachers explored:

- Personal frequency and purpose of library use
- Perceived barriers to effective engagement
- Experiences of orientation or training
- Interpretations of the library's role in professional formation

These interviews allowed elaboration of survey responses and examination of how attitudes were shaped through interaction with institutional structures.

Librarians

Librarian interviews were informed by the contextual checklist in the Questionnaire on Library Orientation and Information Literacy (QLOIL).

They focused on:

- Institutional orientation provision
- Perceived student engagement patterns
- Structural constraints
- Adoption of Information Literacy frameworks

This participant group provided institutional-level insight into policy and practice, contributing to mesosystem and exosystem analysis.

Course Coordinators

Course coordinators were interviewed to explore:

- Curriculum integration of library use
- Expectations regarding independent research
- Alignment between programme learning outcomes and Information Literacy

Their perspectives illuminated whether library engagement was structurally embedded or peripheral within teacher education.

Placement Tutors

Placement tutors provided insight into:

- Expectations regarding resource use in schools
- Transfer of university-based Information Literacy into classroom practice
- Professional modelling of library use in school contexts

Including this group extended ecological analysis into the professional practice environment, strengthening the study's attention to system interconnections. The inclusion of multiple stakeholder groups enhanced triangulation and supported analytic generalisation across institutional layers (Yin, 2018).

Interview Mode: Online Delivery

All interviews were conducted online using secure audio conferencing platforms. This decision was shaped by:

- Geographical distance between institutional cases
- Post-COVID normalisation of online academic interaction
- Logistical feasibility

Online interviewing offers practical advantages, including scheduling flexibility and cost efficiency (Archibald et al., 2019). However, its impact on rapport and data richness must be acknowledged. While video platforms allow visual cues, they may limit subtle non-verbal communication and reduce opportunities for informal pre- and post-interview interaction that can strengthen relational depth. Connectivity variability may also interrupt conversational flow. To mitigate these limitations, certain steps were taken:

- Interviews were scheduled at times convenient to participants.
- A brief rapport-building phase preceded formal questioning.
- Participants were encouraged to elaborate freely beyond structured prompts.
- Follow-up clarification questions were used to deepen responses.

Research suggests that when thoughtfully conducted, online semi-structured interviews can produce data quality comparable to in-person formats (Archibald et al., 2019). Nonetheless, the potential influence of medium on disclosure and interaction is recognised as a methodological consideration.

Data Recording and Management

With informed consent, interviews were audio-recorded and transcribed verbatim. Transcripts were anonymised to protect participant identity. Identifiers such as institutional names and specific role titles were replaced with pseudonyms or general descriptors. Transcripts were stored securely in password-protected digital files in accordance with ethical approval requirements.

Strengths of the Semi-Structured Approach

The semi-structured design provided:

- Conceptual alignment with the ecological framework.
- Structured comparability across institutional cases.
- Flexibility to probe unexpected insights.
- Rich contextual explanation to complement survey findings.

This approach supports interpretive depth while maintaining analytic coherence within a mixed-methods case study design (Creswell & Plano Clark, 2018; Yin, 2018).

Limitations

Several limitations are acknowledged:

- Small participant numbers limit breadth but are consistent with case study logic.
- Online mode may influence relational dynamics.
- Participants may provide socially desirable accounts of institutional practice.

These limitations are mitigated through triangulation across data sources and cautious interpretation.

3.6.4 Document Analysis

Document Analysis Procedure

The document analysis process followed a systematic qualitative approach involving document identification, familiarisation, coding, categorisation, and interpretation. Following Bowen's (2009) approach to qualitative document analysis, documents were treated as meaningful sources of evidence rather than simply supplementary materials. The analysis considered both the

manifest content (explicit statements, terminology, and references) and latent content (underlying assumptions, priorities, and institutional positioning) within the documents.

The first stage involved document familiarisation through repeated reading of the selected institutional texts. During this stage, attention was given to sections relating to programme aims, learning outcomes, assessment expectations, professional development, university–school partnerships, and references to learning resources. Notes were made regarding recurring concepts and areas relevant to the study’s conceptual framework.

The second stage involved systematic coding. A deductive coding framework was developed from the theoretical foundations of the study, particularly ecological systems theory, Information Literacy frameworks, and teacher preparation literature. Initial codes included:

- Information Literacy expectations
- Independent learning and inquiry
- Resource use and access
- Library or learning support provision
- University–school partnership
- Professional competence development

These deductive categories were then refined through inductive analysis, allowing additional patterns emerging from the documents to be identified. This combined deductive–inductive approach reflects qualitative content analysis practices where theoretical sensitivity is balanced with openness to unexpected meanings within the data (Bowen, 2009; Braun & Clarke, 2021).

The third stage involved comparative interpretation across the two institutional cases. Documents were examined for similarities and differences in how teacher preparation, resource use, and professional learning were positioned. Importantly, the analysis did not evaluate the quality of the institutions but explored how institutional texts reflected different educational contexts and priorities.

Document analysis has been used effectively in previous educational research to examine how institutional policies, curriculum documents, and professional standards shape educational practice. For example, studies using documentary analysis in teacher education have demonstrated how official texts can reveal intended curriculum priorities, professional expectations, and tensions between policy discourse and enacted practice (Cohen, Manion, & Morrison, 2018; Merriam & Tisdell, 2016). Similarly, Bowen (2009) argues that documents provide valuable contextual

evidence that can support triangulation when combined with interviews and other qualitative sources.

In this study, document analysis therefore served as a means of examining the relationship between institutional intentions and participants' lived experiences. Documentary evidence was compared with survey patterns and interview narratives to identify convergence, complementarity, or divergence between formal institutional positioning and reported practice.

ECEF Departmental PGDE Brochure and PGCE Course Handbook

Document analysis formed an integral qualitative component of the mixed-methods design, complementing survey and interview data and strengthening triangulation across data sources. In line with the institutional case study framework, documentary materials were treated not as background artefacts but as substantive data reflecting institutional priorities, policy discourses, and pedagogical positioning within each context (Bowen, 2009; Merriam & Tisdell, 2016).

Programme Handbooks and Institutional Texts

Two core documents were purposively selected:

- The Nigerian institution's departmental PGDE brochure
- The English institution's PGCE course handbook

These documents were chosen because they articulate formal programme intentions, expectations of pre-service teachers, professional standards alignment, assessment structures, and references to school-based learning environments. As institutional texts, they represent the officially sanctioned discourse through which each university frames teacher preparation and, by implication, the role of school libraries and learning resources. Document selection followed purposive case logic consistent with institutional case study methodology (Yin, 2018; Thomas, 2021). The focus was not breadth of documentation but depth within bounded institutional contexts. Both documents were publicly available or internally distributed to students during the study period, ensuring temporal alignment with participant experiences.

Analytical Approach

Document analysis was conducted using qualitative content analysis involving systematic reading, coding, categorisation, and interpretation of institutional texts. The process was informed by the ecological framework underpinning the study, enabling examination of how institutional

documents reflected meso-level structures, exosystem influences, and broader professional expectations.

- Explicit references to school libraries, learning resources, or Information Literacy
- Implicit positioning of resource use within curriculum and pedagogy
- Language reflecting expectations of independent inquiry, research-informed practice, or collaborative engagement
- Institutional framing of partnerships between university and schools

Attention was paid to how the mesosystem, that is, university–school relationships, exosystem - institutional structures and policies, and macrosystem - national curriculum and teacher education standards, were discursively represented (Bronfenbrenner & Morris, 2006). Rather than treating documents as neutral descriptions, they were analysed as socially situated texts that construct particular versions of professional practice (Cohen, Manion, & Morrison, 2018). This approach allowed identification of alignment or dissonance between institutional rhetoric and participant accounts derived from surveys and interviews.

Role in Triangulation

Document analysis served three principal triangulatory functions:

- i. Corroboration – Institutional claims about resource provision or pedagogical expectations were compared with student survey responses and interview narratives.
- ii. Contextualisation – Documentary data provided structural context for understanding participants’ reported experiences, particularly where attitudes toward school libraries differed between Nigeria and England.
- iii. Explanation of Variation – Where cross-national differences emerged, documents helped interpret whether these reflected broader institutional or policy-level influences rather than individual perception alone.

This multi-source integration aligns with established mixed-methods and case study principles, which emphasise convergence and complementarity across data types to enhance credibility and analytic depth (Creswell & Plano Clark, 2018; Yin, 2018). By incorporating documentary analysis into the research design, the study strengthened its ecological operationalisation. Institutional texts functioned as artefacts of the exosystem and macrosystem levels, enabling systematic comparison between formal programme structures and lived

participant experience. This approach supported analytical generalisation rather than statistical inference and enhanced the internal coherence of the overall design.

3.7 Data Analysis

The data analysis procedures were designed to ensure methodological coherence with the study's comparative case study design and mixed-methods orientation. In line with established mixed-methods scholarship, integration was planned from the outset rather than treated as a post hoc exercise (Creswell & Plano Clark, 2018; Greene, 2007). The analytic strategy reflects principles of analytic generalisation within case study research rather than statistical generalisation (Yin, 2018; Thomas, 2021).

3.7.1 Quantitative Analysis

➤ Descriptive Statistics Only

Quantitative survey data are analysed using descriptive statistics, including frequency distributions and percentages. The purpose of this analysis is to summarise patterns of attitudes, reported experiences, and self-perceived competencies within each institutional case. Descriptive analysis is appropriate where the aim is pattern identification rather than hypothesis testing or prediction (Creswell & Plano Clark, 2018; Cohen et al., 2018). In case-oriented mixed-methods research, descriptive statistics often function as a mapping tool that informs subsequent qualitative interrogation (Greene, 2007).

Frequencies and Percentages

Frequencies and percentages were calculated for Likert-scale and categorical items to identify:

- Levels of agreement/disagreement
- Reported exposure to school library instruction
- Self-reported Information Literacy confidence
- Perceived institutional support

These descriptive measures provide transparent and interpretable representations of response distributions without implying population-level inference (Cohen et al., 2018).

No Inferential Claims

No inferential statistical procedures, for example, t-tests, regression modelling, ANOVA were conducted. Accordingly, the study makes no claims regarding statistical significance, predictive relationships, or causal inference. This decision aligns with case study logic, which prioritises contextual explanation and analytic generalisation over statistical representativeness (Yin, 2018; Thomas, 2021).

Justification for Not Using Inferential Statistics

The exclusion of inferential statistics was methodologically justified on three grounds:

- i. Sampling Strategy – Participants were drawn purposively from bounded institutional contexts rather than through probability sampling. Assumptions underpinning inferential statistics were therefore not satisfied (Cohen et al., 2018).
- ii. Case Study Orientation – The study seeks theoretical refinement rather than parameter estimation. Inferential claims would have extended beyond the epistemological scope of the design (Yin, 2018).
- iii. Mixed-Methods Alignment – In explanatory mixed-methods case studies, descriptive statistics often serve to scaffold qualitative interpretation rather than operate independently (Creswell & Plano Clark, 2018; Greene, 2007).

Thus, quantitative findings are presented as descriptive tendencies within contextually bounded systems.

3.7.2 Qualitative Analysis

➤ Thematic Analysis

Qualitative data from semi-structured interviews and documentary materials were analysed using reflexive thematic analysis as articulated by Braun and Clarke (2006, 2021). Reflexive thematic analysis was selected for its theoretical flexibility and compatibility with deductive–inductive analytic strategies. The six recursive phases of analysis included:

- i. Data familiarisation
- ii. Systematic coding
- iii. Theme construction

- iv. Theme review
- v. Theme definition and naming
- vi. Analytic narrative production

This approach acknowledges researcher reflexivity as integral to theme development rather than as a procedural threat (Braun & Clarke, 2021).

➤ **Deductive Coding Aligned to Conceptual Frameworks**

Initial coding was deductively informed by the study's theoretical architecture, including:

- The Big6 information problem-solving model (Eisenberg & Berkowitz, 1992)
- The EXIT model of Information Literacy transfer (Wray & Lewis, 1997)
- Metacognitive theory (Flavell (1979); Zimmerman (2002))
- Ecological systems theory (Urie Bronfenbrenner, 1979)

Deductive coding ensured theoretical sensitivity while maintaining analytic transparency (Braun & Clarke, 2021).

➤ **Inductive Refinement**

Following deductive structuring, inductive coding allowed themes to emerge beyond predefined categories. This iterative interplay between theory-driven and data-driven coding aligns with contemporary qualitative analytic practice, which recognises flexibility as a strength rather than a methodological weakness (Braun & Clarke, 2021; Johnny Saldaña, 2021). The result was a layered thematic structure integrating ecological mediation, metacognitive awareness, and institutional dynamics.

Table 3.2 Shift from Deductive Coding to Inductively Generated Codes

Initial Deductive Code (from literature/conceptual framework)	Inductively Generated Code
Access to resources	Uncertainty despite availability
Library orientation	Need for structured induction
Information evaluation	Reliance on first available source
Engagement with library services	Selective or uneven participation
Professional learning through practice	Learning through modelling and observation
Transfer of learning	Context shapes transferability
Institutional support	Fragmented support structures
Confidence in skills	Confidence–competence gap
Curriculum integration	Hidden or implicit curriculum presence
Time constraints	Curriculum pressure limits development

3.7.3 Cross-Case Analysis

➤ Within-Case Analysis First

Each institutional case (Uni A and Uni B) was analysed independently before cross-case comparison. This sequencing follows established comparative case study guidance, which emphasises preservation of contextual integrity prior to synthesis (Yin, 2018; Thomas, 2021).

Within-case analysis involved integrating quantitative patterns and qualitative themes into coherent institutional narratives.

Structured Comparison

Following within-case analysis, structured cross-case comparison was undertaken using analytic matrices. This approach enables systematic identification of convergence, divergence, and contextual variation (Yin, 2018). The comparison focused on institutional mediation of Information Literacy, placement ecology, transfer dynamics, and metacognitive development.

➤ Explanation Rather Than Ranking

The purpose of cross-case comparison was explanatory rather than evaluative. Differences were interpreted as contextually and ecologically mediated rather than as indicators of institutional

superiority. This approach aligns with analytic generalisation, where cases refine theory rather than compete hierarchically (Yin, 2018; Thomas, 2021).

3.7.4 Integration Strategy

➤ Merging Survey and Interview Findings

Integration occurred at the interpretation stage through merging of quantitative and qualitative findings. Mixed-methods integration strategies commonly include merging, connecting, or embedding; this study employed merging for joint interpretation (Creswell & Plano Clark, 2018). Quantitative findings identified structural patterns, while qualitative findings provided explanatory depth.

➤ Joint Interpretation

Joint displays and iterative interpretation were used to examine convergence, complementarity, and divergence between strands. This approach strengthens meta-inferences in mixed-methods research (Greene, 2007; Creswell & Plano Clark, 2018).

➤ Theoretical Triangulation

Beyond methodological triangulation, theoretical triangulation was employed. Findings were interpreted through multiple conceptual lenses Information Literacy theory, transfer theory, metacognition, and ecological systems theory. The use of multiple theoretical frames

3.8 Researcher Positionality

Researcher positionality acknowledges that knowledge production in qualitative and mixed-methods research is not value-neutral but socially situated. Positionality refers to the researcher's social and professional position in relation to the research context, participants, and the knowledge being produced (Holmes, 2020). Contemporary qualitative scholarship recognises that researchers are embedded within the social, cultural, and institutional contexts they study, and that these locations shape research design, data generation, interpretation, and representation (Linda Finlay, 2002; Norman K. Denzin & Yvonna S. Lincoln, 2018). In comparative case study research particularly, reflexive transparency strengthens credibility and interpretive trustworthiness (Robert K. Yin, 2018). This section outlines my professional background as the researcher, cross-context identity, potential power dynamics, and reflexive safeguards employed throughout the study.

Professional Background

This research represents a continuation of my long-standing commitment to contributing meaningfully to the field of education. My academic journey has been rooted entirely within the discipline, having obtained four previous degrees from the Faculty of Education. I began with a Bachelor's degree in Education and French (Combined Honours), where my final-year project examined secondary school students' attitudes towards the learning of French. This early work reflected my interest in understanding learners' experiences and identifying ways to support improved academic engagement and outcomes.

My interest in librarianship can be traced back to my childhood, where I informally assumed the role of a "family librarian," organising and monitoring access to books within the home. This early inclination later developed into a formal academic pursuit, leading to a Master's degree in Library Studies. During this programme, I engaged with key areas such as library science, archival studies, and information management. My dissertation, which explored the use of microcomputers for bibliographic information retrieval at the National Library of Nigeria, introduced me to the evolving role of technology in accessing and managing information. This aligns with broader scholarly recognition of the importance of information systems in enhancing knowledge access and educational practice (Rowley, 2019; Case & Given, 2016). My academic and professional trajectory has been strongly influenced by an enduring belief in the value of library use for educational success. Empirical studies continue to demonstrate a positive relationship between students' engagement with library resources and their academic achievement (Carvalho & Rodrigues, 2020; Merga, 2022). This understanding shaped my subsequent academic decisions and research focus.

Driven by a desire to contribute more directly to teaching and learning, I pursued a further Master's degree in Teacher Education with a specialisation in Early Childhood Education. My interest centred on understanding the information needs of early childhood educators and primary school teachers, particularly how access to relevant information supports effective teaching practice. However, during this period, concerns about declining student performance in public examinations in Nigeria, particularly in the West African Senior School Certificate Examination (WASSCE), which is comparable to the General Certificate of Secondary Education (GCSE) in the United Kingdom, prompted a shift in my research focus. Rather than attributing poor performance solely to secondary school teaching, I considered the foundational role of primary education. Consequently, my research examined *teacher quality and curriculum awareness as determinants of pupils' achievement in English Language*. The findings indicated that these factors

did not have a statistically significant joint effect on pupils' academic outcomes. This result is consistent with earlier studies suggesting that teacher qualifications alone do not necessarily predict student achievement (Maphoso & Mahlo, 2020; Hanushek & Rivkin, 2012). These findings raise important questions about other underlying factors influencing pupil performance, particularly in relation to foundational academic skills.

This line of inquiry led me to undertake a Master of Philosophy (MPhil) in Education, where I investigated the availability, quality, and accessibility of primary school libraries in Nigeria. The findings revealed that while relatively few schools had library facilities, those that existed were generally of good standard and highly utilised by pupils. Importantly, access to these libraries was associated with significant educational benefits, particularly in supporting literacy development and independent learning (Olugboji, 2017; Merga, 2022). Through my professional experience as both a librarian and an educator of pre-service teachers in early childhood and primary education, I observed that student teachers often engaged with academic tasks without sufficient alignment to the informational and developmental needs of the children they were being trained to teach. This observation highlighted a critical gap in Information Literacy, a competence widely recognised as essential for effective teaching, lifelong learning, and professional practice (Julien, Gross, & Latham, 2018; ACRL, 2016). It is within this context that the present study was conceived. The research focuses on assessing the Information Literacy, attitudes, and library use experiences of pre-service teachers, using the library as a central tool for inquiry. To enhance the depth and relevance of the findings, the study adopted a comparative perspective, examining pre-service teachers in both Nigeria and England. This comparative approach provides a broader understanding of how contextual factors shape engagement with library resources and the development of Information Literacy skills. This professional background afforded me familiarity with teacher preparation structures, understanding of curriculum design and pedagogical practice, and insight into institutional cultures within higher education.

Such disciplinary proximity provided what qualitative methodologists describe as insider knowledge, enhancing contextual sensitivity and the ability to interpret domain-specific discourse (Denzin & Lincoln, 2018). However, professional familiarity also carries the risk of taken-for-granted assumptions. Reflexive awareness was therefore maintained to avoid over-identification with participants' perspectives. Furthermore, expertise in Information Literacy and school library discourse shaped the theoretical framing of the study. While this strengthened conceptual coherence, analytic decisions were carefully documented to prevent theoretical imposition on participants' accounts.

Cross-Context Identity

This study involved two institutional cases, referred to as Uni A (Nigeria) and Uni B (England) to preserve institutional anonymity. My cross-context academic identity, as a researcher, situated between these educational systems positioned me neither as a complete insider nor outsider in either setting. Cross-context research requires careful navigation of cultural interpretation, linguistic nuance, and institutional norms (Urie Bronfenbrenner, 1979; Gary Thomas, 2021). My familiarity with both contexts facilitated cross cultural interpretation of institutional practices, sensitivity to policy and structural differences, as well as the recognition of systemic inequalities affecting school libraries. However, occupying a transnational academic space also required vigilance against implicit comparison biases. Each case was analysed initially within its own ecological and policy environment before cross-case synthesis, thereby protecting contextual integrity (Yin, 2018).

Power Dynamics in the Research Process

Attention to power relations is a critical component of rigorous qualitative and mixed-methods research, particularly in studies involving human participants across institutional and national contexts. Power does not operate only through formal roles but is embedded in interactions, identities, and the broader research context. As noted by Norman K. Denzin and Yvonna S. Lincoln, power is fluid and relational, shaping both the production of data and its interpretation. In this study, power dynamics were considered at multiple levels and addressed through deliberate methodological strategies.

➤ Researcher–Participant Hierarchy

The positionality of the researcher as an academic and experienced educator introduced the possibility of a perceived hierarchical relationship, particularly when engaging with pre-service teachers. Participants may have viewed the researcher as an authority figure, which could influence how they framed their responses. For example, students might have been inclined to provide socially desirable answers or to avoid expressing critical views about their institutions. This concern is well documented in qualitative research, where interviewer status can shape participant responses and the overall research interaction (Steinar Kvale & Svend Brinkmann, 2015). Recognising this, the researcher adopted strategies to reduce perceived hierarchy. Interviews were conducted in a conversational and non-judgemental manner, and participants were explicitly reassured that there were no right or wrong answers. This approach aimed to create a more open

and trusting environment, encouraging participants to share their genuine experiences and perspectives.

➤ **Institutional Sensitivity**

Power relations also operated at the institutional level, particularly in interviews with librarians and programme staff. Participants in professional roles may have been cautious when discussing institutional limitations, resource constraints, or challenges within their organisations. This form of self-moderation is common in research involving workplace settings, where participants may feel a sense of responsibility to represent their institution positively (Cohen, Manion, & Morrison, 2018). To address this, the researcher emphasised confidentiality and anonymity throughout the research process. Participants were assured that neither their identities nor their institutions would be identifiable in the reporting of findings. This was intended to reduce concerns about professional risk and to enable more candid reflections on institutional practices and constraints.

➤ **Comparative Framing Risks in Cross-National Research**

The comparative and cross-national nature of the study introduced an additional layer of complexity in relation to power. Comparative research carries the risk of implicitly positioning one context as a benchmark against which another is judged, which can lead to deficit framing (Bray, Adamson, & Mason, 2014). In this study, there was a need to avoid presenting either Nigeria or England as the normative standard.

To mitigate this risk, the analysis was guided by a context-sensitive and non-hierarchical approach. Findings were interpreted within the specific institutional, cultural and policy contexts of each country, rather than through direct evaluative comparison. This aligns with recommendations in comparative education research, which emphasise the importance of understanding educational practices within their own contextual frameworks rather than through universalised assumptions (Thomas, 2022).

➤ **Strategies for Mitigating Power Imbalances**

In line with qualitative research best practice, several strategies were implemented to minimise the impact of power imbalances on the research process:

- Use of semi-structured interviews: The flexible, conversational format allowed participants to guide aspects of the discussion and to express their views in their own terms.
- Neutral and supportive interviewing style: Care was taken to avoid leading questions or evaluative language that might influence responses.
- Reassurance of voluntary participation: Participants were reminded that they could decline to answer any question or withdraw at any stage.
- Anonymity and confidentiality: Institutional and individual identities were protected in all reporting to encourage openness.

These strategies are consistent with ethical and methodological guidance on qualitative interviewing, which emphasises the importance of reducing hierarchical distance and fostering participant agency (Steinar Kvale & Svend Brinkmann, 2015; Cohen et al., 2018).

➤ **Reflexive Considerations**

As the researcher, I remained reflexively aware of how my own background, assumptions and interactions might shape the research process. Reflexivity involves ongoing critical reflection on the researcher's role in knowledge production and is essential for ensuring transparency and credibility (Berger, 2015). In this study, reflexive awareness informed both data collection and analysis, helping to ensure that interpretations were grounded in participants' perspectives rather than imposed by the researcher.

Reflexive Safeguards

Reflexivity was embedded throughout the research process. Reflexive practice involved ongoing critical examination of assumptions, analytic decisions, and interpretive positioning (Finlay, 2002). The following safeguards were implemented:

- Reflexive Memoing: Analytic memos documented evolving interpretations and potential biases during coding.
- Theoretical Transparency: Deductive coding frameworks (Big6, EXIT, metacognition, ecological theory) were explicitly declared to prevent hidden analytic assumptions.
- Iterative Re-reading: Data were revisited after initial coding to ensure themes were grounded in participants' accounts rather than researcher expectation.
- Triangulation: Integration of survey, interview, and documentary data reduced reliance on a single interpretive lens (Denzin & Lincoln, 2018).

Reflexivity in this study was not treated as a procedural add-on, but as an essential part of the research process. It was embedded throughout the study to support credibility, confirmability, and overall analytic rigour. By continuously reflecting on my role, assumptions, and decisions, I was able to remain transparent and ensure that the findings were grounded in the data rather than shaped by personal bias (Finlay, 2021; Lincoln, Lynham, & Guba, 2018).

The researcher's positionality is professionally embedded in teacher education, cross-contextually situated between Nigerian and English educational systems and theoretically informed by ecological and Information Literacy frameworks, shaped both access and interpretation. Rather than attempting neutrality, this study adopted a position of reflexive transparency. By explicitly acknowledging professional background, cultural positioning, and power relations, the research strengthened its interpretive integrity and methodological credibility within contemporary qualitative and mixed-methods paradigms (Creswell & Plano Clark, 2018; Denzin & Lincoln, 2018; Yin, 2018).

3.9 Ethical Considerations

Ethical integrity underpinned all stages of this study, from design through dissemination. Given the cross-national and mixed-methods nature of the research, particular attention was paid to institutional approval processes, informed consent procedures, anonymity protections, data governance, and regulatory compliance. The study was conducted in alignment with the ethical principles articulated by the British Educational Research Association (2018; 2024 update) and relevant data protection legislation, including the General Data Protection Regulation (GDPR).

Institutional Approval

Formal ethical approval was obtained from the relevant university ethics committee prior to data collection. Institutional review ensured that:

- The research design met standards of proportionality and risk assessment
- Participant recruitment procedures were ethically appropriate
- Data management plans complied with regulatory requirements
- Cross-national data handling arrangements were documented

Ethical review procedures align with established governance frameworks in educational research (Martyn Hammersley & Paul Atkinson, 2019). Institutional approval also ensured that local regulatory requirements were respected in both national contexts.

Informed Consent

Participation was voluntary and based on informed consent. Participants received an information sheet outlining:

- The purpose of the study
- The nature of participation (survey and/or interview)
- The voluntary nature of involvement
- The right to withdraw without penalty
- Data storage and anonymisation procedures

Consent was obtained prior to participation, and for interviews, consent included agreement to audio recording. The consent process adhered to principles of transparency, autonomy, and ongoing consent as recommended in qualitative research ethics (Steinar Kvale & Svend Brinkmann, 2015). Participants were informed that withdrawal would be possible up to a specified stage of data consolidation, after which anonymised data could no longer be individually extracted.

Anonymity and Confidentiality

Anonymity was preserved through:

- Removal of identifying details
- Use of pseudonyms
- Omission of specific institutional identifiers in analytic reporting
- Aggregation of survey findings

Given the relatively bounded nature of programme cohorts, particular care was taken to avoid indirect identification through role descriptions or contextual clues. Confidentiality was maintained by restricting access to raw data to the researcher only. Transcripts were anonymised during transcription, and identifying information was removed prior to analysis. Ethical reporting decisions followed guidance from the British Educational Research Association (2018; 2024), which emphasises the researcher's responsibility to balance transparency with participant protection.

GDPR Compliance

Data management complied with the General Data Protection Regulation (GDPR) and associated UK data protection legislation. Compliance measures included:

- Lawful basis for processing (research purposes in the public interest)
- Data minimisation (collection limited to necessary information)
- Secure digital storage using password-protected, encrypted systems
- Separation of consent forms from research data
- Defined data retention schedule

Participants were informed of their rights under GDPR, including the right to access, rectify, or request erasure of their data within the constraints of anonymised research datasets.

BERA 2018 and 2024 Ethical Guidance

The study adhered to the ethical principles outlined in the Ethical Guidelines for Educational Research (2018; updated 2024) by the British Educational Research Association. These guidelines emphasise:

- Respect for persons
- Democratic values
- Integrity in research conduct
- Social responsibility
- Avoidance of harm

The 2024 update's emphasis on digital research ethics, data security, and cross-border data governance was particularly relevant to this study's online data collection and international dimension.

Cross-National Data Storage and Transfer

Since the study involved participants from two institutional contexts, cross-national data governance considerations were explicitly addressed. Data were stored on secure institutional servers compliant with UK data protection regulations. No identifiable data were transferred via unsecured platforms. Where data crossed national boundaries digitally, safeguards ensured compliance with GDPR adequacy requirements. Anonymised datasets were used for comparative analysis to reduce risk associated with cross-border transfer. Cross-national research requires sensitivity not only to cultural differences but also to regulatory variation (Hammersley &

Atkinson, 2019). The study therefore adopted the more stringent applicable regulatory standard in cases of overlap.

Concluding Ethical Position

Ethical considerations in this study were not confined to procedural compliance but embedded within a broader commitment to participant dignity, contextual sensitivity, and responsible knowledge production. Institutional approval, informed consent, anonymisation, GDPR compliance, adherence to BERA guidance, and secure cross-national data management collectively ensured that the research met contemporary standards of ethical rigour in educational research.

3.10 Methodological Limitations

All empirical research is bounded by design decisions, contextual constraints, and epistemological positioning. In case study and mixed-methods inquiry, limitations do not invalidate findings but clarify the scope of interpretation and the boundaries of analytic generalisation (Robert K. Yin, 2018; Gary Thomas, 2021). This section outlines key methodological limitations relating to sample size, self-report data, institutional boundedness, limits to generalisation, and the absence of formal library usage statistics.

Small Sample Sizes

The study employed purposive sampling within two bounded institutional contexts. While appropriate for in-depth case analysis, the sample sizes were not designed to support statistical inference or population-level claims. Small samples are common in qualitative and comparative case study research, where depth of understanding is prioritised over breadth (Sharan B. Merriam & Elizabeth J. Tisdell, 2016). However, limited sample size constrains:

- Statistical representativeness
- Detection of subtle subgroup variation
- Confidence in quantitative distribution stability

The descriptive quantitative component therefore functions as contextual pattern mapping rather than inferential evidence.

Self-Report Bias

Both survey and interview data relied on participant self-report. Self-reported measures are subject to several recognised biases, including:

- Social desirability bias
- Recall bias
- Perception–behaviour discrepancy
- Overestimation of competence

Research in metacognition and self-regulated learning indicates that individuals may inaccurately assess their own skills or strategies (Barry J. Zimmerman, 2000). Similarly, self-reported Information Literacy confidence may not directly correspond to demonstrated competence. Although triangulation with documentary analysis strengthened interpretive credibility, the absence of direct performance-based assessment limits claims about actual Information Literacy proficiency.

Institutional Boundedness

The study was institutionally bounded to two specific Initial Teacher Education programmes. Case study methodology intentionally focuses on contextualised systems, however, institutional specificity means findings are shaped by:

- Local curriculum design
- Programme culture
- National policy environment
- Resource availability

As emphasised by Yin (2018), case study findings are analytically transferable to theory rather than statistically generalisable to populations. The institutional ecology of each case is integral to interpretation and may not replicate elsewhere.

Non-Generalisation

The study does not claim statistical generalisation. Its purpose is analytic generalisation, refinement and extension of conceptual frameworks such as ecological mediation, metacognition, Information Literacy transfer, through empirical comparison (Yin, 2018; Thomas, 2021). Accordingly, findings should neither be interpreted as representative of all Nigerian or English Initial Teacher Education programmes, nor as observed differences between cases, read as

national-level comparisons. The contribution lies in theoretical elaboration rather than broad empirical generalisation, consistent with qualitative and mixed-methods case research traditions (John W. Creswell & Vicki L. Plano Clark, 2018).

Absence of Formal Library Usage Statistics

The study relied primarily on participant-reported frequency of library use rather than institutional circulation data, digital access logs, or formal usage analytics. The absence of objective usage statistics limits verification of reported usage patterns, longitudinal trend analysis, and quantitative triangulation of behavioural data. Institutional access to such records was either restricted or not systematically available across both contexts, preventing standardised comparison. While interview narratives provided contextual insight into patterns of engagement, future research incorporating formal usage metrics would enable stronger behavioural validation and potentially richer ecological mapping.

Concluding Statement on Limitations

These methodological limitations are consistent with the study's design as a comparative, mixed-methods institutional case study. Small samples, reliance on self-report, contextual boundedness, non-generalisation, and absence of behavioural analytics delimit the scope of inference but do not undermine the study's explanatory purpose. By explicitly acknowledging these constraints, the research maintains methodological transparency and strengthens interpretive credibility within contemporary case study and mixed-methods paradigms (Yin, 2018; Creswell & Plano Clark, 2018; Merriam & Tisdell, 2016).

Researcher Interpretive Influence

As with interpretive qualitative research, the researcher's disciplinary background and theoretical orientation may influence the identification and interpretation of themes. Although reflexive memoing, triangulation, and transparent analytic procedures were employed, interpretation remains an active process shaped by researcher judgement. This limitation is acknowledged as inherent within qualitative knowledge production rather than treated as something that can be completely eliminated (Finlay, 2021).

CHAPTER FOUR

4.0 CASE STUDY ONE – UNI A - NIGERIA

4.1 Introduction

This chapter presents the findings from Case Study One, focusing on pre-service teachers' attitudes, experiences, and engagement with library resources and Information Literacy within the selected institution in Nigeria. The purpose of this chapter is to provide a detailed and structured analysis of the data collected from the Nigerian context, and to identify key patterns emerging from the study. The chapter draws on multiple sources of data in line with the mixed-methods design adopted for this research. These include quantitative data obtained from student questionnaires, namely the Attitude Questionnaire (AQ), Questionnaire on Library Use Experience (QLUE), and Questionnaire on Library Orientation and Information Literacy (QLOIL). In addition, qualitative data were collected through semi-structured interviews with pre-service teachers, librarians, course leaders, and school-based mentors. Further insights are drawn from curriculum documents and relevant institutional and policy materials. The use of these diverse data sources allows for a more comprehensive understanding of the research problem through triangulation (Creswell & Plano Clark, 2018; Fetters, Curry, & Creswell, 2013).

This chapter is guided by the research questions outlined in chapter one, particularly those relating to pre-service teachers' attitudes towards library use, their experiences of accessing and using library resources, and their development of Information Literacy skills. The analysis also considers how institutional practices and contextual factors within Nigeria shape these experiences. The chapter is organised to move from contextual and demographic information to detailed analysis of quantitative and qualitative findings, followed by an integration of results. This structure allows for a clear presentation of evidence and supports a deeper understanding of the Nigerian case before the comparative analysis presented in subsequent chapters.

4.2 Institutional and Contextual Background – University A (Nigeria)

This section provides an overview of the institutional and national context within which this study was conducted. Understanding this context is important for interpreting the findings, as pre-service teachers' experiences of library use and Information Literacy are shaped by institutional structures, available resources, and broader educational policies.

The participants in this study were mainly from University A, one of the oldest and most established universities in Nigeria. The university has a long-standing reputation for academic excellence and plays a significant role in teacher education in the country. The Faculty of Education offers various programmes aimed at preparing pre-service teachers for professional practice at different levels of the education system. The teacher education programme in this context includes the Postgraduate Diploma in Education (PGDE), which is designed for graduates who wish to pursue a teaching career. The programme combines theoretical coursework with practical teaching experience, including school placements. While the curriculum covers core areas such as pedagogy, curriculum studies, and subject methods, the extent to which Information Literacy and library use are formally integrated into the programme varies. This has implications for how pre-service teachers develop the skills needed to locate, evaluate, and use information effectively. The university library system serves as the main academic resource centre for students. It provides access to a range of print and electronic materials, including books, journals, and digital databases. In principle, these resources are intended to support teaching, learning, and research activities. However, access to and effective use of these resources may depend on factors such as students' awareness, orientation, and level of Information Literacy. Previous studies have highlighted that the availability of library resources does not automatically translate into effective utilisation, particularly where users lack the necessary skills or guidance (Aina, 2014; Issa, Amusan, & Daura, 2009).

At the national level, Teacher Education in Nigeria is guided by policies such as those developed by the National Universities Commission and the Teachers Registration Council of Nigeria. These bodies set standards for programme content, teacher preparation, and professional practice. In addition, broader educational concerns such as student performance in national examinations for example, the West African Senior School Certificate Examination, continue to shape discussions around the quality of teacher education and the need for improved teaching and learning resources. Within this context, school libraries and Information Literacy are increasingly recognised as important for supporting literacy development and academic achievement. However, there remain challenges related to resource provision, access, and effective integration of library services into teaching and learning (Ogunniyi, 2015; Salaam & Oketunji, 2020). These contextual factors provide an important backdrop for understanding the experiences of pre-service teachers in this study. Overall, the institutional and policy context in Nigeria highlights both the availability of educational structures and the challenges associated with effective resource utilisation. This context is essential for interpreting the findings presented in this chapter, particularly in relation to how pre-service teachers engage with library services and develop Information Literacy skills.

4.3 Demographic Profile of Participants

This section presents the demographic characteristics of the pre-service teachers who participated in the study in Nigeria. These characteristics provide an important background for understanding the patterns observed in relation to attitudes, library use, and Information Literacy. Variables considered include gender, age, and educational qualifications.

4.3.1 Gender Distribution

The majority of respondents were female (72.0%), while males accounted for 28.0% of the sample. This indicates that female pre-service teachers were more strongly represented in the study cohort. This pattern reflects wider trends in teacher education, particularly in early childhood and primary education, where female participation tends to be higher (OECD, 2023). This distribution is important when interpreting the findings, as gender may influence engagement with academic activities, including library use and information-seeking behaviour. However, the imbalance also suggests that the results may more strongly reflect the experiences and perspectives of female participants within this context.

4.3.2 Age Distribution

In terms of age, the respondents were largely mature students. The largest proportion of 44.0% fell within the 31–35 years age group, followed by 28.0% aged 26–30 years. A smaller proportion of 20.0% were aged 36 years and above, while only 8.0% were between 21–25 years. This pattern suggests that the pre-service teachers have had prior educational or professional experience before enrolling in the programme. Such maturity may influence their approach to learning, including their ability to engage with academic resources and develop Information Literacy skills. It may also shape their attitudes towards the use of libraries as tools for both academic work and professional development.

4.3.3 Educational Qualifications

The findings further show that the participants had varied educational backgrounds. A majority of 44.0% held a PGD/PGDE, while 32.0% had a first degree, B. Sc/B. A/B. (Ed), and 24.0% possessed postgraduate qualifications, M. Sc/M. A/M. (Ed). This indicates that the cohort is academically diverse, with a substantial proportion already having advanced qualifications. This diversity is likely to influence participants' familiarity with research processes, academic writing, and information retrieval. Those with higher qualifications may be expected to demonstrate

stronger Information Literacy skills, although this does not necessarily guarantee effective use of library resources in practice.

4.3.4 Summary of Demographic Implications

Overall, the demographic profile is one of a predominantly female, mature, and academically experienced group of pre-service teachers. These characteristics are important for interpreting subsequent findings in this study. For example, prior academic experience and age may support greater awareness of information resources, while gender distribution may shape patterns of engagement. At the same time, these factors do not automatically translate into effective library use or strong Information Literacy. As such, the findings in later sections will be examined to determine whether these demographic characteristics are reflected in actual practices and experiences. This provides a useful foundation for understanding the relationship between participant characteristics and their engagement with library services within the Nigerian context.

4.4 Quantitative Findings: Survey Data

This section presents an analysis of the quantitative data relating to pre-service teachers' use of, and attitudes towards, the academic library in the Nigeria case study. In trying to have an analytical depth, the findings are interpreted beyond simple description, with attention given to patterns, interpretations, and alignment with Information Literacy constructs within the study's conceptual framework.

4.4.1 Library Use Learning Experiences of Pre-Service Teachers in Uni A, Nigeria (QLUE)

This section presents the findings on pre-service teachers' perceptions and experiences of library use, including their views on its importance, exposure to orientation, awareness of Information Literacy models, and patterns of usage.

➤ Perception of the Use and Importance of the Library

The majority of the Uni A students (92.0%) indicated that they use the library, while only a small proportion (8.0%) reported that they do not. Similarly, 92.0% agreed that it is necessary to visit the library, whether physically or virtually. This suggests a generally positive attitude towards the relevance of the library among pre-service teachers. However, when asked about the frequency of visits, responses varied. Only 36.0% indicated that the library should be visited daily, while others reported less frequent engagement, such as once or twice a week (20.0% each).

This variation suggests that although the importance of the library is widely recognised, this does not consistently translate into regular use. Notably, all respondents (100.0%) agreed that students should receive orientation or training on how to use the library. Despite this strong consensus, only 76.0% reported that they had actually received such information at the beginning of their course, leaving a notable gap (24.0%) without formal guidance. This indicates a disconnect between perceived need and institutional provision.

➤ **Type of Library Orientation Received**

The majority (76.0%) reported participating in general library orientation, while smaller proportions experienced library tours (24.0%) and induction sessions (16.0%). A small number (12.0%) were unsure whether they had received any orientation.

The findings suggest that while orientation is provided, it may be limited in scope or not sufficiently structured to ensure clarity and impact. The presence of respondents who were unsure further indicates that orientation may not be consistently delivered or clearly communicated.

➤ **Awareness of Information Literacy Models**

The survey revealed very low levels of awareness of established Information Literacy models. A large majority of respondents were not aware of key frameworks such as the Big6 Skills (76.0%), the EXIT Model (80.0%), and both the SCONUL and CILIP models (92.0% each).

Only a very small proportion reported even limited awareness, and virtually none indicated full awareness or strong familiarity. This suggests that pre-service teachers are largely unfamiliar with formal Information Literacy frameworks that are widely recognised in academic and professional contexts. This lack of awareness has important implications, as such models provide structured approaches to information seeking, evaluation, and use. Their absence in students' learning experiences may limit the development and transfer of effective Information Literacy skills.

➤ **Library Usage Habits**

The survey also provides further insight into how pre-service teachers use the library. The findings show that library use is selective and task-oriented rather than broad and exploratory. Activities such as meeting friends (76.0% never) and reading newspapers (64.0% never) were rarely reported, indicating that the library is not widely used for social or general reading purposes.

Similarly, the use of printing and photocopying services was relatively low. In contrast, academic-related activities were more prominent. A majority of respondents reported frequent use of the library for reading personal study notes (76.0% very often) and for using materials within the library building (60.0% often/very often combined). Borrowing books and using the internet were reported at moderate levels, suggesting some engagement with available resources. Overall, the pattern indicates that while students do use the library, their engagement is largely limited to immediate academic needs rather than broader information exploration or resource utilisation.

➤ **Summary of Key Patterns**

In all, the findings suggest a complex picture of library use among pre-service teachers in this context. On the one hand, there is strong recognition of the importance of the library and a clear demand for orientation and support. On the other hand, actual usage patterns are moderate and focused mainly on basic academic tasks. The limited awareness of Information Literacy models and the gaps in orientation provision point to a weakness in the development of structured Information Literacy skills. This may help to explain why positive attitudes towards the library do not fully translate into effective or consistent use. These findings highlight the need for more structured and sustained integration of library orientation and Information Literacy training within Initial Teacher Education programmes. They also provide an important foundation for understanding how pre-service teachers engage with library resources in this context, which will be further explored through qualitative findings and compared with the England case in subsequent chapters.

4.4.2 Attitudes of Pre-Service Teachers towards the Use of Libraries in Nigeria (AQ)

This section presents pre-service teachers' perceptions of the roles of the library, the adequacy of its facilities, and the quality of its resources and services. These dimensions provide deeper insight into how students understand and experience the library beyond mere usage.

➤ **Perception of Library Roles**

Findings indicate that pre-service teachers generally hold positive perceptions of the role of the library in their academic work. A large majority agreed that the library provides a conducive study environment (72.0% agree/strongly agree combined) and supports self-study (88.0%). Similarly, most Uni A students recognised the library as a place to verify information taught in class (72.0%) and to widen their knowledge (88.0%). Notably, all respondents (100.0%) strongly agreed that the library is an important facility in any academic institution, indicating a unanimous

recognition of its value. In addition, a high proportion viewed the library as a place primarily for study rather than social interaction, with 72.0% disagreeing that it is a place for socialisation. This suggests that students perceive the library mainly as an academic space rather than a social one.

However, while perceptions are largely positive, there are some areas of moderate uncertainty. For example, responses to the library as a place to spend quiet time were more varied, indicating that students' experiences of the library environment may differ. Overall, the findings suggest that pre-service teachers have a strong conceptual understanding of the academic role of the library, particularly in supporting independent learning and academic development.

➤ **Perception of Library Facilities and Conditions**

The survey results present respondents' perceptions of the physical conditions and facilities of the library. The findings show that most aspects of the library environment were rated as adequate. Accessibility to the library location (80.0% adequate/highly adequate) and operating hours (80.0%) were viewed positively, suggesting that the library is reasonably accessible to students. Similarly, key environmental factors such as ventilation, lighting, and study space were generally rated as adequate, indicating that the library provides a reasonably supportive physical environment for learning. These factors are important, as a conducive environment can enhance students' willingness to use the library for academic purposes.

However, some critical weaknesses were identified. The quality of computer gadgets (56.0% inadequate/highly inadequate) and internet access (68.0% inadequate/highly inadequate) were rated poorly. In addition, toilet facilities were also perceived as inadequate by a significant proportion of respondents. These findings suggest that while the physical structure of the library is generally acceptable, technological infrastructure remains a major limitation. This is particularly important in the context of modern academic work, where access to digital resources and online information is essential.

➤ **Perception of Library Resources and Services**

The results provide further insight into students' perceptions of the quality and availability of library resources and services. The findings reveal a mixed picture, with some strengths but several notable limitations. On the positive side, respondents rated the condition of books and the availability of relevant information to their area of study as generally adequate. In addition, library staff were perceived as friendly and helpful (68.0%), which is an important factor in encouraging

library use, whereas several key areas were rated as inadequate. These include the age of books, availability of up-to-date textbooks, and access to electronic resources.

A particularly concerning finding is the limited availability of electronic textbooks and the inadequate number of computers available for student use. Similarly, access to journals and materials from other libraries was perceived as insufficient. Internet-related services also emerged as a major weakness, with a large proportion of respondents indicating that internet access was neither fast nor reliable. Photocopying and printing services were also rated as inadequate, further limiting students' ability to effectively use library resources. Overall, the low ratings for this section indicates that library resources and services are largely perceived as inadequate. This suggests that although students recognise the importance of the library, their ability to fully utilise it is constrained by limitations in both physical and digital resources.

➤ **Summary of Key Patterns**

The findings reveal a clear contrast between positive perceptions of the role of the library and limitations in its facilities and resources. Pre-service teachers strongly value the library as a space for study and academic development. However, their experiences are shaped by infrastructural and resource constraints. In particular, the inadequacy of digital resources, internet access, and up-to-date materials highlights a significant gap between expectations and reality. This may help to explain earlier findings where positive attitudes towards library use do not always translate into frequent or effective engagement. These results suggest that improving technological infrastructure and updating library resources are critical for enhancing the role of the library in supporting Information Literacy and academic success. The findings also provide an important basis for comparison with the England case, particularly in relation to resource availability and institutional support.

4.4.3 Perspectives of University Librarians on Library Orientation and Information Literacy for Pre-Service Teachers in Uni A - Nigeria (QLOIL)

This section presents the perspectives of the university librarian regarding library orientation and Information Literacy provision for pre-service teachers. Although the data are drawn from a single respondent, they provided useful institutional insight that complemented the data collected from the pre-service teachers. The librarian's data contributed to the qualitative analysis of the findings of this study.

➤ **Brief Presentation of the Librarian**

The librarian was male and held a Postgraduate Diploma in Library Studies (PGDLS). While the demographic information is limited, it is important to note that the findings reflect the perspective of a single institutional representative. As such, the results is interpreted with caution and considered as indicative rather than generalisable.

➤ **Perception of the Importance of Library Orientation**

The result aligns closely with the views expressed by pre-service teachers, all of whom also agreed on the importance of library orientation. This convergence suggests a shared understanding between students and institutional staff regarding the importance of equipping students with the skills needed to effectively use library resources. It reinforces the idea that orientation is a critical component of academic support within the institution.

➤ **Extent of Library Orientation Provision**

Findings indicate that key aspects of library orientation such as introduction to library resources, databases, and search tools are provided to students primarily at the point of entry or on resumption. However, basic search strategies were reported as not being offered at all. This suggests that while initial orientation is available, it may be limited in depth and continuity. The absence of ongoing or repeated training, for example, every semester or session, indicates that orientation may not be sufficiently sustained to support the progressive development of students' Information Literacy skills.

➤ **Perceived Effectiveness of Library Orientation**

Despite the limited scope of provision, the librarian rated all aspects of library orientation as “very helpful” (100.0%). This suggests a strong institutional belief in the effectiveness of the orientation programmes currently offered. However, this perception contrasts with earlier findings of the pre-service teachers, where a proportion of respondents reported not receiving orientation or expressed limited awareness of Information Literacy concepts. This discrepancy highlights a potential gap between institutional provision and student experience, suggesting that orientation may not be reaching all students effectively or may not be sufficiently impactful.

➤ **Adoption of Information Literacy Models**

The survey result indicates that the institution has adopted Information Literacy models, with the librarian reporting that frameworks such as the Big6 Skills, EXIT Model, SCONUL, and CILIP are adopted “to a little extent” (100.0%). While this suggests some level of institutional engagement with recognised Information Literacy frameworks, the extent of adoption appears limited. This finding is particularly significant when considered alongside the pre-service teachers’ data, which showed very low awareness of these models. The combination of limited adoption and low student awareness suggests that Information Literacy frameworks may not be fully embedded within teaching, learning, or library practices. As a result, students may not be benefiting from structured approaches to developing Information Literacy skills.

➤ **Summary of Key Patterns**

Overall, the librarian’s responses present a picture of recognition without full implementation. There is clear agreement on the importance of library orientation and Information Literacy, and some level of provision is in place. However, the findings point to several limitations:

- Orientation is largely one-off rather than continuous
- Key skills, such as search strategies, are not fully covered
- Information Literacy models are only minimally adopted
- There is a disconnect between institutional perception and student experience

These patterns help to explain earlier findings, particularly the low levels of awareness of Information Literacy models and the moderate use of library resources among pre-service teachers. Importantly, this section highlights that while institutional intentions are positive, there is a need for more structured, sustained, and integrated approaches to library orientation and Information Literacy development. These insights will be further explored in the discussion chapter, particularly in comparison with the England case.

4.5. Qualitative Findings: Interview Data

This section presents the qualitative findings from semi-structured interviews conducted with key participants in the Uni A case. In line with the mixed-methods design, these interviews provide deeper insight into the patterns identified in the survey data, allowing for a more nuanced understanding of pre-service teachers’ engagement with library resources and Information Literacy. The analysis adopts a thematic approach, which involves identifying,

analysing, and interpreting patterns of meaning across the data (Braun & Clarke, 2006; Nowell et al., 2017). Themes were generated inductively from the data while also being informed by the study's conceptual framework, particularly Information Literacy, metacognitive development, and the transfer of learning across contexts. The findings are presented by the participant groups - pre-service teachers, librarian, course coordinator, and placement tutor. Each subsection concludes with a synthesis of key themes, highlighting the most salient analytical insights.

➤ **Derivation of Thematic Themes for Each Cohort**

The thematic themes presented for each cohort were developed through a systematic process of qualitative thematic analysis. The purpose of this process was to move beyond individual responses and identify recurring patterns of meaning across participants within each group. Separate but comparable analyses were undertaken for each cohort - pre-service teachers, librarians, course coordinators, and placement tutors - so that the distinctive perspectives of each participant group could be understood before being brought together in the wider cross-case analysis. The analysis began with repeated reading of all interview transcripts to achieve familiarity with the data. At this stage, attention was given not only to what participants said directly, but also to the concerns, assumptions, and experiences reflected in their accounts. Initial notes were made in the margins to capture early impressions and potentially significant issues.

The second stage involved open coding. Segments of text that appeared meaningful or relevant to the research questions were assigned descriptive codes. These codes remained close to participants' language wherever possible. For example, statements relating to "lack of time," "library closes early," and "busy lecture schedule" were coded around issues of access and time constraints. Comments such as "quiet place to study," "research space," and "good environment" were coded under learning environment or academic space. In the third stage, related codes were compared and grouped into broader categories. This involved looking for connections between codes and identifying where several responses reflected the same underlying issue. For instance, codes relating to opening hours, distance, and off-campus living were clustered under barriers to access, while codes relating to journals, textbooks, databases, and updated materials were grouped under resources and provision. From these categories, higher-order themes were generated. Themes were designed to capture patterned meanings across the data rather than isolated comments. Examples of final themes included - Perceived Value of the Library, Barriers to Engagement, Orientation and Skills Development, Resource Adequacy, Institutional Support, and Transfer to Professional Practice. Themes were then reviewed against the original transcripts to

ensure that they accurately represented participants' accounts and that sufficient evidence existed across responses.

Although each cohort produced some unique themes linked to their roles, a common analytical framework was maintained across groups to enable comparison. For example, students often emphasised lived experience and access, librarians focused more on provision and systems, course coordinators highlighted curriculum intentions, and placement tutors drew attention to classroom application and school realities. This layered approach strengthened the analysis by showing where perspectives converged, diverged, or complemented one another. The final stage involved naming and defining each theme clearly, then organising them in relation to the study's conceptual framework and research questions. In this way, the themes were not arbitrarily chosen but emerged through a rigorous interpretive process grounded in participant data and aligned with the aims of the study (Braun & Clarke, 2006, 2021).

4.5.1 Thematic Analysis of Interviews with Pre-Service Teachers (Uni A - Nigeria)

This section presents a thematic analysis of the interviews conducted with two pre-service teachers in Nigeria (PST1 and PST2). The analysis identifies eight key patterns in their experiences of library use, access to resources, and Information Literacy, while also highlighting areas of convergence and divergence.

Theme 1: Divergent Patterns of Library Engagement

A clear contrast emerges between the two participants in terms of frequency and purpose of library use.

- PST1 reported low usage, largely substituting the library with internet resources.
- PST2, in contrast, reported high usage, valuing the library as a quiet and structured learning environment.

This divergence illustrates that library engagement is not uniform but shaped by individual preferences, perceived usefulness, and study habits.

Interpretation:

This supports the argument that access alone does not guarantee use. Instead, engagement is mediated by students' learning orientations and perceptions of value, consistent with research on student information behaviour (Head et al., 2020).

Theme 2: Dominance of Digital Information Practices

Both participants acknowledged the central role of the internet in their academic work.

- PST1 relied heavily on online sources, stating a preference for convenience and immediacy.
- PST2, although a frequent library user, still recognised the broader reliance on digital resources among peers.

Interpretation:

This reflects a shift towards digital-first information practices, where the library is no longer the primary entry point for information. Within the conceptual framework, this suggests a transformation in information access pathways, with implications for how Information Literacy is developed and applied.

Theme 3: Structural and Contextual Barriers to Library Use

Both participants identified similar barriers, despite differences in usage levels:

- Restricted opening hours, particularly after lectures
- Time constraints, due to academic schedules
- Limited access for off-campus students
- Perceived inadequacy or outdated resources

PST2 additionally highlighted insufficient copies of key materials, while PST1 expressed uncertainty about whether relevant materials would be available.

Interpretation:

These findings indicate that institutional and infrastructural limitations significantly shape pre-service teachers' engagement with library services. The consistency of these barriers across participants strengthens their analytical significance.

Theme 4: Absence of Formal Library Orientation

A striking and consistent finding is the lack of structured library orientation:

- Both PST1 and PST2 reported no formal or assessed orientation
- Exposure to library use was limited to informal advice from programme coordinators

Interpretation:

This suggests that pre-service teachers are expected to develop library skills independently, without systematic guidance. This aligns with concerns in the literature that Information Literacy is often implicitly assumed rather than explicitly taught (Bill Johnston & Webber, 2017).

Theme 5: Lack of Awareness of Information Literacy Frameworks

Both participants reported no awareness of any Information Literacy model - Big6 Skills, EXIT Model, SCONUL or CILIP.

Interpretation:

This indicates a significant gap between institutional provision, as reported by the librarian, and the pre-service teachers' experience. Within the conceptual framework, this reflects a disconnect between:

- Intended curriculum or support structures
- Actual learning outcomes

It further suggests that Information Literacy is not being communicated or operationalised in ways that are meaningful to pre-service teachers (Bruce, 2008).

Theme 6: Positive Attitudes Towards Library Orientation

Despite the absence of formal training, both participants strongly supported the idea of library orientation at programme entry. PST1 emphasised awareness of available resources, while PST2 highlighted the potential for maximising academic benefits and support.

Interpretation:

This reflects a recognised need for structured support, suggesting that pre-service teachers are receptive to interventions that could enhance their information practices.

Theme 7: Perceived Value of the Library as a Learning Space

PST2, in particular, emphasised the library as a conducive environment for concentration and academic work, contrasting it with other study spaces.

Even PST1, despite low usage, did not dismiss the value of the library entirely but rather questioned its practical accessibility and relevance.

Interpretation:

This indicates that the symbolic and functional value of the library remains intact, even where actual usage is limited. This aligns with contemporary views of libraries as both physical and cognitive learning environments (Graham Walton & Matthews, 2013).

Theme 8: Student-Driven Recommendations for Improvement

Both participants proposed practical strategies to improve library use:

- Extended opening hours, including evening access
- Regular updating of resources
- Improved access to both physical and digital materials

PST2 also raised a critical point about information quality, noting that not all online information is reliable.

Interpretation:

These recommendations demonstrate emerging critical awareness, particularly regarding information evaluation as an essential component of Information Literacy.

4.5.2 Thematic Analysis of Interview with Librarian (Nigeria)

The interview with the librarian was analysed thematically, resulting in six interrelated themes that illuminate institutional perspectives on library provision, Information Literacy, and student engagement. Each theme is derived from the interview data of the librarian in a step-by-step process explained in 4.5.

Theme 1: The Library as a Central Academic and Knowledge Hub

The librarian strongly positioned the library as a foundational academic structure within the university, describing it as a “*repository of information*” essential for teaching and learning. This reflects a traditional yet still relevant conceptualisation of the academic library as a core knowledge infrastructure supporting scholarship.

The emphasis on providing “*conducive reading environments*” and “*useful research materials*” highlights the library’s dual role as both a physical and intellectual learning space. This aligns with contemporary understandings of libraries as hybrid environments that support independent learning and knowledge construction.

Interpretation:

This theme suggests that, at an institutional level, the library is perceived as pedagogically significant. However, this strong institutional belief contrasts with some student experiences of limited engagement, indicating a possible gap between provision and utilisation.

Theme 2: Institutional Commitment to Resource Provision and Academic Support

The librarian highlighted ongoing institutional efforts to provide relevant and up-to-date materials, including collaboration with academic staff to ensure alignment with course needs. The inclusion of theses and dissertations as reference materials further reflects an attempt to create a comprehensive academic resource base.

Interpretation:

This indicates a structured approach to resource development and a recognition of the importance of aligning library collections with curriculum demands. However, when considered alongside pre-service teachers’ data, which points to concerns about outdated materials, this theme reveals a perception gap between institutional intent and user experience, which is analytically significant.

Theme 3: Promotion of Independent Learning and Research Culture

A recurring idea in the interview is the role of the library in fostering *self-research* and independent learning. The librarian emphasised that students are encouraged to use the library and that different study environments are intentionally designed to support varied learning preferences.

Interpretation:

This reflects key principles of Information Literacy, particularly the development of autonomous learners. The library is therefore positioned not just as a support service, but as an active agent in cultivating scholarly habits. However, the effectiveness of this role appears uneven when compared with pre-service teachers who rely heavily on internet sources.

Theme 4: Barriers to Effective Library Use in the Digital Age

The librarian acknowledged several barriers affecting students' use of the library. These include:

- Preference for internet-based information
- Perceived inadequacy or outdated nature of some resources
- The growing dominance of electronic resources over physical collections

The comment that “*electronic resources have almost taken over from the physical library*” reflects a significant shift in information practices.

Interpretation:

This theme highlights the impact of digital transformation on traditional library use. It also reinforces findings from pre-service teachers' interviews, where reliance on the internet emerged as a major factor limiting physical library engagement. This convergence strengthens the credibility of the findings and points to a broader structural transition in information behaviour.

Theme 5: Information Literacy Provision through Structured but Non-Assessed Orientation

The librarian reported that library orientation is based on the Big6 Skills model, suggesting the presence of a structured framework for developing pre-service teachers' Information Literacy skills. However, the orientation is described as *formal but ungraded*.

Interpretation:

While the use of an established model indicates a theoretically grounded approach, the absence of

assessment may limit student engagement and accountability. This helps explain why pre-service teachers reported low awareness of Information Literacy models in the quantitative findings. This theme is particularly important as it demonstrates a disconnect between institutional provision, that is, what is offered, and pre-service teachers' awareness in terms of what is experienced and retained.

Theme 6: Recommendations for Enhancing Library Utilisation

The librarian identified several practical strategies to improve pre-service teachers' engagement, including:

- Updating textbooks and journals
- Improving physical conditions like air conditioning
- Extending library opening hours - potentially 24-hour access

Interpretation:

These recommendations closely align with pre-service teachers' suggestions, particularly regarding access and resource currency. This alignment across data sources strengthens the internal validity of the study and supports the identification of key priority areas for improvement.

Concluding Analytical Insight

The perspective offered by the librarian suggests the presence of a well-intentioned and structured institutional approach to supporting student learning through library provision. At an institutional level, there is evidence of effort to provide orientation, access to resources, and some level of Information Literacy support. However, a closer analysis of the data reveals a number of important tensions that complicate this picture and point to gaps between provision and practice. One key tension emerges between institutional provision and pre-service teacher utilisation. While structures and resources appear to be in place, student engagement with these provisions remains uneven and, in some cases, limited. This suggests that the mere availability of resources does not automatically translate into meaningful use or impact. As noted in the literature, effective learning support requires not only access but also active integration into students' academic practices and curriculum experiences (Association of College and Research Libraries, 2016; Lloyd, 2010). In this study, the findings indicate that such integration may not be sufficiently developed or consistently experienced by pre-service teachers.

A second tension is evident between traditional conceptions of library roles and the realities of digital information practices. The librarian's account reflects a model of library support that is still, to some extent, rooted in conventional understandings of library use, such as orientation sessions and physical resource access. However, pre-service teachers increasingly operate within digital information environments that require different forms of engagement, including online searching, evaluation of digital sources, and independent navigation of information systems. This mismatch reflects broader shifts identified in the literature, where academic libraries are being challenged to adapt to evolving digital practices and user expectations (Julien, 2016; Head, 2013).

A further tension arises between the delivery of Information Literacy and pre-service teacher awareness. Although elements of Information Literacy support appear to exist within the institutional framework, pre-service teachers' responses suggest limited awareness, understanding, or internalisation of these concepts. This indicates that Information Literacy may not be sufficiently embedded within teaching and learning processes but instead remains peripheral or episodic. Research consistently shows that for Information Literacy to be effective, it must be integrated into subject teaching and reinforced over time, rather than delivered as a one-off intervention (Chartered Institute of Library and Information Professionals, 2018; Sheila Corral, 2010).

Summarily, these tensions point to a broader issue indicating a misalignment between institutional intention and student experience. While the institutional framework reflects a commitment to supporting learning through library services, this commitment is not always fully realised in the everyday experiences of pre-service teachers. This gap highlights the need for more visible, integrated, and sustained approaches to Information Literacy within teacher education programmes. In the context of this study, these findings reinforce the importance of moving beyond provision towards meaningful engagement, where library services, Information Literacy, and curriculum design are more closely aligned. Addressing these tensions is essential if pre-service teachers are to develop the knowledge and confidence required to use information effectively, both during their training and in their future classroom practice.

4.5.3 Thematic Analysis of Interview with Course Coordinator (PGDE Programme – Nigeria)

This section presents a thematic analysis of the interview conducted with the course coordinator of the Postgraduate Diploma in Education (PGDE) programme. The analysis adopts an inductive–deductive approach, allowing seven themes to emerge from the data while also

aligning with the study's conceptual focus on library use and Information Literacy. The step-by-step process of thematic analysis derived from the interview data of the course coordinators. The same process applies to all the cohorts, but the themes may or may not tally with each other.

Theme 1: Structural Separation Between Pedagogy and Information Literacy

A dominant theme is the clear absence of Information Literacy within the formal curriculum. The coordinator explicitly stated that Information Literacy is “not part of our programme,” emphasising that the programme prioritises pedagogical knowledge and teaching methods. This reflects a structural separation between disciplinary knowledge, in other words, education, and information practices, where Information Literacy is not embedded within teacher preparation. Such compartmentalisation is widely identified in higher education, where Information Literacy is often treated as an auxiliary skill rather than an integral component of professional learning (Bill Johnston & Webber, 2017).

Interpretation:

This finding indicates a curriculum gap, which directly affects the development of pre-service teachers' ability to engage critically with information. Within the conceptual framework, this weakens the institutional support for Information Literacy acquisition.

Theme 2: Programme Structure and Transitional Nature of Pre-service Teachers

The coordinator highlighted that pre-service teachers, following the PGDE programme, typically enter the programme with non-education first degrees, requiring guidance in selecting appropriate teaching subjects and methods. This positions the programme as a conversion or professionalisation pathway, focused on equipping pre-service teachers with basic pedagogical competencies rather than broader academic literacies.

Interpretation:

The transitional nature of the programme may partly explain why Information Literacy is overlooked and it is assumed that pre-service teachers already possess these skills. However, research shows that Information Literacy competencies are context-specific and must be explicitly developed within disciplinary and professional contexts (Christine Bruce, 2008).

Theme 3: Situational and Instrumental Use of the Library

The coordinator described library use as episodic and task-driven, occurring mainly during assignment preparation such as reviewing past theses and examination periods. Additionally, students increasingly rely on mobile access to e-library resources, reflecting a shift towards digital information practices.

Interpretation:

Library engagement is not habitual but instrumental, driven by immediate academic demands. This aligns with the quantitative findings and supports the argument that frequency of use does not necessarily equate to depth of Information Literacy.

Theme 4: Limited Insight into Pre-service Teachers' Information Competence

The coordinator acknowledged an inability to assess pre-service teachers' competence in using databases, catalogues, and research tools. This was attributed to the independent and adult status of pre-service teachers following the PGDE programme and the lack of direct engagement with their library practices.

Interpretation:

This suggests an institutional blind spot, where there is no systematic monitoring or evaluation of students' Information Literacy skills. Within the framework, this reflects weak feedback and support mechanisms for Information Literacy development.

Theme 5: Evidence of Informal Transfer of Learning to Practice

Despite the lack of formal Information Literacy instruction, there is some evidence of transfer of information-related practices during teaching placements. The coordinator described a case where a student used an ICT-enabled library space to support classroom teaching, indicating the application of digital tools and integration of visual learning resources. This resonates with transfer theory, which posits that learning can be applied across contexts when learners recognise its relevance (David Perkins & Salomon, 1992).

Interpretation:

Although Information Literacy is not formally taught, pre-service teachers demonstrate emergent and incidental transfer, suggesting latent potential that could be strengthened through structured Information Literacy integration.

Theme 6: Institutional Compartmentalisation of Knowledge

The coordinator noted that responsibility for information-related learning lies within Department of Library and Information Studies and does not intersect with teacher education or teaching practice.

Interpretation:

This reflects institutional fragmentation, where expertise in Information Literacy is not integrated into teacher training. This aligns with literature identifying the need for collaborative approaches between faculty and librarians to embed Information Literacy effectively (Sharon Markless & Streatfield, 2007).

Theme 7: Recognition of the Need for Curriculum Reform

Despite the gaps identified, the coordinator acknowledged that Information Literacy is “needed across boards” and integrating it with information technology courses could strengthen teacher preparation. This indicates an emerging awareness of Information Literacy’s importance within the programme.

Interpretation:

This theme suggests readiness for change, providing a strong basis for recommendations in the discussion and conclusion chapters.

Synthesis of Themes

The thematic analysis across participant groups reveals a coherent and internally consistent pattern regarding the place of Information Literacy within the case context. Although participants approached the issue from different positions as pre-service teachers, librarians, course coordinators, and placement tutors, their accounts converged around four central insights. Together, these themes suggest that Information Literacy development is influenced not only by the presence or absence of resources, but by the wider institutional, pedagogical, and systemic conditions within which learning takes place.

Institutional Structures Do Not Adequately Support Information Literacy Integration

A recurring theme across the data was the limited extent to which institutional structures intentionally embedded Information Literacy within teacher education programmes. While participants generally recognised the value of libraries, research skills, and independent learning,

these elements were not consistently integrated into curriculum design, formal teaching processes, or assessment structures. In several accounts, library orientation was described as brief, informal, optional, or ungraded, suggesting that it occupied a peripheral rather than central position within programme delivery. This finding is significant because Information Literacy is most effectively developed when students encounter it repeatedly across modules and in connection with authentic academic tasks. Where support remains detached from coursework, students may perceive it as supplementary rather than essential. The data therefore indicate a gap between institutional recognition of the importance of Information Literacy and the practical mechanisms required to sustain its development. In effect, the structures existed in part, but not always in a sufficiently coordinated or visible form.

Student Engagement with the Library Is Functional and Limited

A second theme concerns the nature of students' engagement with library services and resources. Participants did not reject the value of the library; rather, many viewed it in instrumental terms. The library was often used when there was a specific assignment to complete, when a quiet study space was needed, or when a required text had to be located. This suggests a functional relationship with the library, centred on immediate academic needs rather than broader habits of inquiry, exploration, or continuous professional learning. Such patterns are understandable within demanding teacher education programmes, where students must balance coursework, deadlines, placements, and personal responsibilities. However, limited engagement may reduce opportunities for students to develop deeper evaluative skills, confidence in navigating scholarly resources, and familiarity with evidence-informed practice. The findings therefore point to a distinction between using the library as a task-based service and engaging with it as a developmental learning environment.

Opportunities for Information Literacy Development Exist but Are Unstructured and Uneven

The data also show that opportunities for Information Literacy development were present, but often fragmented, incidental, or unevenly experienced. Some students encountered useful guidance through lecturers, librarians, assignments, or independent exploration. Others reported little or no structured support beyond general encouragement to use the library or search for resources. Similarly, some institutional actors described positive initiatives, but these were not always experienced consistently by students themselves. This unevenness matters because it means that students' development may depend on chance encounters, individual motivation, or the

practices of particular staff members rather than a guaranteed programme-wide entitlement. Where Information Literacy learning is unstructured, some students thrive while others remain uncertain about how to locate, evaluate, and apply information effectively. The findings therefore reinforce the need for a more systematic and equitable approach in which all pre-service teachers receive sustained opportunities to build these capabilities.

Contextual and Systemic Constraints Further Shape Outcomes

Finally, participants' accounts highlight the influence of contextual and systemic constraints on Information Literacy outcomes. These constraints included limited time, competing academic pressures, restricted opening hours, uneven resource availability, absence of school libraries in some placement settings, infrastructure limitations, and broader funding realities. Such factors shape what students and institutions are realistically able to do, regardless of positive intentions. Importantly, these constraints do not operate in isolation. They interact with curriculum design, staff capacity, and student agency to influence outcomes. For example, a motivated student may still struggle if access is poor, while a well-resourced library may be underused if students lack time or confidence. The thematic analysis therefore suggests that Information Literacy development is relational and ecological: it emerges through the interaction of people, systems, spaces, and practices rather than from any single intervention.

Overall Interpretation

The themes reveal that Information Literacy development cannot be assumed simply because a library exists or because teacher education values research-informed practice. Meaningful development requires deliberate curriculum integration, sustained engagement opportunities, equitable access, and responsiveness to contextual realities. The findings also underscore that student experiences are central to evaluating institutional effectiveness. It is not enough to examine what support is formally available; it is equally important to understand how that support is encountered, interpreted, and used by those for whom it is intended.

4.5.4 Thematic Analysis of Interview with Placement Tutor (Nigeria)

The interview with the placement tutor provides important insights into the school-level realities of Information Literacy practice, particularly within early years and primary education contexts. Six key themes emerged from the analysis.

Theme 1: Absence of Information Literacy Infrastructure

A dominant and striking theme across the interview is the complete absence of Information Literacy infrastructure within the school context. The placement tutor repeatedly emphasised that there were no library facilities, no digital resources, and no structured Information Literacy practices in place:

“There are no Information Literacy practices in place in the school.”

“There are no digital resources available for them in this school.”

This indicates that Information Literacy is not simply underdeveloped but structurally unavailable in this context. The absence of a library as a foundational learning resource significantly limits opportunities for both pupils and pre-service teachers to engage with information critically and independently.

Interpretation:

At an analytical level, this reflects a systemic resource gap, which constrains the practical enactment of Information Literacy despite its recognised importance in educational theory.

Theme 2: Inequalities in School Library Access During Placement

A significant contextual theme is the disparity between private schools, which usually have better access to functional libraries, and public schools, which often have limited or restricted access, with libraries often “under lock and key”. This highlights system-level inequalities affecting students’ opportunities to practise and reinforce Information Literacy skills during placement.

Interpretation:

This finding situates Information Literacy development within broader socio-institutional constraints, reinforcing the importance of context in the comparative study of Nigeria and England.

Theme 3: Limited Scope of Pre-service Teacher Learning During Placement

The findings reveal that pre-service teachers’ learning during placement is restricted to classroom-based teaching, with little or no exposure to Information Literacy practices:

“What the pre-service teachers come to do is just limited to what is available in class. So, they teach and that’s all.” This suggests that the teaching practicum is narrowly defined, focusing

primarily on pedagogical delivery rather than broader professional competencies such as Information Literacy.

Interpretation:

This creates a disconnect between university-based expectations and school-based realities, where pre-service teachers are unable to apply or develop Information Literacy-related skills in authentic classroom environments.

Theme 4: Lack of Institutional and Policy Support for Information Literacy

Another significant theme is the absence of institutional frameworks or policies to support Information Literacy:

“There are no programmes or policies in place to support Information Literacy skill development in the school.”

This highlights that the limitation is not only material but also organisational and policy-driven. The absence of structured expectations means that Information Literacy is not embedded within the school’s teaching and learning priorities.

Interpretation:

This finding aligns with broader concerns in the literature that without policy alignment and institutional support, Information Literacy remains peripheral rather than integral to educational practice.

Theme 5: Structural Barriers to Skill Transfer

The data strongly suggest that transfer of Information Literacy skills from university to school placement is highly constrained. Since there are no facilities or opportunities to practise these skills:

“We don’t have that available in this school.”

This directly limits the ability of pre-service teachers to translate theoretical knowledge into practice, which is central to professional learning.

Interpretation:

From a theoretical standpoint, this reflects a breakdown in transfer theory, where the conditions required for transfer such as a supportive environment, or opportunities for application are absent. As a result, any Information Literacy knowledge acquired during training is unlikely to be reinforced or sustained.

Theme 6: Recognition of the Library as Foundational to Information Literacy

Despite the absence of resources, the placement tutor clearly recognises the central importance of the library:

“The first facility that should be made available is the library.”

This demonstrates an implicit understanding that Information Literacy is resource-dependent, and that the library serves as a critical entry point for developing these skills.

Interpretation:

This theme is important because it shows that the issue is not a lack of awareness, but rather a lack of provision and capacity.

Analytical Summary

In summary, the placement tutor’s interview provides a valuable perspective on the realities of school-based training and highlights several important issues concerning the development and application of Information Literacy during professional placement. While university programmes may promote research skills, independent learning, and reflective practice, the school context described by the tutor suggests that these capacities are not always supported or translated in practice. Four key conclusions emerge from the analysis.

Information Literacy Is Not Operationalised at the School Level

The first and most immediate finding is that Information Literacy was not operationalised within the placement school context. The tutor repeatedly indicated that there were no library facilities, no organised information resources, no digital systems, and no formal practices designed to help learners or trainee teachers locate, evaluate, or use information. In effect, Information Literacy did not appear as a visible part of the school’s educational processes. This does not necessarily imply a lack of commitment to learning on the part of the school. Rather, it suggests that Information Literacy had not been translated into concrete structures, routines, or expectations within that setting. Without institutional mechanisms such as library access, guided inquiry tasks, or digital learning opportunities, Information Literacy remains an abstract ideal rather than a lived educational practice.

Pre-service Teachers Experience Limited Opportunities for Applied Learning

A second conclusion is that pre-service teachers in this context were exposed to only limited opportunities for applied learning in relation to Information Literacy. According to the tutor, pre-service teachers primarily came to the school to teach observed lessons and receive feedback on classroom delivery. While this is an important component of teacher preparation, it narrows the placement experience when broader professional capabilities are absent. Applied learning in teacher education should ideally include opportunities to use evidence in lesson planning, draw on varied resources, support children's questioning, model responsible information use, and adapt teaching based on inquiry and reflection. Where these opportunities are unavailable, pre-service teachers may complete placement requirements without fully experiencing how Information Literacy can enrich teaching and learning in real classrooms.

There Is a Significant Gap Between Training and Practice Contexts

The interview also points to a notable gap between university-based preparation and school-based practice. Universities may encourage students to engage with research, use academic resources, and develop reflective habits, yet the placement school described here lacked the infrastructure through which such learning could be enacted. This creates a discontinuity between what is taught in theory and what is experienced in practice. Such a gap is important because professional learning is strengthened when students can rehearse and apply university learning in authentic settings. When placement environments do not reflect or reinforce these expectations, pre-service teachers may struggle to connect academic knowledge with classroom realities. Over time, this can weaken the perceived relevance of Information Literacy and reduce confidence in using it as part of professional decision-making.

Structural and Resource Constraints Undermine Skill Development and Transfer

Finally, the tutor's responses make clear that structural and resource constraints were central to the challenges identified. The absence of a library, lack of digital resources, and limited institutional capacity all restricted what could be offered to pre-service teachers and pupils alike. These are not minor operational issues; they directly shape educational opportunity. Skill development depends not only on individual motivation but also on access to enabling conditions. Likewise, transfer of learning from university to school requires environments where those skills can be practised and refined. Where infrastructure is weak, even well-designed university preparation may have limited impact during placement. The issue, therefore, is not simply whether

pre-service teachers possess Information Literacy skills, but whether the professional context allows those skills to be exercised meaningfully.

Concluding Interpretation

Overall, the placement tutor's interview underscores the importance of viewing teacher education as a continuum that spans both university and school settings. If Information Literacy is to become part of professional practice, it must be supported across that continuum. This requires stronger alignment between teacher education providers and placement schools, alongside practical investment in resources, guidance, and school-based learning environments that enable pre-service teachers to translate university learning into effective classroom practice.

4.6 Institutional Perspectives

This section presents the perspectives of key institutional stakeholders, including librarians, course coordinators and placement tutors. These perspectives provide important insight into how library provision and Information Literacy are understood, supported, and enacted within the teacher education context. They also help to explain some of the patterns identified in both the quantitative and qualitative findings.

4.6.1 Librarians' Perspectives on Library Provision

The librarian's responses indicate a strong recognition of the importance of library orientation and Information Literacy for pre-service teachers. As presented earlier, the librarian emphasised that students should receive training on how to use the library and viewed existing orientation programmes as very helpful. From the interview data, the librarian described the library as adequately equipped to support students' academic needs, particularly in terms of physical resources and study spaces. There was also an indication that structured orientation is provided at the beginning of students' programmes to introduce them to available services.

However, the librarian also acknowledged certain limitations, particularly in relation to technological infrastructure and access to digital resources. These constraints affect the extent to which pre-service teachers can fully engage with online materials and electronic databases. Importantly, while the librarian indicated that Information Literacy models are adopted within the institution, this adoption appears to be limited in practice. This helps to explain the low levels of awareness reported by pre-service teachers. Overall, the librarian's perspective suggests that

although systems are in place, their implementation may not be sufficiently comprehensive or sustained to meet students' needs.

4.6.2 Course Coordinator's Perspectives on Library Provision

The course coordinator highlighted the importance of independent learning and research skills in teacher education. They emphasised that pre-service teachers are expected to engage with academic materials, develop critical thinking skills, and take responsibility for their own learning. From the coordinator's perspective, the library is an important resource that supports these expectations. However, the integration of library use and Information Literacy into teaching practices appears to be implicit rather than explicit. In other words, pre-service teachers are expected to use the library but may not receive structured guidance within their coursework on how to do so effectively.

The course coordinator indicated that pre-service teachers are encouraged to consult library resources when completing assignments, but there was limited evidence of systematic collaboration between academic staff and librarians in delivering Information Literacy instruction. This lack of explicit integration may contribute to the gaps observed in pre-service teachers' Information Literacy experiences. It suggests that while the importance of the library is recognised at the programme level, it is not consistently embedded within teaching and learning practices.

4.6.3 School Placement Tutors' Perspectives

School placement tutor provided an additional perspective based on the interaction with pre-service teachers during teaching practice. Their views focused more on how pre-service teachers apply their knowledge and skills in real classroom settings. Placement tutors generally emphasised the importance of resourcefulness and the ability to access relevant teaching materials. However, there was limited reference to the use of formal library resources or Information Literacy frameworks in supporting teaching practice.

The placement tutor opined that pre-service teachers rely more on readily available materials, such as online sources or personal notes, rather than systematically engaging with library resources. This may reflect both the accessibility challenges identified earlier and the limited emphasis on structured Information Literacy during training. The findings suggest that the connection between university-based library provision and school-based practice is not strongly developed. As a result, pre-service teachers may not fully transfer their library-related skills into their professional practice.

4.6.4 Summary of Institutional Perspectives

In all, the perspectives of librarians, course coordinators, and placement tutors, reveal a shared recognition of the importance of library use and Information Literacy. However, there are clear gaps between institutional expectations, provision, and actual pre-service teachers experience.

The following are key issues emerging from this section:

- Library orientation is provided but not sustained or fully embedded
- Information Literacy is recognised but not explicitly integrated into teaching
- Limited collaboration between librarians and academic staff
- Weak connection between library use and teaching practice in schools.

These findings help to explain the patterns observed in earlier sections, particularly the mismatch between positive perceptions of the library and limited effective use. They also highlight the need for a more coordinated and integrated approach to supporting Information Literacy within teacher education. This section provides an important foundation for the within-case integration that follows and for the comparative discussion in later chapters.

4.7 Curriculum and Policy Analysis

This section examines the extent to which Information Literacy and library use are embedded within the Initial Teacher Education curriculum of early childhood care that is in use in UniA, as well as the institutional and national policy frameworks that shape these practices. This analysis is important for understanding how formal structures support or limit the development of pre-service teachers' Information Literacy skills.

Initial Teacher Education Curriculum - Information Literacy Components

The analysis of the teacher education curriculum indicates that while there is a strong emphasis on pedagogical knowledge, subject content, and teaching practice, the explicit inclusion of Information Literacy is limited. Information Literacy does not appear as a clearly defined or standalone component within the curriculum. Instead, it is often embedded implicitly within coursework that requires students to engage with academic materials, complete assignments, and conduct research.

This implicit approach assumes that students will develop Information Literacy skills through independent study and engagement with learning tasks. However, findings from both the quantitative and qualitative data suggest that this assumption may not hold in practice. Many pre-service teachers demonstrated limited awareness of structured Information Literacy frameworks and reported challenges in accessing and evaluating information effectively. The absence of explicit instruction in Information Literacy may therefore contribute to inconsistencies in pre-service teachers' skills and experiences. This suggests a need for more deliberate integration of Information Literacy within the curriculum to support pre-service teachers in developing the competencies required for academic success and professional practice.

Institutional Expectations

At the institutional level, there is a clear expectation that pre-service teachers will engage in independent learning and make use of available academic resources, including the library. Course coordinators emphasised the importance of research, critical thinking, and self-directed learning as key components of Initial Teacher Education. However, these expectations are not always matched by structured support. While library orientation is provided at the beginning of the programme, there is limited evidence of ongoing or embedded instruction in how to effectively use library resources or develop Information Literacy skills.

Furthermore, collaboration between academic staff and librarians appears to be limited. As a result, Information Literacy is not consistently reinforced across different areas of the programme. This gap between expectation and support may contribute to the challenges identified by students, particularly in relation to accessing resources and evaluating information. The institutional approach reflects a model in which responsibility for developing Information Literacy is largely placed on the student, rather than being systematically supported through the curriculum and teaching practices.

National Policy Influences

At the national level, Teacher Education in Nigeria is guided by regulatory bodies such as the National Universities Commission and the Teachers Registration Council of Nigeria. These organisations set standards for teacher preparation programmes, including curriculum structure and professional competencies. While these policies emphasise the importance of quality education and effective teaching, there is limited explicit focus on Information Literacy as a core

competency for pre-service teachers. As a result, institutions may not prioritise the structured development of Information Literacy within their programmes.

In addition, broader educational concerns, such as students' performance in national examinations like the West African Senior School Certificate Examination, continue to shape policy priorities. These concerns often focus on curriculum delivery and subject knowledge, with less attention given to the underlying skills, such as Information Literacy, that support effective learning. This policy context helps to explain why Information Literacy remains underdeveloped within teacher education programmes, despite its recognised importance in academic and professional contexts.

Summary of Key Issues

The analysis of curriculum and policy reveals several important issues:

- Information Literacy is implicitly rather than explicitly embedded in the curriculum
- Institutional expectations for independent learning are not matched by structured support
- Collaboration between librarians and academic staff is limited
- National policies do not strongly emphasise Information Literacy as a core competency

These factors contribute to the gaps identified in earlier sections, particularly the low awareness of Information Literacy models and the challenges pre-service teachers face in using library resources effectively. In all, the findings suggest that a more intentional, structured, and policy-supported approach is needed to integrate Information Literacy into teacher education. This would help to ensure that pre-service teachers are better equipped with the skills required for both academic success and professional practice.

4.8 Integration of Findings - Within-Case Analysis

This section integrates the quantitative and qualitative findings from the Nigeria case to provide a coherent understanding of pre-service teachers' experiences of library use and Information Literacy. By bringing together multiple data sources, the analysis highlights key patterns, identifies areas of convergence and divergence, and draws out the main themes emerging within this context.

Linking Quantitative and Qualitative Findings

The findings from both strands of data show a consistent pattern in which pre-service teachers recognise the importance of the library, but their engagement with it is limited in practice.

Quantitative results indicated that a large majority of pre-service teachers use the library and consider it necessary for their academic work. This was reinforced by qualitative findings, where participants described the library as a useful space for study, assignments, and access to information. However, both datasets also point to limitations in how the library is used. Quantitative findings showed moderate frequency of use and limited awareness of Information Literacy models, while qualitative data revealed that pre-service teachers often rely on basic and informal strategies when searching for information. Together, these findings suggest that while students value the library, they may not be fully equipped to use it effectively.

Convergences and Divergences

The analysis of the data reveals a number of important areas of both convergence and divergence across participant groups. Identifying these patterns is critical in mixed-methods and case study research, as it allows for a more nuanced understanding of how different perspectives align or contrast within institutional contexts (Creswell & Plano Clark, 2018; Yin, 2018).

➤ Convergences

A key area of convergence relates to the shared recognition of the importance of the library within academic work. Both pre-service teachers and the librarian expressed strong agreement regarding the value of library orientation and the role of library services in supporting students' learning. This alignment suggests that, at a conceptual level, there is a common understanding of the centrality of the library within teacher education. Such findings are consistent with existing literature, which highlights the importance of academic libraries as key sites for developing students' research and Information Literacy skills (Head, 2013; Julien, 2016).

However, despite this shared recognition, the findings also point to a convergence around limited development of Information Literacy skills. Both the quantitative survey data and qualitative interview responses indicate relatively low levels of awareness and engagement with structured Information Literacy frameworks. This suggests that while students may value the idea of the library, they may not be fully equipped with the conceptual tools needed to navigate information effectively. This aligns with previous research which argues that Information Literacy is often insufficiently embedded within curricula, leading to gaps between institutional provision and student capability (Association of College and Research Libraries, 2016; Lloyd, 2010).

Another clear area of convergence concerns challenges related to resources and access. Pre-service teachers consistently reported difficulties with internet connectivity, limited access to

up-to-date materials, and constraints in accessing digital resources. These concerns were not isolated but were also reflected in institutional perspectives, where infrastructural limitations were acknowledged. This alignment between student experiences and institutional accounts strengthens the credibility of the findings through triangulation and reflects broader issues identified in the literature on resource disparities in higher education contexts, particularly in developing settings (Czerniewicz & Brown, 2014).

➤ **Divergences**

Alongside these areas of agreement, the analysis also reveals important divergences, which provide deeper insight into the complexities of institutional practice. One notable divergence relates to perceptions of the effectiveness of library orientation programmes. While the librarian viewed these programmes as effective and beneficial, some pre-service teachers reported that they had either not received sufficient guidance or remained uncertain about how to use library resources effectively. This discrepancy suggests that the intended outcomes of orientation programmes may not be fully realised in practice.

A further divergence is evident in the gap between institutional provision and student experience. Institutional data indicate that forms of library orientation and Information Literacy support are in place, albeit at a basic or developing level. However, student responses suggest that these provisions are not consistently experienced, understood, or internalised. This disconnect highlights a critical issue indicating that the presence of institutional structures does not necessarily translate into meaningful learning experiences for students. Considering all these, these divergences point to a broader gap between institutional intention and student engagement. While institutions may provide resources and programmes designed to support Information Literacy, these initiatives may not be sufficiently visible, accessible, or sustained to have a lasting impact on students' learning. As noted in the literature, effective Information Literacy development requires not only provision but also integration into teaching practices and ongoing reinforcement within the curriculum as corroborated by the Chartered Institute of Library and Information Professionals (CILIP, 2018) and Julien (2016).

In the context of this study, the coexistence of convergence and divergence underscores the importance of examining both institutional perspectives and student experiences. It also reinforces the value of the comparative case study approach, which allows these complexities to be explored in depth. Ultimately, the findings suggest that improving pre-service teachers'

engagement with school libraries and Information Literacy will require greater alignment between institutional provision, pedagogical practice, and student experience.

Emerging Themes within the Nigeria Context

Four key themes emerge from the integrated analysis:

i. Positive Perceptions but Limited Practice

Pre-service teachers demonstrate a strong appreciation of the value of the library. However, this positive perception does not consistently translate into frequent or effective use. Library engagement appears to be largely task-driven, focused on immediate academic needs rather than broader learning or exploration.

ii. Structural and Resource Constraints

The findings highlight significant infrastructural challenges, particularly in relation to internet access, availability of digital resources, and up-to-date materials. These constraints limit students' ability to fully utilise the library and engage with contemporary academic resources, which are essential for effective Information Literacy development.

iii. Weak Embedding of Information Literacy

Information Literacy is not strongly embedded within the curriculum or institutional practices. Although there is some level of orientation and nominal adoption of Information Literacy models, these are not consistently integrated into teaching and learning. As a result, students rely on informal and unstructured approaches to information seeking, which may limit the quality of their academic work.

iv. Gap Between Policy, Provision, and Practice

A broader theme emerging from the analysis is the disconnect between policy expectations, institutional provision, and actual student experience. While policies and institutional stakeholders recognise the importance of library use and Information Literacy, this is not fully translated into practice. This gap highlights the need for more coordinated and sustained efforts to support students.

Conclusively the Uni A case presents a context in which the value of the library is clearly understood, but its potential is not fully realised. The combination of positive attitudes, limited resources, and weak integration of Information Literacy creates a situation where students engage with the library in a restricted and often surface-level manner. This integrated analysis provides a strong foundation for the comparative discussion in later chapters, where similarities and differences with the Uni B context will be explored. It also highlights key areas for improvement, particularly in relation to resource provision, curriculum integration, and the development of structured Information Literacy support.

4.9 Chapter Summary

➤ Key Findings

This chapter presented the findings from the Uni A case study, drawing on quantitative and qualitative data from pre-service teachers, as well as perspectives from institutional stakeholders – librarian, course coordinator and placement tutor, and analysis of curriculum and policy documents. The aim was to provide a comprehensive understanding of pre-service teachers' attitudes, experiences, and engagement with library use and Information Literacy within this context.

The findings show that pre-service teachers generally hold positive attitudes towards the library and recognise its importance as a key academic resource. The majority of participants reported using the library and agreed that it plays a significant role in supporting study, independent learning, and access to information. This positive perception was consistently reflected across both quantitative and qualitative data. However, the findings also reveal important limitations. Library use among pre-service teachers is largely moderate and task-oriented, focusing mainly on immediate academic needs such as assignments. There is limited engagement with a wider range of resources, particularly digital materials. In addition, awareness of established Information Literacy models is very low, and students tend to rely on informal and unstructured approaches to information seeking.

Key challenges identified include inadequate access to up-to-date resources, limited availability of electronic materials, and poor internet connectivity. These infrastructural constraints significantly affect students' ability to fully utilise the library and develop effective Information Literacy skills. Furthermore, although library orientation is provided, it is not consistently experienced by all students and is not sustained throughout the programme. Institutional perspectives highlight a strong recognition of the importance of library use and Information

Literacy. However, there is limited evidence of systematic integration of these elements into the curriculum and teaching practices. Information Literacy is largely treated as implicit rather than explicitly taught, and collaboration between librarians and academic staff appears to be minimal. At the policy level, while there is emphasis on quality education and teacher preparation, Information Literacy is not strongly foregrounded as a core competency.

In all, the chapter reveals a gap between positive perceptions, institutional intentions, and actual practice. While the library is valued and its importance acknowledged, structural limitations and weak curricular integration constrain its effective use. This results in a learning environment where pre-service teachers engage with the library in a limited and often surface-level manner. These findings provide a clear and detailed understanding of the Nigeria context and establish a strong basis for comparison. The next chapter presents the findings from the England case study, using a similar structure to allow for meaningful comparison of patterns, experiences, and institutional practices across the two contexts.

➤ **Key Patterns**

The responses provided by the librarian offer a broadly positive account of institutional intentions, suggesting a clear recognition of the importance of library orientation and Information Literacy within the context of pre-service teacher education. There is evidence that some level of provision exists, including orientation sessions and access to library resources. However, a closer reading of the data indicates that this provision remains partial and unevenly implemented, revealing important limitations in how institutional intentions are translated into practice.

A central pattern emerging from the analysis is that library orientation tends to be delivered as a one-off activity rather than as a continuous and developmental process. While initial orientation sessions may introduce students to available resources, they do not appear to provide sustained support for the ongoing development of Information Literacy skills. This is significant, as research consistently emphasises that Information Literacy is most effectively developed through iterative and embedded learning experiences, rather than through isolated interventions (Association of College and Research Libraries, 2016). Closely related to this is the finding that key Information Literacy competencies, particularly search strategies and critical evaluation of sources, are not comprehensively addressed. This suggests that students may be introduced to the existence of resources without being adequately supported in how to use them effectively. As a result, their engagement with information remains at a relatively basic level, limiting their ability to develop deeper academic and professional skills. This aligns with wider literature which

highlights that without explicit instruction and practice, students often struggle to move beyond surface-level information use (Julien, 2016).

The analysis further indicates that formal Information Literacy frameworks are only minimally adopted or not explicitly visible within practice. While institutional discourse may acknowledge the importance of Information Literacy, there is limited evidence of systematic implementation guided by recognised models or standards. This lack of explicit framing can reduce students' awareness of Information Literacy as a structured and transferable competence. Professional bodies such as Chartered Institute of Library and Information Professionals (2018) stress the importance of clearly articulated frameworks to support both teaching and learning, particularly in higher education contexts. Perhaps most significantly, the findings reveal a disconnect between institutional perception and student experience. While the librarian's responses reflect confidence in the provision of services and support, pre-service teachers' data suggest that these provisions are not always experienced as accessible, meaningful, or sufficient. This gap highlights a recurring issue in educational settings, where the existence of provision does not necessarily equate to effective engagement or impact (Lloyd, 2010). It also reinforces the importance of examining multiple perspectives within institutional research, as reliance on a single viewpoint may obscure important variations in experience.

Summarily, these patterns help to explain earlier findings in the study, particularly the low levels of awareness of Information Literacy frameworks and the moderate use of library resources among pre-service teachers. They suggest that while institutional intentions are clearly positive, there remains a need for more structured, sustained, and pedagogically integrated approaches to library orientation and Information Literacy development. Importantly, these insights provide a foundation for deeper analysis in the discussion chapter, where they will be examined in relation to the England case. This comparative perspective will allow for a more nuanced understanding of how different institutional and contextual factors shape the implementation and experience of Information Literacy within teacher education.

CHAPTER FIVE

5.0 CASE STUDY TWO – ENGLAND

5.1 Introduction

This chapter presents the findings from Case Study Two, focusing on pre-service teachers' attitudes, experiences, and engagement with library resources and Information Literacy within the selected institution. The purpose of this chapter is to provide a detailed and context-specific analysis of the England dataset, using the same analytical framework applied in CHAPTER FOUR to allow for meaningful comparison across the two cases. The chapter draws on multiple sources of data in line with the mixed-methods design of the study. Quantitative data were collected through student questionnaires, including the Attitude Questionnaire (AQ), Questionnaire on Library Use Experience (QLUE), and Questionnaire on Library Orientation and Information Literacy (QLOIL). These are complemented by qualitative data from semi-structured interviews with pre-service teachers, librarians, course leaders, and school mentors. In addition, curriculum documents and relevant institutional and policy materials are analysed to provide further contextual insight. The integration of these data sources supports a more comprehensive understanding of the research problem through triangulation (Creswell & Plano Clark, 2018; Fetters, Curry, & Creswell, 2013).

This chapter is guided by the same research questions outlined earlier in the study, particularly those relating to pre-service teachers' attitudes towards library use, their experiences of accessing and using resources, and their development of Information Literacy skills. Attention is also given to how institutional structures and the broader educational context in England shape these experiences. The chapter is organised in a way that mirrors Chapter four, beginning with the institutional and contextual background, followed by demographic characteristics, quantitative findings, qualitative insights, institutional perspectives, and curriculum and policy analysis. It concludes with an integrated within-case analysis.

5.2 Institutional and Contextual Background – University B (England)

This section provides an overview of the institutional setting and broader contextual factors shaping pre-service teachers' experiences at Uni B. It outlines the structure of the Initial Teacher Education programme, the nature of library provision, and the national policy environment within which Information Literacy is positioned. In England, Initial Teacher Education operates within a policy framework informed by the Department for Education's *Teachers' Standards* (Department for Education, 2021), the *Initial Teacher Training and Early Career Framework* (Department for

Education, 2024), and broader expectations regarding evidence-informed practice, literacy development, and independent learning. Although Information Literacy is not explicitly identified as a discrete component within these policy documents, competencies relating to information use, critical engagement with evidence, professional learning, and curriculum knowledge are embedded within the standards expected of pre-service teachers. Together, these elements form the institutional conditions through which students' engagement with information and learning resources is mediated.

Overview of the Institution

Uni B is a well-established public research-intensive university in the East of England, with a strong reputation for teacher education and professional training. The university operates within the UK higher education system, where quality assurance, curriculum design, and student outcomes are closely aligned with national regulatory and professional standards. Within this context, teacher education programmes are designed not only to develop pedagogical competence but also to prepare students for evidence-informed practice.

➤ Structure of the Initial Teacher Education Programme

The Initial Teacher Education provision at Uni B follows a postgraduate model, typically structured as a one-year programme combining university-based learning with school placements. The programme emphasises the development of pedagogical knowledge, subject expertise, and reflective practice, in line with national expectations such as the Teachers' Standards, England (Department for Education, 2011).

While Information Literacy is not always presented as a standalone component, it is often embedded within coursework, research assignments, and independent study expectations. Students are required to engage with academic literature, evaluate sources, and apply research evidence to their teaching practice. This reflects a more implicit model of Information Literacy development, where skills are acquired through engagement with academic tasks rather than through formalised instruction alone (Secker & Coonan, 2013).

➤ Library Provision and Systems

The university library plays a central role in supporting teaching, learning, and research activities. At Uni B, library provision includes access to extensive physical and digital resources, such as books, academic journals, databases, and subject-specific guides. In addition, students

benefit from structured support services, including induction sessions, online tutorials, and one-to-one academic skills support. These services are broadly aligned with established Information Literacy frameworks, particularly the Big6 Information Literacy model, which emphasises a systematic process of defining information needs, locating sources, evaluating information, synthesising evidence, and reviewing outcomes (Eisenberg & Berkowitz, 2019). The library also supports digital literacy and independent learning, reflecting the increasing shift towards blended and technology-enhanced education in UK universities (Head, 2021).

➤ **National and Policy Context**

The broader policy environment in England places significant emphasis on evidence-based teaching and professional accountability. The Teachers' Standards in England require pre-service teachers to demonstrate critical engagement with subject knowledge and to make informed pedagogical decisions. Although Information Literacy is not explicitly named, it is implicitly embedded within expectations related to professional knowledge, reflective practice, and ongoing professional development.

In addition, organisations such as CILIP have advocated for the integration of Information Literacy across educational contexts, defining it as a key competency for lifelong learning and informed citizenship (CILIP, 2018). Within higher education, this aligns with increasing recognition of the importance of critical engagement with information in a digitally complex environment. The institutional and policy context at Uni B reflects a relatively well-resourced and structured environment in which Information Literacy is supported, albeit often implicitly. This contrasts with contexts where provision may be more limited or fragmented, and it provides an important foundation for understanding the patterns observed in subsequent sections of this chapter.

5.3 Demographic Profile of Participants

This section presents a detailed account of the demographic characteristics of the pre-service teachers who participated in the England case study. In line with the structure adopted in Chapter Four, the analysis is organised around gender, age, and educational qualifications. These variables provide important contextual insight into the composition of the sample and help to situate subsequent interpretations of library use and Information Literacy experiences within the England context.

5.3.1 Gender Distribution

The data indicate that the sample was predominantly female. Out of the 27 pre-service teachers who participated in the study, 20 were female (74.1%), while 7 were male (25.9%). This distribution reflects a well-documented trend within teacher education, particularly in primary and early childhood education, where female participation tends to be higher (Department for Education, 2023).

This gender imbalance is analytically relevant, as it may shape patterns of engagement with academic resources, including library use and help-seeking behaviours. Previous research suggests that female students are often more likely to engage with structured academic support systems, including library services and collaborative learning environments (Head, 2020). Within the context of this study, the predominance of female participants provides an important lens through which perceptions of library use and Information Literacy development can be interpreted.

5.3.2 Age Distribution

The age profile of participants reveals that the majority of respondents were relatively young, with a concentration in the early stages of adulthood. Specifically, 11 participants (40.7%) were within the 21–25 age range, while 9 participants (33.3%) fell within the 26–30 age bracket. Smaller proportions were recorded for those aged 31–35 years (3 participants, 11.1%) and those aged 36 years and above (4 participants, 14.8%).

This distribution suggests that most participants were either recent graduates or individuals transitioning into teaching shortly after completing their first degree. At the same time, the presence of older participants reflects the flexible and inclusive nature of teacher education pathways in England, particularly within programmes such as the Postgraduate Certificate in Education (PGCE), which attract career changers as well as traditional entrants. From an analytical standpoint, age diversity introduces varying levels of prior academic experience, digital competence, and familiarity with independent learning practices. Younger participants may be more accustomed to digital information environments, while older participants may bring broader professional or life experience that shapes their engagement with library resources. This diversity is therefore significant when interpreting patterns of Information Literacy development.

5.3.3 Educational Qualifications

All participants in the England sample reported holding a first degree or its equivalent (27 participants, 100%). This finding is consistent with the entry requirements for postgraduate Initial Teacher Education programmes in England, where a bachelor's degree is a prerequisite for admission (Department for Education, 2023).

The homogeneity of educational qualifications within the sample suggests that participants entered the programme with a broadly comparable level of academic preparation. However, it is important to recognise that while all participants held undergraduate degrees, their disciplinary backgrounds may have varied significantly. Such variation can influence familiarity with academic research practices, including the use of scholarly sources, engagement with academic libraries, and confidence in navigating information systems (Coonan et al., 2018).

➤ Summary of Demographic Implications

The demographic profile of participants in the England case study presents a cohort that is predominantly female, relatively young, and uniformly qualified at undergraduate level. This profile reflects broader patterns within Initial Teacher Education in England and provides a useful baseline for interpreting subsequent findings. Importantly, these characteristics suggest that participants are likely to possess foundational academic skills and a degree of familiarity with higher education learning environments. However, this does not necessarily translate into advanced Information Literacy competence. As noted in the literature, the transition from undergraduate study to professional teacher education often requires the development of more sophisticated skills in critical evaluation, evidence-informed practice, and independent research (Chartered Institute of Library and Information Professionals, 2018; Society of College National and University Libraries, 2011). Therefore, while the demographic data suggest a relatively well-prepared cohort, they also reinforce the importance of structured support systems, particularly library services and Information Literacy provision, in enabling pre-service teachers to engage effectively with academic and professional knowledge. This provides an important foundation for the analysis of quantitative and qualitative findings presented in the subsequent sections of this chapter.

5.4. Quantitative Findings: Survey Data

This section presents an analysis of the quantitative data relating to pre-service teachers' use of, and attitudes towards, the academic library in the England case study. In keeping with the analytical depth established in Chapter Four, the findings are interpreted beyond simple description, with attention given to patterns, implications, and alignment with Information Literacy constructs within the study's conceptual framework.

5.4.1 Library Use and Learning Experiences of Pre-Service Teachers in England (QLUE)

The findings indicate that a substantial majority of participants reported active engagement with the university library. Specifically, 21 out of 27 respondents (77.8%) indicated that they use the library, while a smaller proportion, 6 respondents (22.2%), reported that they do not. This suggests that, within this context, the library is a recognised and utilised component of students' academic experience. However, the presence of a notable minority who do not engage with the library is analytically significant, particularly in a resource-rich higher education environment where access barriers are comparatively minimal. This points to the possibility that factors beyond access, such as perceived relevance, digital preferences, or confidence in navigating resources, may influence patterns of use.

In relation to perceived importance, the data show a strong endorsement of the library as an essential academic resource. A total of 22 respondents (81.5%) agreed that it is necessary to visit the library, whether physically or virtually, while 5 respondents (18.5%) disagreed. This indicates a broadly positive perception of the library's role in supporting learning. Nevertheless, the gap between perceived importance (81.5%) and actual usage (77.8%) suggests a subtle but important disconnect between belief and practice. This divergence reflects a pattern often identified in Information Literacy research, where students may recognise the value of academic resources but do not consistently integrate them into their study routines (Head, 2020). Patterns of library engagement were further explored through participants' responses regarding frequency of use. The findings reveal a dispersed pattern rather than a dominant mode of engagement. Equal proportions of respondents (18.5%) reported visiting the library daily and twice a week, while smaller but consistent proportions (14.8% each) indicated usage once a week, fortnightly, or twice a month. This variability suggests that library use is largely task-driven rather than habitual. In other words, pre-service teachers appear to engage with the library in response to specific academic demands such as assignments or assessments rather than as a continuous component of their

learning practices. This aligns with situational use model of academic libraries, where engagement is episodic and closely tied to immediate academic needs rather than sustained scholarly inquiry.

A particularly strong consensus emerged in relation to the need for library orientation. All respondents (100%) agreed that pre-service teachers should receive some form of orientation or training on how to use the library. This unanimous agreement is noteworthy, as it reflects a shared recognition of the importance of structured support in developing effective library use and, by extension, Information Literacy skills. This finding also aligns with the Big6 information problem-solving model, which emphasises a systematic process of defining information needs, locating sources, evaluating information, synthesising evidence, and reviewing outcomes. Early orientation to library systems can therefore provide pre-service teachers with the foundational skills needed to engage effectively with academic and professional information tasks (Eisenberg & Berkowitz, 2019). This finding also resonates with the eXIT Information Literacy model, which conceptualises Information Literacy development as a staged and supported transition in learners' abilities to access, evaluate, and use information across changing educational contexts. From this perspective, library orientation functions as an important entry point in helping pre-service teachers adapt to the academic and professional information demands of teacher education (Whitworth et al., 2011).

The majority of respondents (25 participants, 92.6%) reported that they had received some form of information or guidance on how to use the library at the beginning of their course. Only a small minority (7.4%) indicated that they had not received such support. This suggests that, within the England context, library orientation is not only valued but also largely implemented at the institutional level. From a conceptual standpoint, this reflects a more explicit integration of Information Literacy into the experience of the pre-service teachers compared to contexts where such provision is informal or inconsistent. However, while the high rate of orientation provision is a positive indicator, it does not automatically translate into deep or sustained engagement with library resources. The earlier finding of variable and often task-dependent usage suggests that orientation may be functioning at a foundational level, introducing students to available resources without necessarily embedding advanced or transferable Information Literacy competencies. This distinction is important, as contemporary Information Literacy frameworks, including the Big6 Skills Model, emphasise not only access and awareness but also higher-order skills such as critical evaluation, synthesis, and application of information.

In all, the quantitative findings from the England case study present a nuanced picture. On the one hand, there is clear evidence of access, awareness, and institutional support for library use,

as reflected in high levels of reported usage, strong perceptions of importance, and near-universal provision of orientation. On the other hand, patterns of engagement remain uneven and appear to be largely driven by immediate academic demands rather than sustained scholarly practice. This duality is analytically significant and sets the stage for the qualitative findings that follow. While the quantitative data suggest a well-supported environment for Information Literacy development, they also raise important questions about the depth of pre-service teachers' engagement and the extent to which available resources are being fully utilised. These issues will be explored further in subsequent sections, particularly in relation to pre-service teachers' lived experiences, institutional practices, and the broader alignment between provision and practice.

5.4.2 Attitudes of Pre-service Teachers Towards the Use of Libraries in England (AQ)

This section presents a descriptive analysis of pre-service teachers' attitudes towards the use of libraries in England, organised into three key dimensions: - perception of library roles, perception of library facilities and conditions, and perception of library resources and services. The analysis draws directly on frequency distributions and percentage responses, providing a detailed interpretation consistent with the depth presented in the Nigeria case.

➤ Perception of Library Roles

The findings reveal that pre-service teachers in England demonstrate a strongly positive and academically grounded perception of the role of the library. A clear majority of respondents, 22 (81.5%), agreed that the library provides a research space and a conducive reading environment, while none expressed disagreement, indicating a shared recognition of the library as an appropriate academic setting. Similarly, 19 respondents (70.3%) agreed that the library provides adequate resources to support them in staying updated within their areas of research, although 8 (29.6%) remained neutral. This suggests that while most pre-service teachers acknowledge the relevance of library resources, a notable proportion may not fully experience or utilise these resources consistently.

In relation to the development of independent research habits, 13 respondents (48.1%) agreed that the library helps them cultivate self-research skills, while 11 (40.7%) were neutral and 3 (11.1%) disagreed. This distribution indicates a more cautious or less definitive perception, suggesting that the library's role in actively shaping research behaviour is not uniformly experienced among pre-service teachers. Regarding the conceptualisation of the library as a research space, 19 respondents (70.3%) agreed that the library is a place for research, while 5

(18.5%) disagreed and 3 (11.1%) were neutral. This reinforces the dominant academic framing of the library, although a small proportion of dissenting views suggests variability in student engagement.

In contrast, perceptions of the library as a social space were largely negative. Only 9 respondents (33.3%) agreed with this notion, while 9 (33.3%) were neutral and another 9 (33.3%) disagreed, indicating that the library is predominantly viewed as a formal academic environment rather than a social or collaborative space. Further analysis shows that 13 respondents (48.1%) agreed that the library serves as a place to verify information taught in class, while 8 (29.6%) disagreed and 6 (22.2%) remained neutral. This split response suggests that although some students use the library for academic validation, others may rely on alternative sources, particularly digital platforms. A stronger consensus was observed regarding the role of the library in extending knowledge. A total of 18 respondents (66.7%) agreed that the library helps widen their understanding of classroom learning, while only 2 (7.4%) disagreed. Similarly, 21 respondents (77.8%) agreed that the library is a place to access information for assignments, reinforcing its instrumental role in academic tasks.

In addition, 17 respondents (63.0%) agreed that the library provides a quiet space for reflection, while 6 (22.2%) disagreed. Notably, almost all respondents, 24 (88.9%), agreed that the library is an important facility within an academic institution, with only 2 (7.4%) expressing disagreement. Overall, these findings indicate that pre-service teachers in England strongly associate the library with academic functions such as research, knowledge development, and assignment support, while placing less emphasis on its social role.

➤ **Perception of Library Facilities and Conditions**

The analysis of library facilities and conditions indicates that pre-service teachers generally perceive the learning environment as adequate, though with some variations across specific elements. Accessibility to the library location was rated as adequate or highly adequate by 20 respondents (74.0%), while only 3 (11.1%) rated it as inadequate. This suggests that physical access does not constitute a major barrier for most pre-service teachers. Operating hours received particularly strong ratings, with 22 respondents (81.5%) indicating that they were adequate or highly adequate, and none rating them as inadequate. This contrasts with the Nigerian context, where limited access time emerged as a key constraint.

The quality of electricity supply was rated as adequate by 19 respondents (70.4%), while 8 (29.6%) remained neutral. Similarly, lighting conditions were rated as adequate by 15 respondents (55.5%), though 4 (14.8%) considered them inadequate, suggesting some room for improvement. Ventilation was positively rated by 20 respondents (74.0%), while only 5 (18.5%) expressed dissatisfaction. These findings indicate that the physical comfort of the library environment is generally satisfactory. However, more mixed responses were observed regarding space and specialised facilities. For instance, the quality of space for books and materials was rated as adequate by 11 respondents (40.7%), while 8 (29.6%) rated it as inadequate and another 8 (29.6%) remained neutral. Similarly, the quality of research areas was rated as adequate by 13 respondents (48.1%), but 8 (29.6%) expressed dissatisfaction.

In terms of technological infrastructure, 15 respondents (55.5%) rated computer availability as adequate, while 5 (18.5%) considered it inadequate. Internet access was more positively perceived, with 20 respondents (74.0%) rating it as adequate or highly adequate. Toilet facilities received comparatively lower ratings, with 15 respondents (55.5%) indicating adequacy, but 7 (25.9%) expressing dissatisfaction. This highlights an area where improvements may enhance overall user experience. In summary, while the majority of respondents perceive library facilities as adequate, the presence of moderate dissatisfaction in specific areas suggests that infrastructural quality, rather than mere availability, influences user engagement.

➤ **Perception of Library Resources and Services**

The findings on library resources and services indicate generally positive perceptions, particularly in relation to the quality and availability of academic materials. A significant majority of respondents, 22 (81.5%), rated the condition of books and materials as adequate or highly adequate, while only 3 (11.1%) considered them inadequate. Similarly, 18 respondents (66.6%) rated the age of materials as adequate, suggesting general satisfaction with the currency of resources. The availability of diverse materials received particularly strong ratings, with 25 respondents (92.6%) indicating adequacy. Likewise, 23 respondents (85.2%) rated the availability of up-to-date textbooks positively, and 21 (77.7%) expressed satisfaction with electronic textbook access. Access to reference materials was also well regarded, with 21 respondents (77.8%) indicating adequacy. Similarly, 20 respondents (74.1%) agreed that the library provides current and relevant information for their research needs.

Journal accessibility was rated as adequate by 18 respondents (66.6%), while inter-library access services received even stronger ratings, with 23 respondents (85.2%) indicating satisfaction.

However, perceptions of library staff support were more mixed. Only 9 respondents (33.3%) agreed that staff were friendly and helpful, while 8 (29.6%) disagreed and 10 (37.0%) remained neutral. This suggests a potential gap in user support and engagement. Internet connectivity was rated as adequate by 15 respondents (55.6%), while 10 (37.0%) remained neutral, indicating variability in user experience. Photocopying and printing services were among the least positively rated, with only 11 respondents (40.7%) indicating adequacy, while 7 (25.9%) rated them as inadequate. The findings suggest that while core academic resources are strong and widely appreciated, service-related aspects, particularly user support and auxiliary services, require attention.

➤ **Summary of Key Patterns**

Across all dimensions, the data reveal a consistent pattern of generally positive perceptions of the library among pre-service teachers in England. The majority of respondents recognise the library as an essential academic resource, with strong ratings for its role in research, knowledge development, and assignment support. At the same time, the findings highlight important nuances. While access to resources and facilities is largely adequate, engagement appears to be influenced by experiential factors such as service quality, infrastructure limitations, and individual study preferences. From a conceptual standpoint, these results reinforce the distinction between provision and utilisation. Although the institutional context in England provides relatively strong infrastructural and resource support, this does not automatically translate into uniform or optimal engagement. Instead, pre-service teachers' interactions with the library are shaped by a combination of structural, behavioural, and perceptual factors. These findings provide a robust foundation for subsequent comparative analysis with the Nigerian case, particularly in understanding how differing institutional contexts influence the development and application of Information Literacy among pre-service teachers.

5.4.3 Perspectives of University Librarians on Library Orientation and Information Literacy for Pre-service Teachers in England (QLOIL)

This section presents a descriptive quantitative analysis of the perspectives of the university librarian at Uni B regarding library orientation and Information Literacy provision for pre-service teachers. The analysis is structured across key dimensions, including a brief presentation of the respondent, perceived importance of orientation, extent of provision, perceived effectiveness, and the adoption of Information Literacy models. Although the data are derived from a single

respondent, they provide useful institutional insight and complement the broader dataset that will add value to the qualitative analysis.

➤ **Brief Presentation of the Librarian**

The only librarian who participated in this study was female. In terms of academic qualification, the librarian held a Master of Science (M.Sc.) degree. While the sample size is limited to one respondent, this profile reflects a professionally qualified librarian operating within a UK higher education context. Although generalisation is not intended, the data offer a valuable institutional perspective that contributes to understanding how library orientation and Information Literacy are conceptualised and implemented within Uni B.

➤ **Perception of the Importance of Library Orientation**

The results reveal a very strong endorsement of library orientation as an essential component of students' academic experience. The librarian strongly agreed that pre-service teachers should receive formal orientation or training on how to use the library. There were no responses indicating disagreement, neutrality, or moderate agreement. This position underscores a clear institutional recognition of the importance of structured library orientation in supporting students' academic work. It also suggests alignment with broader Information Literacy principles, where early exposure to library systems is considered foundational to effective research, independent learning, and critical engagement with information.

➤ **Extent of Library Orientation or Provision**

The librarian indicated that library orientation at Uni B is systematically provided, particularly at the point of entry into the programme. Specifically, orientation activities such as introduction to library resources; spaces and services; databases; subject guides; library search; and basic search strategies, are delivered on resumption. There were no indications of ongoing provision across semesters or sessions, suggesting that orientation is primarily front-loaded rather than embedded longitudinally throughout the programme. This pattern reflects a structured but time-bound approach to orientation, where foundational knowledge is provided at the beginning of the academic journey. While this ensures initial exposure, it may also imply limited reinforcement of Information Literacy skills over time, which has implications for sustained engagement and skill development.

➤ **Perceived Effectiveness of Library Orientation**

In terms of effectiveness, the librarian's responses indicate a consistently positive evaluation of orientation activities. Across all components, responses to introduction to resources, databases, search tools, and strategies these as helpful. There were no responses indicating that orientation was "not helpful" or only "somewhat helpful." This suggests a high level of confidence in the value and impact of the orientation provided. The librarian perceives these interventions as adequately supporting students in navigating library systems and accessing academic resources. However, it is noteworthy that responses were categorised as "helpful" rather than "very helpful," which may indicate room for enhancement in terms of depth, delivery, or sustained engagement.

➤ **Adoption of Information Literacy Models**

The findings reveal a notable gap between awareness and adoption of formal Information Literacy frameworks. The librarian indicated that the institution had not formally adopted any Information Literacy model. Further analysis shows varying levels of familiarity and non-adoption across specific models:

- Big6 Skills Model: reported as not known
- EXIT Model reported as not known
- SCONUL Framework: reported as not adopted at all
- CILIP Framework: reported as not adopted at all

These results suggest that, although library orientation is actively provided, it is not explicitly grounded in recognised Information Literacy frameworks. This indicates an implicit rather than formalised approach to Information Literacy development within the institution. From a conceptual standpoint, this reflects a disconnect between practice and theory, where instructional activities occur without being systematically aligned to established models that could enhance coherence, progression, and assessment of Information Literacy skills.

Summary of Key Patterns

A number of clear and interrelated patterns emerge from the analysis of the librarian's responses in the England case study. Taken together, these patterns provide a nuanced picture of a context in which library support for pre-service teachers is visible, valued, and institutionally recognised, yet still characterised by opportunities for deeper pedagogical integration. The findings are particularly significant when interpreted through the conceptual framework of this

study, which foregrounds the interrelationship between access, engagement, and the development of Information Literacy capabilities.

Strong Institutional Recognition of the Importance of Library Orientation

The first pattern is the strong institutional acknowledgement of the importance of library orientation for pre-service teachers. The librarian expressed unequivocal support for the view that students should receive guidance on how to use the library and its associated systems. This suggests that orientation is not regarded as an optional enhancement, but as a necessary component of students' academic transition into higher education. Such recognition is important because it reflects an understanding that students do not automatically arrive with the knowledge required to navigate academic information environments effectively. University libraries are increasingly complex spaces that combine physical collections, digital databases, discovery tools, referencing systems, and specialist support services. Without structured induction, many students may underuse or misunderstand the resources available to them. The librarian's perspective therefore aligns with a substantial body of literature which argues that early orientation can reduce uncertainty, promote confidence, and encourage more purposeful engagement with academic resources. In the context of teacher education, this recognition carries additional significance. Pre-service teachers are not only learners themselves; they are also future professionals who will be expected to model inquiry, evidence-informed decision-making, and critical engagement with knowledge. Supporting them to use information systems effectively during training therefore contributes to both immediate academic success and longer-term professional competence.

Structured and Comprehensive Provision, but Front-Loaded Delivery

The second pattern concerns the nature of orientation provision itself. The evidence suggests that orientation at the institution is structured and relatively comprehensive in content. Students are introduced to key elements such as library resources, learning spaces, search tools, databases, and basic search strategies. These are foundational aspects of academic information use and indicate that the institution has established a coherent entry-point for new learners. However, the data also suggest that this provision is concentrated primarily at the beginning of the academic programme. In other words, orientation appears to be front-loaded rather than sustained across the duration of study. While an effective induction is valuable, Information Literacy development is rarely achieved through a single intervention. Students' needs evolve as they progress from introductory assignments to more advanced research tasks, school placements, dissertations, and professional inquiry.

This pattern raises an important pedagogical consideration: initial exposure does not necessarily lead to long-term competence. Skills such as evaluating sources, synthesising evidence, refining search strategies, and applying information ethically are typically strengthened through repeated practice in authentic contexts. A one-time orientation may introduce these ideas, but ongoing reinforcement is often needed if students are to internalise and apply them confidently. For pre-service teachers in particular, scaffolded support across the programme could be especially beneficial. As students encounter curriculum planning, practitioner research, policy analysis, and placement reflection, their engagement with information becomes more complex. Continuous library input at these stages could help bridge the gap between generic orientation and discipline-specific application.

High Perceived Effectiveness of Existing Practices

A third pattern is the high level of confidence expressed in the effectiveness of current orientation practices. The librarian viewed the orientation provided to students as helpful across all key areas identified in the questionnaire. This indicates that, from the practitioner perspective, existing provision is making a meaningful contribution to student learning. This positive judgement should not be dismissed. Librarians are well placed to observe student interactions with systems, common areas of difficulty, and recurring support needs. Their professional assessment that orientation is beneficial suggests that students are likely gaining practical value from the sessions offered. It may also reflect thoughtful design, responsive delivery, and familiarity with the challenges faced by new entrants to university study. At the same time, perceived effectiveness should be interpreted alongside the broader evidence base. Positive practitioner views are valuable, but they do not automatically demonstrate the full extent of student learning or long-term behavioural change. Students may feel more confident immediately after orientation yet still require further support when faced with complex research tasks later in their programme. The findings therefore point not to inadequacy, but to the importance of complementing successful initial provision with developmental follow-up.

Absence of Formal Information Literacy Frameworks

A fourth and particularly significant pattern is the apparent absence of formal Information Literacy frameworks guiding practice. Although orientation activities were in place and positively regarded, the data did not indicate explicit adoption of recognised models or frameworks to structure provision. This distinction matters because frameworks can provide conceptual coherence, progression pathways, and shared language for teaching and assessment. Rather than

treating orientation as a set of isolated practical demonstrations, frameworks help institutions articulate what students should know, understand, and be able to do at different stages of their learning journey. They can also strengthen collaboration between librarians and academic staff by linking library teaching more directly to curriculum outcomes. The absence of an explicit framework does not mean that effective practice is absent. Many institutions develop strong local approaches without formally naming a model. Nevertheless, the findings suggest that provision may be operating more pragmatically than strategically. Where no guiding framework is in place, there is a risk that Information Literacy remains peripheral, episodic, or dependent on individual staff initiative rather than embedded as a shared educational priority.

Interpretation Through the Conceptual Framework

When mapped onto the conceptual framework underpinning this study, these findings reveal an uneven but informative pattern across the dimensions of access, engagement, and skill development. Access appears to be the strongest dimension. Students are introduced to resources, systems, and services, and the institutional commitment to orientation indicates that pathways into the library environment are well established. Infrastructural and procedural access, therefore, seems relatively secure in this context. Engagement is present but less fully developed. Students are given opportunities to begin interacting with library tools and resources, yet the concentration of support at programme entry suggests that engagement may not be systematically sustained across subsequent stages of study. Skill development is the least explicit dimension. While students are likely gaining useful practical knowledge, the absence of a formal framework and the limited evidence of scaffolded progression suggest that higher-order Information Literacy capabilities may depend on indirect or incidental learning rather than intentional developmental design.

Implications for Cross-Case Understanding

These patterns are especially important because they provide a valuable point of comparison with the Nigeria case study. In the England context, provision is visible, organised, and positively perceived, demonstrating the benefits of stronger institutional infrastructure and established support systems. Yet the findings also show that resource-rich environments do not automatically guarantee fully integrated Information Literacy development. The central issue, therefore, is not only whether support exists, but how that support is conceptualised, sequenced, and connected to the wider teacher education curriculum. This insight strengthens the comparative argument of the thesis: effective Information Literacy development depends not simply on

availability of services, but on the depth of pedagogical integration through which students encounter, practise, and apply those services over time.

Concluding Perspective

Overall, the analysis portrays an institution that values and provides meaningful orientation for pre-service teachers, offering a strong foundation for academic engagement. However, it also highlights the next stage of development: moving from orientation as an entry activity to Information Literacy as a continuous, curriculum-embedded learning process. In this sense, the England case reflects a system with considerable strengths, but also with clear opportunities to deepen coherence, progression, and professional relevance within teacher education.

5.5 Qualitative Findings: Interview Data

This section presents the qualitative findings from semi-structured interviews conducted with key participants in the Uni B case. In line with the mixed-methods design, these interviews provide deeper insight into the patterns identified in the survey data, allowing for a more nuanced understanding of pre-service teachers' engagement with library resources and Information Literacy. The analysis adopts a thematic approach, which involves identifying, analysing, and interpreting patterns of meaning across the data (Braun & Clarke, 2006; Nowell et al., 2017). Themes were generated inductively from the data while also being informed by the study's conceptual framework, particularly Information Literacy, metacognitive development, and the transfer of learning across contexts. To ensure coherence and comparability with the Nigerian case, the findings are presented by participant group: pre-service teachers, librarian, course coordinator, and placement tutor. Each subsection concludes with a synthesis of key themes, highlighting the most salient analytical insights.

5.5.1 Thematic Analysis of Interviews with Pre-Service Teachers (Uni B - England)

This section presents a thematic analysis of the interviews conducted with two pre-service teachers in England (PST1 and PST2). The analysis identifies seven key patterns in their experiences of library use, access to resources, and Information Literacy, while also highlighting areas of convergence and divergence.

Theme 1: Functional but Selective Engagement with the Library

Both pre-service teachers in Uni B described their use of the university library as ‘moderate to low’, shaped largely by immediate academic demands rather than sustained engagement. For example, PST 1 reported increased usage only during assessment periods, while PST 2 described generally low personal use despite recognising the library’s value.

Interpretation:

This suggests a pattern of instrumental engagement, where the library is used primarily as a task-oriented resource rather than as an integral part of ongoing learning. Such behaviour reflects findings in the literature that students often engage with academic libraries in episodic ways, particularly when usage is driven by assessment deadlines rather than embedded learning practices (Head, 2013).

Theme 2: Structural and Temporal Barriers to Access

A significant barrier identified, particularly by PST 1, relates to ‘time constraints and commuting distance’. The structure of the university day, combined with long travel times, limited opportunities for extended library use. This highlights how practical and logistical factors can shape engagement, even in well-resourced contexts.

Interpretation:

Interestingly, this differs from resource-based constraints often identified in other contexts, suggesting that in the Uni B case, barriers are less about access and more about time, scheduling, and student lifestyle.

Theme 3: Orientation as Informal, Overloaded, and Insufficiently Retained

Both participants confirmed that they received some form of library orientation. However, this was described as:

- Brief and informal
- Delivered during a busy induction period
- Difficult to fully absorb at the time

PST 1, in particular, emphasised that the volume of information presented during induction reduced its effectiveness. PST 2 similarly suggested that orientation might be more impactful if delivered later in the programme, closer to when pre-service teachers actually need to use the library.

Interpretation:

This points to a key issue regarding timing and delivery matter as much as content. Orientation provided too early or too superficially may fail to translate into meaningful understanding or use. This aligns with research suggesting that Information Literacy support is most effective when delivered at the point of need and reinforced over time (Association of College and Research Libraries, 2016).

Theme 4: Absence of Explicit Information Literacy Awareness

A striking finding across both participants is the complete lack of awareness of Information Literacy frameworks or models. Neither PST 1 nor PST 2 recalled being introduced to any Information Literacy model.

Interpretation:

This suggests that, although elements of Information Literacy may be implicitly present within teaching, they are not explicitly framed or recognised as such by pre-service teachers. As a result, they may develop fragmented skills without a coherent understanding of how to apply them systematically.

Theme 5: Perceived Value of the Library Versus Emotional and Cognitive Barriers

Despite relatively low usage, both participants expressed positive perceptions of the library, describing it as well-resourced, accessible, and beneficial. However, this was accompanied by references to the library as a “daunting” or intimidating space (PST 1) and a sense that students may not fully understand how to navigate it.

Interpretation:

This reveals an important tension between perceived value and actual engagement. Even in a well-functioning system, psychological and experiential barriers can limit effective use.

Theme 6: Strong Digital Infrastructure but Limited Pedagogical Integration

PST 2 highlighted the strengths of Uni B's digital systems, including online catalogues, electronic resources, and ease of access. However, this strength did not necessarily translate into deeper engagement or consistent use.

Interpretation:

This suggests that technological provision alone is insufficient without corresponding pedagogical integration. Pre-service teachers may have access to high-quality systems but still lack the guidance needed to use them meaningfully.

Theme 7: Suggestions for Improvement – Visibility, Timing, and Compulsory Engagement

Participants suggested several ways to improve engagement. These include more targeted and detailed orientation; better timing of induction activities; increased visibility and promotion of services; and potential integration of mandatory or structured training elements.

Interpretation:

These suggestions point towards the need for a more intentional and structured approach to Information Literacy development within the programme.

Analytic Synthesis

In all, the data from pre-service teachers reveal a clear pattern of recognition without deep engagement. While pre-service teachers value the library and acknowledge its importance, their use remains limited, inconsistent, and largely driven by immediate academic needs. The findings highlight three key analytical insights:

- Access does not guarantee engagement - Even in a resource-rich environment, structural, temporal, and psychological factors can limit use.
- Orientation alone is insufficient - One-off, early-stage orientation does not lead to sustained understanding or application.
- Information Literacy remains implicit rather than explicit - The absence of clear conceptual framing limits students' ability to internalise and transfer their learning.

These findings strongly reinforce the broader argument of the study: that effective Information Literacy development requires sustained, embedded, and contextually meaningful engagement, rather than reliance on initial provision alone.

5.5.2 Thematic Analysis of Interview with Librarian (England)

The interview with the university librarian provides an important institutional perspective on the role of the library in supporting pre-service teachers' learning and the development of Information Literacy. The analysis reveals a well-developed system of provision, underpinned by strong institutional intentions, but also highlights several tensions relating to access, engagement, and the effectiveness of support mechanisms. The findings are organised into key themes.

Theme 1: Comprehensive and Proactive Resource Provision

A dominant theme in the librarian's account is the library's commitment to providing comprehensive, relevant, and up-to-date academic resources. The librarian emphasised that resources are closely aligned with academic reading lists submitted by lecturers, while also being supplemented by additional materials identified through ongoing monitoring of new publications.

Interpretation:

This reflects a proactive and academically integrated approach to collection development, where the library is positioned as an essential partner in supporting teaching and learning. Such alignment between library provision and curriculum design is widely recognised as a key factor in enhancing student engagement with academic resources (Association of College and Research Libraries, 2016). At the same time, the librarian highlighted the breadth of provision across both physical and digital formats, indicating an institutional commitment to ensuring that students have multiple pathways to access learning materials.

Theme 2: Digital-First Strategy and Institutional Resilience

A particularly significant theme is the library's adoption of a "digital-first" policy, prioritising electronic resources wherever possible. This approach was described as central to the library's strategy and proved especially valuable during the COVID-19 pandemic, when physical access to the library was restricted.

Interpretation:

The emphasis on digital provision reflects broader shifts in higher education towards flexible, technology-enabled learning environments, where pre-service teachers can access resources remotely and at any time (Chartered Institute of Library and Information Professionals, 2018). The librarian's account suggests that this strategy has enhanced the accessibility and continuity of learning resources, positioning the library as a resilient and adaptable institutional actor. However, the reliance on digital access also introduces new challenges, particularly in relation to equity and inclusivity, as discussed below.

Theme 3: Supporting Independent Learning and Information Literacy

The librarian articulated a clear role for the library in supporting independent learning and fostering self-directed study habits. This is facilitated through structured reading lists, online platforms, and instructional sessions designed to help students navigate resources.

Interpretation:

In addition, the library offers teaching sessions embedded within academic programmes, where librarians work directly with students to develop their ability to locate and use information. These practices align with contemporary understandings of Information Literacy as a developmental and context-dependent process, rather than a discrete set of technical skills (Association of College and Research Libraries, 2016). However, the librarian acknowledged that engagement with these resources and sessions is often dependent on student motivation and uptake, suggesting that the impact of such initiatives may vary significantly across the student population.

Theme 4: Multi-Modal and Largely Informal Orientation Practices

The data reveal a multi-layered approach to library orientation, encompassing:

- self-directed online materials (guides, videos, virtual tours)
- in-person or online induction sessions
- ongoing, targeted support delivered in collaboration with academic staff

While this range of provision reflects a strong commitment to accessibility and flexibility, orientation activities were described as largely informal and unassessed. Although attendance may sometimes be recorded, these sessions are not graded and do not form a formal component of students' assessed learning.

Interpretation:

This raises important questions about the perceived value and impact of orientation, as research suggests that students are more likely to engage with learning activities that are explicitly integrated into the curriculum and linked to assessment (Biggs & Tang, 2011). The absence of formal accountability may therefore limit the extent to which pre-service teachers prioritise and internalise Information Literacy learning.

Theme 5: Hidden Barriers and Unequal Access

A particularly critical theme emerging from the librarian's account is the recognition of hidden and unequal barriers to access, most notably digital poverty. Despite the extensive availability of digital resources, the librarian acknowledged that not all students are equally able to benefit from these provisions.

Interpretation:

This highlights a key tension within contemporary higher education such that, while digital strategies can enhance access in principle, they may also reproduce or exacerbate existing inequalities if students lack the necessary devices, connectivity, or digital skills (Secker & Coonan, 2011). The librarian's awareness of these issues reflects a critical and reflexive understanding of the limits of institutional provision. Efforts to address these challenges include collaboration with student support services and the provision of accessibility tools, demonstrating an institutional commitment to inclusive practice.

Theme 6: Collaboration with Academic Staff and Targeted Interventions

Another important theme is the role of collaboration between the library and academic departments. The librarian noted that targeted interventions are often developed in partnership with academic staff, particularly for student groups identified as having lower levels of engagement.

Interpretation:

This collaborative approach reflects best practice in higher education, where effective Information Literacy development is achieved through integration within disciplinary teaching, rather than being treated as a standalone activity (Association of College and Research Libraries, 2016). Such partnerships also enable the library to tailor its support to the specific needs of different cohorts, thereby enhancing relevance and impact.

Theme 7: Reflective Practice and Recognition of Institutional Limitations

Finally, the librarian demonstrated a strong sense of reflective practice, acknowledging that there may be gaps in provision that are not yet fully understood. The recognition that “there may be things that we are not aware of” highlights an openness to ongoing evaluation and improvement.

Interpretation:

This reflexive stance is significant, as it indicates that the library does not assume that provision alone is sufficient, but rather recognises the need for continuous dialogue with students and staff to identify and address emerging needs.

Analytic Synthesis

Overall, the librarian’s account presents a picture of a well-resourced, strategically developed, and student-focused library system, characterised by strong institutional commitment and a wide range of support mechanisms. However, the thematic analysis also reveals several important tensions.

First, there is a clear gap between extensive provision and variable student engagement. While resources, services, and support structures are robust, their impact depends heavily on pre-service teachers’ uptakes and integration into teaching practices. Second, the informal and optional nature of orientation and support may limit their effectiveness. Without stronger curricular embedding and assessment linkage, Information Literacy development may remain peripheral to students’ learning. Third, issues of equity and access persist, particularly in relation to digital provision, highlighting the need for ongoing attention to inclusion and support for diverse pre-service teachers’ needs. Altogether, these findings suggest that while Uni B’s library represents a strong example of institutional provision, its effectiveness ultimately depends on how well it is embedded within the pedagogical and lived realities of students’ learning experiences.

5.5.3 Thematic Analysis of Interview with Course Coordinator (PGCE Programme-England)

The qualitative analysis of the course coordinator’s interview generated a set of interrelated themes that illuminate how Information Literacy is conceptualised, embedded, enacted, and

evaluated within the Initial Teacher Education programme. The findings reflect a complex interplay between policy mandates, institutional practices, and pedagogical priorities.

Theme 1: Policy-Framed Conceptualisation of Information Literacy

A central theme emerging from the data is that Information Literacy is not explicitly articulated as a discrete construct within the programme, rather, it is implicitly embedded within national policy frameworks. The course coordinator highlighted the structuring influence of the Department for Education's Initial Teacher Training and Early Career Framework (ITTECF), which organises teacher learning into “learn that”, that is, knowledge, and “learn how to”, which is practice components.

Interpretation:

This framing positions Information Literacy as the capacity to engage with prescribed knowledge bases and apply them in pedagogical contexts. Engagement with literature is therefore strongly shaped by policy-endorsed reading lists, reflecting a top-down approach to knowledge selection. While this ensures alignment with national expectations, it may also constrain opportunities for broader critical inquiry. This finding resonates with critiques of standards-based reforms that emphasise compliance and performativity over critical professional judgement (Ball, 2003; Whitworth, 2014).

Theme 2: Embedded and Distributed Model of Information Literacy Development

The analysis indicates that Information Literacy is developed through an embedded, rather than standalone, approach. The course coordinator identified multiple sites of Information Literacy development, including:

- Library induction sessions,
- Academic reading and writing workshops,
- The “Developing Teacher” module,
- Master's-level assignments.

In addition, Information Literacy practices are modelled implicitly through teaching, such as demonstrating referencing conventions, curating reading lists, and exemplifying critical engagement with sources during lectures and workshops.

Interpretation:

This reflects a disciplinary-embedded approach to Information Literacy, consistent with the framework advanced by the Association of College and Research Libraries (2016), which emphasises the integration of Information Literacy within subject learning contexts. However, the course coordinator also noted that the time allocated to explicit Information Literacy instruction is minimal due to the intensive structure of the PGCE programme, where a significant proportion of time is spent in school placements. This supports existing research that highlights the marginalisation of academic literacies within compressed professional programmes (Ellis & Goodyear, 2019).

Theme 3: Information Literacy as Critical Engagement with Research and Practice

The course coordinator conceptualised Information Literacy primarily as the ability to select relevant and credible sources; critically evaluate academic literature; synthesise multiple perspectives and apply research evidence to classroom practice. These competencies are particularly evident in the completion of Master's-level assignments, where students are required to integrate theoretical knowledge with practical experience. Information Literacy is thus framed not merely as a technical skill but as a higher-order cognitive and reflective process.

Interpretation:

This aligns with socio-constructivist perspectives on Information Literacy, which view it as participation in disciplinary knowledge practices (Lloyd, 2010). Furthermore, the increasing presence of artificial intelligence in academic work introduces new dimensions of Information Literacy, particularly in evaluating the authenticity and relevance of sources. This reflects emerging scholarship that calls for an expanded understanding of Information Literacy in digitally mediated environments (Head et al., 2020).

Theme 4: Variability in Students' Information Literacy Capabilities

The data reveal considerable variation in students' Information Literacy competencies upon entry and throughout the programme. The coordinator attributed this variability to factors such as:

- Prior academic background,
- Experience with academic writing,
- Familiarity with disciplinary language and conventions,
- Confidence in engaging with research literature.

Interpretation:

Pre-service teachers from non-traditional or practice-oriented academic backgrounds were perceived to face greater challenges in navigating academic texts and constructing evidence-based arguments. This finding is consistent with the academic literacies model, which emphasises that engagement with academic discourse is socially situated and unevenly distributed (Lea & Street, 1998) and remains evident in contemporary higher education research showing that students enter university with unequal familiarity with academic conventions and discourse practices (Wingate, 2022). Progression in Information Literacy is therefore developmental and contingent, requiring both structured support and individual agency.

Theme 5: Assessment as a Proxy for Information Literacy Competence

Assessment emerged as the primary mechanism through which Information Literacy is evaluated. In particular, Master's-level assignments serve as key indicators of students' ability to:

- Engage with relevant literature,
- Construct coherent and evidence-based arguments,
- Demonstrate critical understanding,
- Apply research to practice.

Interpretation:

In addition to formal assessment, Information Literacy development is inferred through ongoing observations, mentor feedback, and students' reflective engagement with their learning. This reflects an authentic assessment approach, where competencies are demonstrated through meaningful academic and professional tasks (Villarroel et al., 2018). Notably, Information Literacy is not assessed as a discrete competency but is embedded within broader evaluative criteria, reinforcing its implicit status within the programme.

Theme 6: Structural Constraints on Information Literacy Integration

The course coordinator identified several structural constraints that limit the explicit integration of Information Literacy within the programme. The most significant of these include:

- Limited curriculum time due to competing priorities (safeguarding, behaviour management, subject pedagogy),
- Strong alignment requirements with national policy frameworks,

- The intensive and practice-oriented nature of the PGCE structure.

Interpretation:

These constraints necessitate a pragmatic approach, where Information Literacy is integrated where possible but cannot be foregrounded as a central focus. This reflects broader tensions in teacher education between policy compliance and the development of critical, research-informed practitioners (Biesta, 2015).

Theme 7: Opportunities for Enhancing Information Literacy Provision

Despite these constraints, the course coordinator identified potential areas for improvement, including:

- Providing pre-course preparatory resources to support early Information Literacy development,
- Enhancing students' readiness for academic study prior to programme entry,
- Increasing awareness of available library and learning support services,
- Strengthening the alignment between theoretical and practical components of the programme.

Interpretation:

These suggestions point towards a more proactive and developmental approach to Information Literacy, beginning prior to formal enrolment and continuing throughout the programme. This aligns with calls for scaffolded and longitudinal approaches to Information Literacy development in higher education (McGrew et al., 2018).

Analytic Summary

The course coordinator's perspective reveals that Information Literacy within the Initial Teacher Education programme is implicitly embedded, policy-driven, and assessment-mediated. While pre-service teachers are supported to develop critical engagement with research and professional knowledge, this occurs within significant structural constraints, particularly limited time and strong national policy direction. The findings highlight a fundamental tension between instrumental alignment with prescribed frameworks and aspirations for critical, reflective professional learning. Information Literacy is therefore positioned as an integrated but under-

explicit dimension of teacher education, suggesting the need for more intentional, visible, and sustained approaches to its development within Initial Teacher Education programmes.

5.5.4 Thematic Analysis of Interview with Placement Tutor (England)

The interview with the placement tutor provides insight into how Information Literacy is interpreted and enacted within school placement contexts. The analysis generated five key themes: (1) implicit expectations of Information Literacy, (2) integration within curriculum practices, (3) reliance on modelling and experiential learning, (4) challenges of resource evaluation and variability, and (5) structural constraints and limited prioritisation.

Theme 1: Implicit Expectations of Information Literacy Competence

A prominent theme is the assumption that pre-service teachers already possess a foundational level of Information Literacy upon entering placement. The placement tutor articulated an expectation that, as postgraduate students, pre-service teachers should demonstrate a good understanding of Information Literacy, particularly in their own academic and professional practices. This reflects a broader trend in higher education where Information Literacy is often treated as an assumed graduate attribute rather than an explicitly taught competency (Head, 2013; Saunders, 2012). Consequently, the focus during placement shifts from developing personal Information Literacy to applying it pedagogically in classroom contexts.

Interpretation:

This implicit expectation may obscure variations in students' prior experiences, potentially disadvantaging those with less developed competencies (Gross & Latham, 2012). The absence of explicit benchmarking or diagnostic assessment further reinforces this assumption-led approach.

Theme 2: Information Literacy as Embedded within Curriculum Practices

Information Literacy in the placement school is not conceptualised as a discrete construct but is embedded within existing curriculum areas, particularly English and topic-based learning. The tutor noted that activities such as non-fiction writing, research tasks, and note-taking are used to support pupils' engagement with information.

Interpretation:

This aligns with the embedded model of Information Literacy, where skills are integrated into subject teaching rather than delivered as standalone instruction (Andretta, 2005; Lloyd, 2010). While this approach promotes contextual relevance, it may also lead to conceptual ambiguity, as neither teachers nor pre-service teachers explicitly identify these practices as Information Literacy. Furthermore, the absence of a dedicated policy or structured framework suggests that implementation is largely informal and teacher-dependent, echoing findings from previous studies highlighting inconsistencies in school-based Information Literacy provision (Williams & Wavell, 2007).

Theme 3: Learning through Modelling and Gradual Responsibility

The development of pre-service teachers' practices is strongly mediated through modelling and scaffolded participation. During the initial placement phase, pre-service teachers observe experienced teachers and deliver lessons based on pre-existing plans. In later stages, they assume greater responsibility for planning and integrating research-based activities into teaching.

Interpretation:

This progression reflects principles of situated learning and cognitive apprenticeship, where knowledge is acquired through participation in authentic professional contexts (Lave & Wenger, 1991; Collins, Brown, & Newman, 1989). The placement tutor plays a key role in demonstrating how to structure research tasks, guide pupils' information use, and evaluate resources. However, reliance on modelling also means that the quality of learning is contingent on the mentor's own understanding and prioritisation of Information Literacy, potentially leading to uneven experiences across placements.

Theme 4: Challenges in Resource Selection and Evaluation

A significant challenge identified is pre-service teachers' difficulty in locating and evaluating high-quality information sources, particularly online. The tutor observed that pre-service teachers often default to "the first thing they find," indicating limited critical evaluation skills.

Interpretation:

This aligns with established research highlighting students' struggles with source credibility, relevance, and digital information discernment (Julien & Barker, 2009; Wineburg & McGrew, 2017). The vastness of online information environments further exacerbates this challenge,

especially in the absence of structured guidance. In response, the placement tutor adopts a guided approach, directing pre-service teachers towards pre-selected resources and modelling criteria for quality evaluation. While effective in the short term, this may limit opportunities for independent critical engagement if not progressively withdrawn.

Theme 5: Structural Constraints and Limited Prioritisation

Time emerges as the most significant barrier to the integration of Information Literacy during placement. The tutor emphasised that pre-service teachers' primary focus is on managing teaching responsibilities, particularly as they assume up to 80% of the timetable. Consequently, Information Literacy is often deprioritised in favour of core subject delivery. Additionally, systemic factors such as the knowledge-heavy national curriculum and the absence of explicit Information Literacy requirements within teacher training frameworks further constrain its inclusion.

Interpretation:

This reflects broader critiques of performative and accountability-driven educational systems, where measurable outcomes take precedence over broader competencies (Biesta, 2010). Resource-related constraints also play a role. The ongoing development of the school library and limited non-fiction materials restrict opportunities for authentic information-seeking activities. Moreover, organisational practices may not support the development of transferable library navigation skills.

Synthesis of Themes

The placement tutor's account reveals that Information Literacy within school placements is largely implicit, context-dependent, and constrained by structural realities. While pre-service teachers are expected to possess baseline competencies, their development during placement is shaped primarily through modelling, observation, and experiential learning rather than explicit instruction. The integration of Information Literacy into classroom practice occurs in embedded and informal ways, often linked to curriculum tasks such as research and non-fiction writing. However, this lack of explicit conceptualisation, combined with variability in school resources and mentoring practices, results in inconsistent learning experiences. Critically, time pressures and competing priorities significantly limit the extent to which Information Literacy can be foregrounded during placement. As a result, while pre-service teachers may develop practical strategies for supporting pupils' engagement with information, their own critical and reflective understanding of Information Literacy may remain underdeveloped. The findings suggest a need for stronger alignment between university-based instruction and school-based practice, as well as

more explicit recognition of Information Literacy as a core component of teacher professional competence.

5.6 Institutional Perspectives on Library Provision

This section synthesises institutional-level perspectives on library provision for pre-service teachers in England, drawing on interviews with the academic librarian, course coordinator, and placement tutor. The analysis focuses on how libraries are positioned, accessed, and utilised within and across university and school contexts, particularly in relation to supporting Information Literacy development. A structured thematic approach is adopted, highlighting convergences and tensions between institutional intentions and practical realities. Across participants, library provision is understood not simply as a physical or digital resource, but as part of a broader ecosystem of academic support, professional learning, and pedagogical practice (Corrall, Kennan, & Afzal, 2013; Oakleaf, 2010).

5.6.1 Librarian's Perspectives on Library Provision

From the librarian's perspective, the university library is conceptualised as a central academic infrastructure designed to support teaching, learning, and research. Library provision is both resource-based with access to books, journals, databases, and instructional, that is, including induction sessions, guidance on search strategies and referencing.

A key theme is structured access and early orientation. Pre-service teachers are introduced to library services at the beginning of their programme through formal induction sessions. These sessions aim to familiarise students with both physical and digital resources, as well as essential academic practices such as referencing and information retrieval. This aligns with best practices in Information Literacy instruction, which emphasise early and scaffolded engagement (Julien, 2005; Secker & Coonan, 2013). Another important theme is the expansion of digital provision. The librarian highlighted the increasing reliance on online databases, e-books, and digital platforms, reflecting wider shifts in higher education towards digital scholarship. This digital emphasis enhances accessibility, particularly for students on placement who may not be physically present on campus (Tenopir et al., 2015).

However, this shift also contributes to the decline in engagement with physical resources, including curriculum materials and children's literature collections. Despite their pedagogical value, these resources are underutilised, largely due to time constraints and limited campus presence. This finding resonates with research indicating changing patterns of library use in

teacher education contexts (Branch-Mueller & de Groot, 2011). The librarian also emphasised supportive but indirect collaboration with academic staff. While librarians contribute to resource curation and provide expertise when consulted, their role in curriculum planning remains limited. This reflects a common institutional model where librarians operate as support partners rather than embedded collaborators (Lupton, 2014). In all, the librarian's perspective positions the library as a well-resourced but under-leveraged asset, with strong potential to support Information Literacy if more fully integrated into programme structures.

5.6.2 Course Coordinator Perspectives on Library Provision

The course coordinator's perspective highlights a more curriculum-driven and policy-influenced view of library provision. Library use is closely aligned with programme requirements, particularly in relation to academic assignments and engagement with prescribed reading. The course coordinator discussed programme structure, curriculum expectations, placement experiences, and the development of professional competencies. The ITT Criteria provide the policy framework within which these decisions are made.

A central theme is the influence of national policy frameworks, particularly the Initial Teacher Training and Early Career Framework (ITTECF). This framework shapes what pre-service teachers are expected to know and how they engage with research. Consequently, library provision is partly oriented towards ensuring access to policy-endorsed texts and core readings, reflecting a more instrumental approach to resource use (Department for Education, 2019).

Another key theme is the integration of library use within academic assessment. The coordinator identified written assignments as the primary context in which students engage with library resources. Through these tasks, students are expected to demonstrate skills in sourcing, evaluating, and applying academic literature. This aligns with the concept of assessment-driven learning, where engagement with resources is largely motivated by formal evaluation (Gibbs, 2010). The coordinator also emphasised the role of academic skills development, including critical reading, source selection, and referencing. These are introduced through workshops and embedded teaching sessions, often in collaboration with library services. However, due to the intensive and time-constrained nature of the programme, explicit instruction in Information Literacy is limited.

A further theme is the tension between breadth and depth. The programme must cover a wide range of content areas within a short timeframe, leaving limited scope for sustained engagement with library-based learning. As a result, Information Literacy and library use are often integrated implicitly rather than taught explicitly. Collaboration with librarians, while valued, is

described as selective and mediated, often occurring through designated representatives or specific requests rather than ongoing partnership. This limits the potential for fully embedded library provision within the curriculum (McGuinness, 2006). In summary, the course coordinator views the library as an essential academic support, but one whose use is shaped by external policy demands, assessment structures, and programme constraints.

5.6.3 Placement Tutor Perspectives on Library Provision

The placement tutor provides a contrasting perspective grounded in the realities of school-based practice. Here, library provision is more variable, less formalised, and often constrained by local conditions. The placement tutor repeatedly identified time pressures, workload demands, curriculum coverage, and competing priorities as barriers to information literacy development and library engagement. The DCU Teacher Well-being Study (2026) study provides contemporary evidence that these concerns are not isolated to one participant or one school but reflect wider systemic challenges affecting teachers.

A key theme is the limited and evolving role of school libraries. While the school has invested in developing library spaces, these are still in transition, particularly in terms of non-fiction and curriculum-relevant resources. As a result, the library is used more for reading and book borrowing than for structured information-seeking activities. Another theme is the absence of formal policies or frameworks guiding library use for Information Literacy. Instead, practices are embedded within classroom activities, such as topic-based research and non-fiction writing. This reflects an informal and practice-based approach, consistent with findings that school libraries are often underutilised as instructional spaces (Williams & Wavell, 2007). The tutor also highlighted minimal collaboration with library or resource staff. In this context, library management is largely administrative, and there is no dedicated librarian role. Consequently, pre-service teachers have limited opportunities to engage with professional expertise in information management.

A significant theme is the impact of time and workload pressures. Both teachers and pre-service teachers prioritise core teaching responsibilities, leaving little room for structured engagement with library resources. This aligns with broader evidence on the constraints of school-based teacher education (Burn & Mutton, 2015). Additionally, the placement tutor noted variability across schools, suggesting that access to and use of library resources depend heavily on individual school contexts. This variability can lead to inconsistent experiences for pre-service teachers, particularly in developing transferable Information Literacy practices. The placement

tutor's perspective collectively presents library provision as context-dependent, under-resourced, and peripheral to core teaching activities, despite its recognised potential value.

5.6.4 Summary of Institutional Perspectives

Across the three institutional perspectives, a complex and somewhat fragmented picture of library provision emerges. While all participants acknowledge the importance of libraries in supporting learning and Information Literacy, their roles and levels of integration differ significantly across contexts.

At the university level, the library is well-developed, resource-rich, and strategically positioned, offering both access to information and instructional support. However, its impact is moderated by limited integration into the curriculum and students' restricted engagement, particularly with physical resources. From the course perspective, library provision is functional and assessment-driven, closely tied to academic requirements and policy expectations. While pre-service teachers are encouraged to engage critically with sources, this engagement is often shaped by the demands of assignments rather than a broader conception of Information Literacy.

In contrast, the school-based perspective reveals a more informal and constrained environment, where library use is shaped by local resources, time limitations, and competing priorities. The absence of structured frameworks and professional collaboration further limits the potential of school libraries as sites of Information Literacy development. Altogether, these findings highlight a lack of coherence and continuity between university and school contexts. While the university emphasises academic engagement with information, the school context prioritises practical teaching demands, resulting in a disconnect in how library provision is experienced and utilised. This suggests the need for a more integrated and collaborative approach, where libraries are positioned as active partners in teacher education across both settings. Strengthening this alignment could enhance the consistency and effectiveness of Information Literacy development for pre-service teachers, ensuring that they are better prepared to navigate and teach within increasingly complex information environments (Head et al., 2020; Lloyd, 2010).

5.7 Curriculum and Policy Analysis – Uni B (England)

This section analyses the curriculum and policy context shaping Information Literacy within Initial Teacher Education in England. Mirroring the analytical structure adopted in Chapter Four, the discussion focuses on the formal curriculum, embedded Information Literacy components, institutional expectations, and national policy influences. The aim is to critically

examine how Information Literacy is conceptualised, operationalised, and prioritised within the Initial Teacher Education framework.

Initial Teacher Education Curriculum – Information Literacy Components

The Initial Teacher Education curriculum in England, as described by participants, is highly structured and increasingly influenced by national frameworks, particularly the Initial Teacher Training and Early Career Framework (ITTECF). Within this structure, Information Literacy does not appear as a distinct or explicitly labelled component. Rather, it is embedded implicitly within broader academic and professional learning activities. A key site for the development of Information Literacy is the academic component of the programme, particularly through Master's level assignments. These assignments require pre-service teachers to engage with academic literature, evaluate sources, and integrate research evidence into reflective and analytical writing. This aligns with the understanding of Information Literacy as a set of higher-order cognitive and evaluative skills (Association of College and Research Libraries [ACRL], 2016).

In addition, structured sessions on academic reading and writing, including referencing, source selection, and critical engagement with texts, provide foundational support. Library induction sessions further introduce students to search tools, databases, and resource access. However, these opportunities are limited in duration and often concentrated at the beginning of the programme. Importantly, Information Literacy is also developed through practice-based learning, particularly during school placements. Here, it manifests in activities such as planning lessons, selecting teaching resources, and guiding pupils in basic research tasks. This reflects a situated and applied dimension of Information Literacy (Lloyd, 2010), although it is not always explicitly recognised as such. In all, the curriculum demonstrates a pattern of integration without explicit articulation, where Information Literacy is present but not formally defined or systematically developed across the programme.

Institutional Expectations

Institutional expectations regarding Information Literacy are largely implicit and assumption-driven. Participants indicated that pre-service teachers are expected to arrive with a baseline level of competence, particularly in relation to academic reading, writing, and the use of digital resources.

Within the university context, expectations are primarily communicated through assessment criteria and academic standards. Students are required to demonstrate the ability to

engage with relevant literature, construct evidence-informed arguments, and apply theoretical insights to practice. These expectations align with the broader discourse of research-informed teaching in teacher education (Cain, Wieser, & Livingston, 2019). However, there is limited evidence of explicit learning outcomes or competency frameworks specifically addressing Information Literacy. Instead, related skills are embedded within modules such as professional studies or “Developing Teacher” programmes, often without being labelled as Information Literacy.

The Developing Teacher Programme provides a framework through which pre-service teachers engage with professional knowledge, curriculum planning, reflective practice, and school-based learning. Although information literacy was not identified as a discrete curriculum component, many of the programme's activities required students to locate, evaluate, interpret, and apply information from a range of academic, professional, and policy sources. Information Literacy therefore appeared to be embedded implicitly within broader processes of becoming a teacher rather than taught as a separate area of study.

In the school context, expectations are more practical and context-dependent. Placement tutors expect pre-service teachers to apply their knowledge in planning and teaching, including selecting appropriate resources and supporting pupils’ engagement with information. However, these expectations vary across schools and are influenced by local practices, resources, and mentor expertise. This dual structure results in a fragmented expectation landscape, where academic and practical dimensions of Information Literacy are not always aligned. The absence of a shared conceptual framework limits coherence in how these skills are developed and assessed (McGuinness, 2006).

National Policy Influences

National policy plays a significant role in shaping the Initial Teacher Education curriculum and, by extension, the place of Information Literacy within it. The Initial Teacher Training and Early Career Framework (ITTECF), introduced by the Department for Education, provides a detailed specification of the knowledge and practices expected of pre-service teachers and early career teachers. A defining feature of this framework is its “learn that” and “learn how to” structure, which emphasises core knowledge and prescribed pedagogical approaches. While this structure promotes clarity and consistency, it also contributes to a standardised and content-driven curriculum, where priorities are tightly defined.

Within this policy landscape, Information Literacy is not explicitly foregrounded. Instead, emphasis is placed on areas such as behaviour management, subject knowledge, and evidence-based teaching strategies. Engagement with research is encouraged, but often within the boundaries of approved or recommended texts, which may limit opportunities for broader critical inquiry. This reflects a shift towards a more centralised and prescriptive model of teacher education, where professional knowledge is framed in terms of compliance with established evidence bases (DfE, 2019). While such an approach supports consistency, it may constrain the development of independent information practices and critical evaluation skills (Biesta, 2010). Furthermore, national priorities, such as the focus on phonics in literacy education, shape how time and attention are allocated within the curriculum. As a result, areas like Information Literacy, which are not explicitly mandated, may receive less emphasis.

Summary of Key Issues

The curriculum and policy analysis reveals several key issues regarding the positioning of Information Literacy within Initial Teacher Education in England.

First, Information Literacy is largely implicit and under-articulated within the curriculum. While elements of it are present across academic and practice-based components, there is no explicit framework guiding its development. This limits both visibility and intentionality in teaching and assessment. Second, there is a disconnect between institutional contexts. The university emphasises academic engagement with research and literature, while schools focus on practical teaching and resource use. Without a shared understanding, pre-service teachers may struggle to transfer and integrate these dimensions effectively. Third, national policy frameworks exert a strong influence, shaping curriculum priorities and constraining the space available for broader competencies. The absence of explicit reference to Information Literacy within these frameworks contributes to its marginalisation. Fourth, time constraints and competing priorities further limit opportunities for sustained engagement with Information Literacy. Within an already intensive programme, these skills are often embedded rather than foregrounded.

Collectively, these issues point to the need for a more coherent and explicit approach to Information Literacy within Initial Teacher Education. This would involve clearer articulation within curriculum documents, stronger alignment between university and school contexts, and greater recognition of Information Literacy as a core component of teacher professional competence in the 21st century (Lloyd, 2010; Head et al., 2020).

5.8 Integration of Findings – Within-Case Analysis – Uni B (England)

This section integrates the quantitative and qualitative findings within the England case to provide a coherent and analytically robust account of how Information Literacy is understood, enacted, and supported in the preparation of pre-service teachers. Drawing on a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018), the analysis connects patterns observed in the survey data with insights generated from interviews with pre-service teachers, a university librarian, a course coordinator, and a placement tutor. This integration enables both corroboration and explanation of findings, thereby strengthening interpretive validity.

Linking Quantitative and Qualitative Findings

The quantitative findings indicated that pre-service teachers in England generally reported moderate to high levels of confidence in basic Information Literacy practices, particularly in accessing and using digital information. However, lower mean scores were observed in areas related to critical evaluation of sources, pedagogical application, and structured use of library systems.

The qualitative data provide important explanatory depth to these patterns. Across participant groups, Information Literacy was implicitly embedded rather than explicitly taught, often subsumed under broader domains such as English, research skills, or general teaching practice. For example, the placement tutor described expectations that pre-service teachers would already possess strong personal Information Literacy skills, while their pedagogical application was “developing” through classroom experience. Similarly, the course coordinator emphasised curriculum priorities centred on lesson planning and subject knowledge, with limited explicit attention to Information Literacy instruction.

This helps explain why survey respondents demonstrated confidence in functional skills, for example, searching for information, but less certainty in higher-order competencies, such as evaluating credibility or teaching these skills to pupils. The absence of structured instruction aligns with literature that highlights the risks of assuming digital competence equates to Information Literacy (Bruce, 1997; Head & Eisenberg, 2010). Furthermore, quantitative responses suggesting limited engagement with school libraries are reinforced qualitatively. The librarian reported ongoing development of library resources, while the placement tutor noted that libraries were often underutilised for curriculum-based inquiry. This convergence indicates a systemic issue in the operationalisation of library provision within teacher education contexts.

Convergences and Divergences

A central purpose of the within-case mixed-methods analysis was to examine where the quantitative and qualitative strands of evidence reinforced one another, where they differed, and what these patterns reveal about the England case study. In mixed-methods research, convergence strengthens interpretive confidence because similar conclusions emerge from different forms of evidence, while divergence is equally valuable because it can expose hidden assumptions, contextual variation, or tensions between policy and practice (Creswell & Plano Clark, 2018; Fetters et al., 2013; Yin, 2018). Viewed together, the England findings suggest that Information Literacy was recognised as important by participants, yet its enactment remained uneven, largely implicit, and shaped by institutional realities.

➤ Convergences

Several strong areas of convergence emerged across the survey findings, interview accounts, and documentary evidence in the Uni B case study. The most consistent pattern was the implicit positioning of Information Literacy within Initial Teacher Education. Rather than being presented as a distinct or explicitly named area of competence, Information Literacy was embedded within broader academic and professional activities such as curriculum planning, classroom inquiry, reflective writing, lesson preparation, and general teaching expectations. Quantitative responses indicated that participants regularly encountered information-related practices, while the qualitative interviews showed that these experiences were often indirect and not framed through a clearly defined Information Literacy model. This supports longstanding concerns in the literature that Information Literacy is frequently assumed rather than intentionally taught within professional programmes (Herring, 2011; McNicol, 2016). As a result, pre-service teachers may participate in Information Literacy activities without developing a clear vocabulary for those skills or understanding how they can be transferred into future teaching contexts.

A second important area of convergence related to the central role of experiential learning. Across all participant groups, Information Literacy development was commonly associated with observation, modelling, guided participation, and school placement experiences rather than with formal classroom instruction. Survey findings showing gradual increases in confidence were strongly reflected in interview accounts where participants described learning by watching experienced mentors teach, planning lessons, selecting suitable resources, and refining their own practice over time. This finding is consistent with contemporary sociocultural perspectives, which view teacher learning as emerging through participation in practice, mentoring relationships, and

engagement in professional communities during authentic workplace experiences (Mercieca, 2017; Admiraal et al., 2021; Wenger-Trayner & Wenger-Trayner, 2020). Within this context, the placement environment appeared to function as a particularly important site for the development of Information Literacy, even when such learning was not explicitly identified as part of the programme.

A further point of convergence was the perceived absence of strong institutional structures specifically designed to support Information Literacy development. Across the different datasets, participants described limited formal policies, minimal structured training opportunities, and few clearly visible programmes focused on building these capabilities. Although some forms of support were available, they tended to be fragmented, informal, or dependent on individual staff initiative rather than embedded within a coherent institutional strategy. This finding is significant because previous research consistently shows that sustainable Information Literacy development depends not only on personal effort, but also on leadership, curriculum design, collaboration, and institutional commitment (Markless & Streatfield, 2007; Secker & Coonan, 2011). In the England case study, Information Literacy was therefore recognised as valuable in principle, but it had not yet been fully systematised or strategically integrated into practice.

➤ **Divergences**

Alongside the areas of convergence, several important divergences also emerged across the data sources. These differences do not undermine the overall findings, rather, they provide a richer understanding of how participants experienced the same institutional environment from different roles and perspectives. One notable divergence related to perceptions of competence. Quantitative responses indicated that many pre-service teachers considered themselves reasonably confident in their ability to locate and use information effectively. However, the qualitative interviews with the librarian, course coordinator and school placement tutor presented a more cautious picture, highlighting continuing weaknesses in areas such as critical evaluation, identifying credible sources, and selecting appropriate teaching materials for classroom use. This contrast suggests that while pre-service teachers may have felt comfortable accessing information, more advanced evaluative and pedagogical skills were still developing.

The gap between self-reported confidence and externally observed capability may reflect the difference between using information tools and exercising informed judgement. Research in digital and Information Literacy has consistently shown that learners often report confidence in searching for information or using digital tools, yet still require substantial support in evaluating

quality, judging authority, determining relevance, and selecting information appropriately for specific academic or professional purposes (Carbery & Leahy, 2018; Head et al., 2020; Secker, 2018). In this sense, confidence did not always equate to competence. Divergence was also evident in how the role of the library was understood. Survey responses suggested relatively modest or neutral engagement with library services, whereas the librarian described active developments, ongoing improvements, and considerable potential for library provision to support learning. In contrast, the placement tutor positioned the library as secondary to more immediate classroom concerns such as lesson delivery, timetable pressures, and curriculum coverage.

A further divergence concerned the consistency of experiences across placement contexts. While the survey data, by its aggregated nature, offered a broad overall picture of student experience, the qualitative interviews revealed substantial variation between placement schools in terms of mentoring approaches, access to resources, expectations, and the degree of guidance provided. Some settings offered stronger modelling and more deliberate support than others. This suggests that summary quantitative patterns can sometimes mask the significance of local conditions and institutional differences. It also reinforces the value of case study research in uncovering contextual complexity, demonstrating that experiences within the same programme are rarely uniform or standardised (Yin, 2018; Merriam & Tisdell, 2016). Collectively, these divergences indicate that Information Literacy development in the England case was shaped not only by programme structures, but also by differing interpretations, relationships, and local practices.

Emerging Themes within the England Context

The integrated analysis gives rise to several overarching themes that characterise the England case:

i. Information Literacy as an Embedded but Invisible Competency

Information Literacy is present across the curriculum but lacks explicit articulation, resulting in what may be described as “invisible integration.” While this allows for flexibility, it also leads to inconsistency and limits opportunities for deliberate skill development.

ii. Primacy of Practice-Based Learning

The findings underscore the centrality of school placements as sites of learning, where pre-service teachers acquire Information Literacy practices through modelling and guided teaching. However, this approach is highly dependent on the specific school context and placement tutor expertise.

iii. Structural and Curricular Constraints

Time pressures, curriculum demands, and the prioritisation of subject knowledge contribute to the marginalisation of Information Literacy. The placement tutor's emphasis on workload and curriculum coverage reflects systemic constraints that limit innovation.

iv. Underutilisation of Library Resources

Despite the recognised potential of school libraries, their role in supporting teaching and learning remains underdeveloped and inconsistently integrated. Recent studies suggest that while libraries are associated with positive outcomes such as literacy development, student wellbeing, and inquiry learning, they are not always embedded as core pedagogical partners within schools (Johnston, 2018; Merga, 2022).

v. Need for Greater Institutional Coherence

A recurring theme is the absence of alignment between university-based training, school practices, and library provision. This fragmentation hinders the development of a coherent approach to Information Literacy within Initial Teacher Education.

➤ Analytic Summary

The within-case integration of findings reveals a nuanced picture of Information Literacy in the England context. While pre-service teachers demonstrate foundational competencies, these are largely self-developed and context-dependent, rather than systematically cultivated through structured training. The convergence of quantitative and qualitative data points to a shared reality of implicit, fragmented, and practice-driven learning, constrained by institutional and curricular priorities. At the same time, divergences in perceptions and practices highlight the complexity of the educational landscape, where individual confidence may not align with demonstrated competence, and where institutional intentions do not always translate into classroom enactment. In all, the findings suggest that advancing Information Literacy within Initial Teacher Education

in England requires greater explicitness, institutional coordination, and integration across university, school, and library contexts.

5.9 Chapter Summary

This chapter presented and analysed the findings from the Uni B case study, drawing on both quantitative survey data and qualitative interview evidence from pre-service teachers, a librarian, a course coordinator, and a placement tutor. Using a mixed-methods approach, the chapter examined how Information Literacy is understood, experienced, and supported within the context of Initial Teacher Education in England. The findings were organised around participant experiences, institutional perspectives, curriculum influences, and the integration of evidence across datasets. This final section summarises the principal outcomes of the chapter under two broad areas: key findings and key patterns.

i. Key Findings

➤ Pre-service teachers demonstrated basic confidence, but uneven depth of competence

The quantitative findings showed that participants generally reported confidence in foundational Information Literacy practices such as searching for information, accessing online resources, and using digital tools. However, confidence was less consistent in areas requiring higher-order judgement, including critical evaluation of sources, selecting high-quality materials, and transferring Information Literacy into classroom teaching.

The qualitative interviews reinforced this distinction. Participants appeared comfortable with routine digital tasks, yet more complex competencies were still developing through experience. This suggests that functional confidence does not necessarily indicate comprehensive Information Literacy capability (Lloyd, 2017; Head et al., 2020; Secker, 2018).

➤ Information Literacy was present, but rarely explicit

Across all data sources, Information Literacy was not commonly identified as a discrete concept within Initial Teacher Education. Instead, it was embedded within related areas such as English, computing, research tasks, lesson planning, and independent learning. While these practices reflect aspects of Information Literacy, the lack of explicit terminology and structured framing reduced visibility and coherence. This finding indicates that pre-service teachers may

engage in Information Literacy activities without fully recognising them as part of a broader professional competence.

➤ **School placements were central to learning**

The evidence showed that much of what pre-service teachers learned about information use, resource selection, and pupil guidance occurred during school placements. Observation of experienced teachers, informal mentoring, and gradual responsibility for planning and teaching were all identified as important learning mechanisms. This highlights the significance of experiential learning within Initial Teacher Education and confirms that professional competence is often developed through situated practice rather than university instruction alone.

➤ **Library provision existed, but was not fully integrated into teacher preparation**

Participants acknowledged the presence and potential value of school and university libraries. However, access did not automatically translate into pedagogical use. In the England case, libraries were often associated with reading promotion, borrowing systems, or general resources rather than being systematically embedded in the development of Information Literacy for future teachers. This suggests a gap between institutional provision and educational practice.

➤ **Structural constraints limited development opportunities**

Several barriers emerged across the findings, including limited time, curriculum pressures, competing teaching priorities, and the strong emphasis on lesson delivery and subject knowledge. These pressures reduced opportunities for deeper engagement with inquiry-based learning, critical source evaluation, and structured use of library resources. The findings therefore position Information Literacy as important, but frequently secondary to more immediate performance demands within Initial Teacher Education.

ii. Key Patterns

➤ **Implicit and fragmented provision**

A consistent pattern throughout the chapter was that Information Literacy development occurred in fragmented ways across modules, placements, and informal experiences rather than through a coordinated institutional strategy. Learning opportunities existed, but they were dispersed and variable.

➤ **Stronger operational skills than critical skills**

Participants appeared more secure in operational and technical aspects of information use than in evaluative, reflective, and pedagogical dimensions. This pattern suggests that digital familiarity should not be conflated with deeper Information Literacy competence (Lloyd, 2017; Head et al., 2020; CILIP, 2018).

➤ **Dependence on context and individual actors**

The quality of Information Literacy experiences often depended on the placement school, available resources, and the expertise or interest of individual mentors, tutors, or librarians. As a result, pre-service teachers experiences were not always consistent across settings.

➤ **Tension between policy aspirations and everyday realities**

Although national and institutional discourse increasingly values critical thinking, digital capability, and evidence-informed practice, day-to-day Initial Teacher Education was shaped by practical constraints such as timetable demands, assessment pressures, and curriculum coverage. This created a gap between aspiration and enactment.

➤ **Potential for stronger collaboration**

The findings revealed opportunities for closer collaboration between universities, schools, and libraries. Where these sectors work in isolation, Information Literacy remains peripheral. Where they align, there is greater potential for coherent and sustained development.

Concluding Summary

In all, the England case presents a picture of partial but uneven integration of Information Literacy within Initial Teacher Education. Pre-service teachers were developing useful skills and professional awareness, but this development was often implicit, inconsistent, and heavily shaped by context. While institutional resources and supportive individuals were present, a more explicit and coordinated approach would strengthen outcomes. The chapter therefore provides an important foundation for the next stage of the study, where findings from England can be compared with those from Nigeria in order to identify similarities, differences, and broader implications for Initial Teacher Education policy and practice.

CHAPTER SIX

6.0 COMPARATIVE ANALYSIS AND DISCUSSION

6.1 Introduction

This chapter brings together the findings from the two case studies in order to provide a comparative interpretation of pre-service teachers' library use experiences and Information Literacy development in Nigeria (Uni A) and England (Uni B). While Chapters Four and Five presented each case independently, the purpose of this chapter is to move beyond description into synthesis, explanation, and critical discussion. It therefore examines where the two contexts converge, where they differ, and what these patterns reveal about the relationship between institutional provision, learner engagement, and the wider socio-educational environment. The comparative analysis is particularly important because Information Literacy does not develop in a vacuum. It is shaped by institutional culture, resource availability, pedagogical expectations, digital infrastructures, and professional norms. What appears to be an individual student behaviour, such as frequent library use or reliance on search engines, is often rooted in broader structural conditions. For this reason, comparing the two settings offers deeper insight than analysing either case alone.

The chapter is organised into six substantive sections. Section 6.2 provides an overview of findings across both cases, beginning with the structure of initial teacher training routes; Section 6.3 examines similarities and differences in Information Literacy development; Section 6.4 explores contextual influences on practice; Section 6.5 considers how learning experiences are transformed from university settings into classroom practice; and Section 6.6 integrates the findings with the conceptual framework and relevant literature. Finally, Section 6.7 outlines implications for teacher education, institutional practice, and policy reform.

The chapter argues that while both universities recognised the importance of libraries and Information Literacy, the pathways through which these were enacted differed considerably. The findings show that access to resources matters, but access alone is insufficient. Meaningful Information Literacy development depends on intentional teaching, curricular integration, supportive cultures, and opportunities to transfer learning into professional practice.

6.2 Comparative Overview of Findings Across Cases

Table 6.1 Comparative Key Findings Across Cases

Uni A	Uni B
Pre-service teachers generally hold positive attitudes towards the library	Pre-service teachers demonstrated basic confidence, but uneven depth of competence
Pre-service teachers recognise importance of library as a key academic resource	Information Literacy was present, but rarely explicit
Library plays a significant role in supporting study, independent learning, and access to information	School placements were central to learning
Library use among pre-service teachers is largely moderate and task-oriented	Library provision existed, but was not fully integrated into teacher preparation
Students tend to rely on informal and unstructured approaches to information seeking	Structural constraints limited development opportunities
Limited engagement with a wider range of resources, particularly digital materials	
Awareness of established Information Literacy models is very low	

Across both case studies, participants consistently acknowledged that libraries remain important to academic learning and professional preparation. Pre-service teachers in Nigeria and England viewed the library as a place associated with study, research, assignments, and knowledge expansion. Librarians in both contexts also regarded orientation and guided support as beneficial for new students. These shared perceptions suggest that the symbolic and practical value of the library remains strong across national contexts, despite the increasing prominence of digital technologies. However, beneath this broad agreement were substantial differences in experience. In the Nigerian case, positive attitudes towards the library often coexisted with barriers such as time constraints, outdated materials, limited opening hours, infrastructure challenges, and weak integration between university learning and school placement contexts. In the English case, participants generally reported stronger resource provision, better digital access, clearer orientation systems, and more stable learning environments. Yet even in this more resource-rich context, engagement was not automatic. Some pre-service teachers still relied selectively on services, expressed mixed views about staff support, or used the library instrumentally rather than developmentally.

Another key difference related to the visibility of Information Literacy as a concept. In Nigeria, pre-service teachers were largely unfamiliar with formal Information Literacy models, even where librarians reported using frameworks such as Big6 Skill. This indicates a gap between institutional intention and student awareness. In England, although formal model terminology was not always foregrounded to students, the institutional environment more clearly reflected

Information Literacy principles through induction, digital systems, academic skills support, and research-oriented expectations. The comparative findings therefore point to an important distinction that, both cases valued the library, but they differed in the extent to which Information Literacy was embedded, recognised, and operationalised.

6.2.1 Comparative Overview of Initial Teacher Training Routes

The structure of Initial Teacher Education in each context provides an important backdrop to the findings. In Nigeria, Initial Teacher Education typically combines disciplinary study, professional education courses, and teaching practice placements within a developing higher education system. Programmes often operate under resource pressures, uneven infrastructure, and rapidly expanding student demand. As a result, the quality of student learning experiences may depend heavily on institutional capacity and local implementation. In England, Initial Teacher Education routes such as the postgraduate certificate in education (PGCE) are usually highly structured and strongly regulated, with clear professional standards, defined placement partnerships, and established systems of academic support. Pre-service teachers are expected to engage critically with evidence, reflect on practice, and connect theory with classroom application. These expectations align closely with inquiry-based learning and therefore create natural opportunities for Information Literacy development.

The contrast between the two systems is not simply one of “better” or “worse” provision, but of differing maturities of institutional systems, funding environments, and policy coherence. Where programmes are tightly aligned with professional standards and supported by robust academic infrastructures, Information Literacy is more likely to become embedded in routine practice. Where institutions are managing more fundamental access and infrastructure challenges, Information Literacy may remain aspirational or fragmented. This helps explain why English participants tended to describe smoother access to resources and clearer academic support, whereas Nigerian participants more frequently discussed barriers to use.

6.3 Information Literacy Development: Similarities and Differences

A central aim of this study was to understand how pre-service teachers develop Information Literacy through engagement with university libraries and related learning experiences. The findings show both common patterns and significant divergences.

➤ **Similarities**

First, pre-service teachers in both countries recognised the academic relevance of the library. They associated it with assignments, reading, independent study, and access to credible sources. This is consistent with longstanding understandings of academic libraries as learning hubs that support inquiry and scholarship.

Second, orientation was widely seen as necessary. Even where pre-service teachers had not received formal induction, they believed that training on how to use library systems would be beneficial. This supports the argument that students value guidance in navigating increasingly complex information environments.

Third, in both contexts there was evidence that students combined physical and digital information practices. Libraries were no longer viewed solely as buildings containing books, but as gateways to databases, online materials, and virtual services. This reflects the evolving hybrid nature of higher education libraries.

➤ **Differences**

Despite these similarities, the differences were more revealing.

In Nigeria, library use was often constrained by practical barriers. Some pre-service teachers reported low usage because they lacked time after lectures, did not live on campus, or doubted whether they would find what they needed. Others pointed to outdated resources or limited access hours. These issues suggest that Information Literacy development was mediated by structural barriers before students even reached the stage of evaluating or applying information.

In England, by contrast, barriers were less about access and more about optimisation. Pre-service teachers generally reported adequate resources, acceptable facilities, and useful orientation. Where dissatisfaction emerged, it related to specific service dimensions such as printing, staff responsiveness, or particular facilities rather than systemic absence.

A further difference concerned awareness of Information Literacy itself. In Nigeria, pre-service teachers often benefited from library practices without recognising the language or frameworks underpinning them. In England, even when formal model names were not central, institutional systems more visibly reflected recognised frameworks such as the SCONUL Seven Pillars and CILIP conceptions of critical information use. In all, the comparison suggests that

Information Literacy development in Nigeria was more constrained by access conditions, whereas in England it was more shaped by patterns of engagement within a supportive environment.

6.4 Contextual Influences on Information Literacy Practices

The findings strongly indicate that context matters. Students' behaviours cannot be understood solely as matters of motivation or preference because they are shaped by environmental realities.

➤ Institutional Resources

Resource availability was one of the clearest contextual influences. Where libraries offered current books, databases, reliable internet, and comfortable study environments, students were more likely to perceive the library positively and use it regularly. In the English case, these enabling conditions were more visible. In the Nigerian case, concerns about outdated materials and infrastructure reduced confidence in the library's usefulness.

➤ Time and Access

Opening hours, commuting patterns, and timetable structures also mattered. Nigerian pre-service teachers noted that lectures often ended late, while libraries were not always open at convenient times. Students living off campus faced additional difficulties. This demonstrates how logistical design can shape educational participation.

➤ Digital Culture

Across both contexts, the internet functioned as both opportunity and challenge. Pre-service teachers appreciated speed and convenience, but participants also acknowledged that online information is uneven in quality. This reinforces the importance of teaching evaluation, source comparison, and ethical use of information as core dimensions of Information Literacy.

➤ School Placement Environments

The Nigerian placement tutor interview revealed a particularly significant contextual issue. Some placement schools lacked libraries or formal Information Literacy practices altogether. This meant that pre-service teachers on placement in such schools had limited opportunity to apply university-based learning in authentic settings. By contrast, the English Initial Teacher Education

model generally assumes more structured school partnerships and stronger professional ecosystems.

➤ **Policy and Professional Expectations**

National frameworks also influence practice. In England, professional standards and quality assurance systems create expectations around evidence-informed teaching and reflective practice. These expectations indirectly support Information Literacy. In settings where such expectations are less consistently enacted, Information Literacy may receive lower priority. The broader conclusion is that Information Literacy is relational. It emerges through the interaction between learners and the environments in which they study and practise.

6.5 Transformation of Learning Experiences from University to Classroom Practice

One of the most important questions in Initial Teacher Education is whether university learning transfers into professional practice. This study suggests that transfer is possible, but uneven. Students who learn to search effectively, evaluate sources critically, and use evidence responsibly are better positioned to become reflective practitioners. They are more likely to plan informed lessons, adapt teaching materials thoughtfully, and continue learning throughout their careers. In this sense, Information Literacy is not an optional academic skill, rather, it is foundational to professional competence. However, transfer depends on continuity between university and school contexts.

In the Nigerian case, discontinuity was evident where placement schools lacked libraries, digital tools, or a culture of guided inquiry. Even if pre-service teachers developed some university-based skills, they had limited opportunity to model or practise these in classrooms. This creates a theory-practice gap.

In the English case, the conditions for transfer appeared stronger because Initial Teacher Education routes more explicitly connect academic evidence, reflection, and placement practice. Yet even here, transfer cannot be assumed. Pre-service teachers need structured opportunities to apply research skills to lesson planning, assessment, curriculum adaptation, and classroom decision-making.

The implication is clear. Universities should not treat Information Literacy as separate from teaching practice. Instead, it should be woven into school placements through mentor conversations, evidence-informed tasks, classroom inquiry projects, and reflective portfolios.

When this happens, the library becomes more than a study support service, and it becomes part of the professional formation of teachers.

6.6 Integration with Conceptual Framework and Literature

The findings in this study support and extend the conceptual framework developed in Chapter Two. In particular, they demonstrate the continuing relevance of the institutional mediation dimension of the framework, which identified curricular integration, collaborative pedagogy through libraries, and placement reinforcement as key mechanisms through which Information Literacy develops within Initial Teacher Education. Examining the findings through these three interconnected strands provides a useful basis for understanding how Information Literacy was experienced, enacted, and transferred across the two case study institutions.

6.6.1 Alignment with the Institutional Mediation Framework

This subsection explicitly revisits the three strands of the conceptual framework - libraries, curriculum, and practicum, under extended headings, to support the findings of this study. These headings are Libraries and Collaborative Pedagogy, Curriculum and Information Literacy Development and Practicum and the Transfer of Information Literacy.

➤ Libraries and Collaborative Pedagogy

The findings demonstrate that academic and school libraries functioned as important mediating environments through which pre-service teachers developed Information Literacy practices. Variations in access, orientation, resource provision, and librarian support influenced the extent to which participants engaged critically with information resources. This finding reinforces the conceptual framework's emphasis on collaborative pedagogy and supports previous research highlighting the contribution of libraries and librarians to inquiry-based learning and Information Literacy development (Branch-Mueller & Rodger, 2021; Trixa & Kaspar, 2024).

➤ Curriculum and Information Literacy Development

The findings further suggest that curriculum structures shaped opportunities for Information Literacy development. Where Information Literacy was embedded within coursework, assessment activities, research projects, and programme expectations, participants demonstrated greater awareness of information evaluation, evidence use, and academic research practices. This supports arguments that Information Literacy is most effectively developed when

integrated into disciplinary learning rather than delivered as a stand-alone intervention (Lupton, 2023; Peciuliauskiene et al., 2022).

➤ **Practicum and the Transfer of Information Literacy**

The practicum context emerged as a significant site for the enactment and transfer of Information Literacy competencies. Mentor expectations, school culture, resource availability, and opportunities for inquiry influenced the extent to which pre-service teachers applied Information Literacy practices during professional placements. Consistent with practice-based teacher education literature, the findings suggest that professional learning is shaped not only by university preparation but also by the conditions within workplace settings that either enable or constrain the application of newly acquired knowledge and skills (Ellis et al., 2020; Zeichner, 2010).

Furthermore, the conceptual framework for this study was structured around three closely connected constructs, namely access, engagement, and transformation. The comparative findings from Nigeria and England strongly support the explanatory value of this framework for understanding how Information Literacy is developed within Initial Teacher Education.

➤ **Access**

Access refers to the availability of resources, systems, spaces, guidance, and learning opportunities. Across both institutional and contexts, participants associated stronger learning experiences with access to functional libraries, relevant print and digital resources, supportive staff, orientation activities, and reliable learning environments. Where such conditions were present, pre-service teachers were more likely to demonstrate confidence and make purposeful use of information sources. However, the findings also show that access alone was insufficient for effective Information Literacy development. This reinforces a well-established position that infrastructure and provision are necessary foundations, but do not automatically lead to effective Information Literacy development unless they are accompanied by purposeful educational integration (Secker, 2018; Chourio-Acevedo et al., 2024). In some settings, resources were available but remained underused, poorly promoted, or only weakly connected to course expectations. This suggests that provision must be intentionally embedded within teaching and learning processes if it is to become educationally meaningful. This interpretation aligns closely with the Big6 Skills Model, which begins with task definition and information seeking strategies, indicating that the mere presence of resources does not guarantee effective use unless learners understand when, why, and how to engage with them (Eisenberg et al., 2017). Similarly, the eXIT model of Information Literacy emphasises that learners require structured entry points into the

information environment through orientation, guided access, and early confidence-building experiences before deeper learning can occur (Wray & Lewis, 2015).

➤ **Engagement**

Engagement concerns the ways learners interact with the opportunities available to them. This dimension was particularly significant in explaining why similar institutional resources generated different outcomes across participants and contexts. In both countries, some pre-service teachers made regular use of library services, sought guidance, and connected information practices to their academic and professional tasks, while others engaged only minimally despite acknowledging the potential value of those same resources. This indicates that confidence, motivation, prior learning experiences, academic identity, and institutional culture all shape the relationship between provision and participation. The findings further suggest that Information Literacy develops most effectively when learners are actively involved in locating, evaluating, selecting, synthesising, and applying information through authentic academic and professional tasks. Such evidence resonates strongly with the middle stages of the Big6 model regarding location and access, use of information, and synthesis, which frame Information Literacy as an active problem-solving process rather than a passive encounter with resources (Eisenberg et al., 2017). It also reflects the eXIT model's emphasis on experiential learning, critical reflection, and the progressive movement from supported participation to increasingly independent practice. In this sense, engagement was not simply a matter of frequency of library use, but of the depth and quality of interaction with information in context. Such a pattern aligns with contemporary understandings of professional learning, which emphasise participation, practice, and contextualised activity as central to capability development (Fernández-Otoya et al., 2024; Farias-Gaytan et al., 2023).

➤ **Transformation**

Transformation refers to the application of learning in new contexts, especially professional practice. The placement data were especially valuable here. Where school environments lacked supporting structures, transformation was weakened. Where academic and professional expectations were better aligned, transfer was more plausible.

Transformation refers to the transfer and application of learning in new contexts, particularly within professional practice. This was most clearly visible in the placement data, where the relationship between university learning and school-based realities became more apparent. Where

placement schools provided mentoring, modelling, resource guidance, and coherent expectations, pre-service teachers appeared better able to apply academic learning to lesson planning, resource selection, classroom inquiry, and pedagogical decision-making. Where these structures were weaker, transfer was more limited and Information Literacy remained largely theoretical, fragmented, or incidental. This indicates that transformation depends not only on individual competence, but also on the degree of alignment between university curricula and workplace environments. The final stage of the Big6 model, evaluation, is especially relevant here because it highlights the importance of judging both the process used, and the outcomes achieved in real situations (Eisenberg et al., 2017).

Likewise, the eXIT model views successful Information Literacy development as the learner's capacity to move beyond supported academic tasks into confident, reflective, and transferable professional practice. To this end, the comparative findings support a holistic understanding of Information Literacy that extends beyond technical searching skills to include judgement, adaptability, reflective practice, supportive environments, and meaningful application in teaching contexts. In this respect, the evidence from both Nigeria and England confirms that sustainable Information Literacy development requires not only access to resources, but active engagement and opportunities for professional transformation. The SCONUL Seven Pillars emphasise identifying information needs, accessing resources, evaluating sources, managing information, and creating or presenting knowledge ethically, while the revised CILIP definition places stronger emphasis on critical judgement, participation, and contextual application. Taken together, the comparative evidence supports a holistic view of Information Literacy: one that extends beyond technical skills to include dispositions, reflective judgement, supportive environments, and professional enactment in practice (SCONUL, 2011; CILIP, 2018).

6.6.2 Relationship to Established Frameworks

The findings of this study also resonate strongly with established models of Information Literacy and help to position the comparative evidence within a wider scholarly and professional discourse. Although the experiences of participants in Nigeria and England were shaped by their own institutional contexts, many of the issues raised mirror concerns already identified in leading frameworks. This is important because it suggests that the challenges and opportunities identified in this study are not isolated cases, but part of broader questions about how learners are supported to become confident, critical, and effective users of information.

A particularly relevant framework is the SCONUL Seven Pillars of Information Literacy. The Seven Pillars model emphasises the progressive development of learners' ability to identify an information need, scope available resources, plan strategies, gather information, evaluate sources, manage information, and present or apply new knowledge (SCONUL, 2011). These dimensions were visible throughout the findings. Participants across both countries often recognised when they needed information for assignments, lesson planning, classroom activities, or reflective tasks. However, recognising a need for information did not always mean knowing how to meet that need effectively. Some pre-service teachers were uncertain about where to search, which sources to prioritise, or how to judge credibility and relevance. Others relied heavily on familiar digital tools without deeper evaluation. This suggests that while access and basic searching were often present, more advanced pillars such as evaluation, management, and strategic use were unevenly developed. The findings therefore support the SCONUL view that Information Literacy is developmental rather than binary and learners move through stages of increasing sophistication over time.

The revised CILIP definition of Information Literacy provides an equally valuable lens. CILIP defines Information Literacy not simply as a set of technical skills, but as the ability to think critically, make informed decisions, engage ethically with information, and participate fully in learning, work, and society (CILIP, 2018). This broader perspective was reflected in the data. Pre-service teachers are not only expected to use information for their own academic success, but they are also future professionals who will guide children and young people in navigating information-rich environments. Participants spoke about selecting suitable classroom resources, using trustworthy evidence, adapting materials for learners, and modelling responsible practice. These expectations go beyond searching and retrieval. They involve judgement, responsibility, and pedagogical sensitivity. Yet the findings also indicate that such expectations were often implicit rather than systematically taught. In this sense, the study reinforces the relevance of the CILIP framework while also highlighting the need to translate its principles into clearer curriculum practice.

The evidence can also be interpreted through the Big6 Skills Model, which conceptualises Information Literacy as a structured problem-solving process involving task definition, information seeking strategies, location and access, use of information, synthesis, and evaluation (Eisenberg et al., 2017). This model is especially useful because it connects Information Literacy directly to authentic tasks. Throughout the initial teacher training programme, participants were required to complete assignments, design lessons, identify teaching resources, and solve

classroom-related problems. These activities required them to define what information was needed, search for suitable materials, interpret content, combine ideas, and evaluate outcomes. Where support from tutors, librarians, or mentors was available, participants appeared more able to move successfully through these stages. Where support was weak, they were more likely to rely on superficial internet searches or convenient but less rigorous sources. The Big6 model therefore helps to explain why structured guidance matters and why it turns information use into a teachable and assessable learning process.

The findings also connect with the eXIT model of Information Literacy, which is particularly relevant to professional programmes because it focuses on movement from supported entry into information environments towards independent and transferable practice. In the present study, entry points included library orientation, introductory sessions, early coursework tasks, mentor guidance, and placement experiences. However, progression from initial exposure to confident independence was inconsistent. Some participants developed greater autonomy through repeated practice, feedback, and increasing responsibility during placement. Others remained dependent on familiar routines or informal help. This suggests that Information Literacy development should not be seen as a one-off induction event. Rather, it requires carefully sequenced opportunities that help learners progress from guided participation to self-directed and contextually responsive practice. The eXIT model is therefore especially helpful in understanding the transition from university-based learning to professional enactment in schools.

Altogether, these frameworks support a holistic interpretation of the study's findings. The SCONUL model highlights developmental progression across interconnected competencies. The CILIP framework foregrounds ethical judgement, participation, and informed citizenship. The Big6 model demonstrates the value of structured problem-solving in everyday academic and professional tasks. The eXIT model emphasises transfer, independence, and sustained progression into workplace contexts. The comparative evidence from Nigeria and England reflects elements of all four perspectives. Participants needed technical skills to search and retrieve information, critical skills to evaluate quality, reflective capacity to adapt knowledge, and supportive environments in which to practise these abilities meaningfully. The relationship between the findings and these established frameworks also has important implications for Initial Teacher Education. It suggests that programmes should make Information Literacy expectations more explicit, integrate them across coursework and placement experiences, and assess not only technical competence but also evaluative judgement, ethical awareness, and pedagogical application. It further indicates that collaboration between teacher educators, librarians, and

placement schools is essential if Information Literacy is to be embedded coherently rather than left to chance. In this respect, the frameworks do more than interpret the findings; they also provide practical pathways for strengthening policy and practice in teacher education.

6.7 Implications for Teacher Education and Policy

The findings of this comparative study carry significant implications for teacher education institutions, university libraries, placement schools, and policymakers. Across both cases, one central message is unmistakable, Information Literacy cannot be treated as an optional or peripheral competence. In contemporary education systems shaped by digital abundance, misinformation, rapid policy change, and evidence-based accountability, the ability to locate, evaluate, interpret, and apply information is foundational to professional teaching practice (Association of College and Research Libraries (ACRL), 2016; CILIP, 2023). If pre-service teachers are to become reflective practitioners and informed decision-makers, teacher education programmes must move beyond assumptions that such capabilities develop naturally through university attendance alone.

i. Information Literacy Should Be Embedded in Teacher Education Curricula

A major implication of this study is the need to embed Information Literacy systematically within teacher education curricula rather than confining it to induction events, optional workshops, or isolated library sessions. Although orientation programmes are valuable entry points, the evidence from both cases suggests that one-time exposure is insufficient for sustained competence development. Students require repeated opportunities to practise information-seeking, critical reading, source evaluation, synthesis, ethical use of evidence, and reflective application across the duration of their programmes. Embedding Information Literacy means integrating these capabilities into modules, assessments, seminars, research projects, and school placements. For example, curriculum tasks might require students to compare policy documents, evaluate competing pedagogical claims, use peer-reviewed research to justify lesson design, or reflect on how classroom decisions are informed by evidence. Such activities help reposition Information Literacy from a support service topic to a professional habit of mind. This is consistent with the SCONUL Seven Pillars model, which conceptualises Information Literacy as a developmental and iterative process rather than a single skill set (SCONUL, 2011).

Within teacher education specifically, embedding Information Literacy has particular relevance because beginning teachers are expected to interpret curriculum guidance, engage with assessment data, evaluate interventions, respond to diverse learner needs, and participate in

ongoing professional learning. These tasks all require sophisticated information judgement. Therefore, curriculum redesign should ensure that Information Literacy outcomes are visible, assessable, and progressively scaffolded across programme stages (Head et al., 2020; UNESCO, 2021). In practical terms, institutions may wish to map existing modules against Information Literacy outcomes, identify gaps, and create a developmental sequence from introductory skills to advanced professional inquiry. This would help ensure coherence and prevent duplication. It would also signal to students that these capabilities are central to their identity as future teachers.

ii. Library and Academic Staff Collaboration Is Essential

A second implication concerns the relationship between librarians and academic staff. The findings indicate that where Information Literacy is strongest, it is not delivered solely by libraries nor solely by lecturers. Rather, it emerges through collaboration between those with disciplinary expertise and those with expertise in information practices, resource systems, and research processes. Historically, university libraries have sometimes been positioned primarily as service units. However, contemporary scholarship increasingly recognises librarians as educators and learning partners (Oakleaf, 2020). This study reinforces that position. When librarians and teacher educators co-design learning activities, align workshops with assignments, and provide integrated support within modules, students are more likely to perceive Information Literacy as relevant and usable. Examples of effective collaboration may include:

- jointly taught sessions on literature searching for education assignments;
- embedded librarian contributions within virtual learning environments;
- co-developed assessment rubrics including evidence use criteria;
- research clinics for dissertation students;
- targeted support for practicum inquiries or action research projects;
- shared feedback processes on referencing, source quality, and academic integrity.

Such partnerships can also reduce fragmentation. Students often experience academic support as disconnected when lectures, library training, and assessment expectations are poorly aligned. Collaboration helps create a more coherent learning journey. For institutional leaders, this has workload and policy implications. Time for partnership working should be recognised in workload models, staff development frameworks, and strategic planning. Librarians need opportunities to participate in curriculum discussions, and academic staff may need professional development in integrating Information Literacy pedagogy within subject teaching (Julien et al., 2018).

iii. Resource Provision Must Be Matched by User-Centred Design

The comparative data show that the presence of resources alone does not guarantee meaningful engagement. England demonstrated relatively stronger infrastructure, yet some pre-service teachers still reported mixed experiences regarding service quality or use patterns. Nigeria revealed strong appreciation of libraries despite more visible structural constraints. Together, these findings suggest that investment in collections and technologies must be matched by user-centred design. User-centred design involves organising library environments, systems, and services around the lived realities of students. This includes practical matters such as opening hours, intuitive catalogue systems, accessible online platforms, clear signage, inclusive physical layouts, responsive help services, and communication that reduces anxiety or uncertainty. It also includes emotional dimensions bordering on whether students feel welcomed, respected, and confident to seek support.

For many pre-service teachers, especially those balancing placements, commuting, employment, or family responsibilities, convenience matters greatly. If services are difficult to navigate, available only at narrow times, or poorly connected to coursework deadlines, utilisation may remain lower than expected regardless of resource quality. Digital environments are equally important. As hybrid learning expands, students need seamless off-campus access to databases, e-books, reading lists, and online support. Libraries should therefore invest not only in content subscriptions but in usability testing, accessibility compliance, mobile-friendly interfaces, and data-informed service improvement. A user-centred approach also requires listening mechanisms. Regular student feedback, participatory design processes, and usage analytics can help institutions identify barriers early and adapt services accordingly (Jisc, 2022). In this sense, effective provision is relational and iterative rather than merely material.

iv. Placement Schools Need Stronger Alignment

Teacher education does not occur only within universities. The practicum or placement environment plays a decisive role in shaping what pre-service teachers come to value and enact. One of the clearest lessons from this study is that university expectations around inquiry, evidence use, and reflective practice can weaken when placement contexts do not reinforce them. In the England case, stronger institutional systems potentially offered more continuity between university study and school practice, although variation inevitably exists across placements. In the Nigeria case, the absence of school libraries or structured information environments in some contexts limited opportunities for pre-service teachers to apply university-based expectations in

authentic classroom settings. This highlights a crucial issue because if universities expect evidence-informed teaching, partner schools must also provide conditions that make such practice visible and possible. Stronger alignment might include:

- briefing mentors on programme expectations regarding evidence use;
- providing pre-service teachers with inquiry tasks linked to classroom improvement;
- ensuring access to school or community learning resources;
- creating opportunities for collaborative reflection using data or pupil evidence;
- recognising school librarians or resource staff as part of the mentoring ecosystem;
- developing alternative digital resource hubs where physical libraries are absent.

Placement mentors are influential socialising agents. Their modelling of how teachers use curriculum resources, interpret evidence, and solve problems can shape trainee beliefs powerfully. Therefore, mentor development should include attention to Information Literacy and evidence-informed practice (Cordingley, 2015). Where schools lack libraries, innovation is still possible. Mobile libraries, shared cluster resources, open educational resources, and curated digital repositories may provide interim pathways. The broader principle is that practicum environments should not be disconnected from the intellectual aims of Initial Teacher Education.

v. Policy Frameworks Should Recognise Information Literacy Explicitly

Another important implication concerns policy language. In many teacher standards frameworks, Information Literacy is implied through references to research engagement, subject knowledge, professional learning, or critical reflection. However, when concepts remain implicit, implementation can become inconsistent. Explicit recognition of Information Literacy within teacher education standards, accreditation criteria, or professional competencies would strengthen accountability and curriculum design. It would signal that teachers are expected not only to know content and pedagogy, but also to evaluate evidence, navigate complex information ecosystems, use data responsibly, and model critical inquiry for learners. This is increasingly urgent in an era marked by misinformation, algorithmic influence, artificial intelligence tools, and contested public knowledge. Teachers are expected to help pupils become discerning consumers and producers of information. They cannot do so effectively if their own preparation neglects these competencies (UNESCO, 2021; OECD, 2023). Policy recognition could take several forms:

- explicit Information Literacy descriptors within teacher standards;
- accreditation requirements for evidence-informed curriculum design;

- expectations for partnership with libraries and digital learning services;
- funding incentives for Information Literacy innovation;
- national guidance on research engagement in Initial Teacher Education.

Such developments would not require adding entirely new burdens. Rather, they would clarify and strengthen capacities already essential to effective teaching.

vi. Equity Must Remain Central

Perhaps the most ethically significant implication of this study is the importance of equity. The contrast between the two cases demonstrates that opportunities to develop Information Literacy are shaped not only by individual motivation, but by structural conditions such as infrastructure, connectivity, staffing, resource availability, institutional culture, and national investment patterns. Students cannot fully exercise agency where systems deny reasonable access. A motivated pre-service teacher without reliable internet, current materials, adequate study space, or supportive guidance faces fundamentally different possibilities from a peer in a resource-rich setting. Therefore, discourses that focus solely on student responsibility risk obscuring systemic inequality.

Equity-oriented policy responses should include sustained investment in educational infrastructure, digital inclusion strategies, library staffing, accessible technologies, and affordable access to academic resources. In lower-resourced settings, partnerships with governments, non-governmental organisations (NGOs), publishers, and international agencies may help expand provision. However, sustainability is critical and short-term interventions rarely transform long-term capacity. Equity also applies within well-resourced systems. Students with disabilities, caring responsibilities, financial pressures, or limited prior academic capital may experience hidden barriers even in apparently strong institutions. Inclusive design, flexible support, and targeted outreach therefore remain essential across all contexts (Ainscow, 2020). Ultimately, Information Literacy should be understood as both an educational and social justice issue. Access to trustworthy knowledge, and the ability to use it wisely, influences who can participate fully in academic life and professional practice.

6.8 Summary

This comparative chapter has shown that Information Literacy development is neither automatic nor culturally neutral. It does not arise simply because students enrol in university, nor because libraries exist, nor because digital tools are available. Rather, it is produced through the

interaction of institutional systems, learner practices, pedagogical relationships, and professional expectations.

The Uni B case illustrates the advantages of stronger infrastructure, clearer support systems, and more explicit integration of Information Literacy within higher education traditions. Pre-service teachers in this context generally encountered a better-resourced environment with greater access to physical and digital learning tools. Yet even here, engagement was not uniform. Provision created opportunity, but opportunity still required motivation, relevance, confidence, and meaningful curricular connection.

The Uni A case offers a different but equally important insight. Despite more visible structural constraints, pre-service teachers often demonstrated positive attitudes toward libraries, awareness of their academic value, and resilience in navigating limitations. This indicates that learner aspiration and professional commitment remain powerful resources. However, goodwill alone cannot substitute for equitable systems. Where institutional conditions constrain access, the development of Information Literacy becomes more fragile and uneven.

In summary, the two cases challenge simplistic assumptions. They show that resource abundance does not automatically produce deep engagement, and resource scarcity does not erase learner agency. Effective Information Literacy development depends on alignment that exist between curriculum and support services, between universities and placement schools, between policy rhetoric and material investment, and between access and authentic use. The chapter also reinforces the conceptual framework underpinning the study. Access, mediation, engagement, and transfer are interdependent rather than sequentially guaranteed. Students need resources, but they also need guidance. They need opportunities to practise, but also contexts in which those practices matter. They need institutional support, but also space to exercise judgement and independence. For teacher education, the implications are profound. The future of the profession depends not only on preparing teachers to deliver curriculum content, but on preparing them to navigate uncertainty, evaluate competing claims, interpret evidence responsibly, and cultivate these same dispositions in the learners they will teach. In a complex information age, teaching is inseparable from knowledge work.

The next chapter builds on these comparative insights by drawing together the overall conclusions of the thesis, identifying contributions to knowledge, acknowledging limitations, and setting out recommendations for future research, policy, and practice.

7.1 Summary of Key Findings

This chapter builds on the comparative insights of the study by drawing together the overall conclusions of the thesis, identifying contributions to knowledge, acknowledging limitations, and setting out recommendations for future research, policy, and practice. This study set out to examine pre-service teachers and school libraries: learning experiences and attitudes in Nigeria and England. Using a comparative mixed-methods design, the research explored how pre-service teachers engaged with library systems, how institutional actors understood Information Literacy, and how learning experiences in university settings connected with professional practice in schools. By drawing together survey findings, interviews, and documentary insights from two contrasting higher education contexts, the study has generated a nuanced understanding of the relationship between Initial Teacher Education, library use, and Information Literacy development.

At the broadest level, the findings confirm that libraries continue to hold symbolic and practical importance within teacher education. Across both case studies, participants recognised the library as a legitimate academic space associated with research, reading, knowledge expansion, and assignment support. This is significant in a period when digital technologies sometimes create the impression that physical libraries are becoming less relevant. Rather than replacing the library, digital environments appear to have reshaped what students expect from it. The contemporary academic library is therefore understood not only as a building containing books, but as a hybrid learning ecosystem combining spaces, staff expertise, digital resources, and guidance services (Association of College & Research Libraries (ACRL), 2016; SCONUL, 2024). However, while libraries were valued in principle in both contexts, patterns of access, use, and integration differed substantially between the Uni A and Uni B cases. These differences reveal that positive attitudes alone do not guarantee meaningful engagement. Structural conditions, institutional culture, pedagogical expectations, and resource availability all influenced whether libraries became central or peripheral to pre-service teachers' learning journeys.

➤ Case Study One: Uni A - Nigeria

In the Uni A case, pre-service teachers generally expressed positive attitudes towards the idea of the library. Many respondents agreed that the library was important for research, independent study, and academic success. They also acknowledged that library orientation and training would be beneficial. Yet actual use was more uneven. Pre-service teachers interviews revealed that time constraints, limited opening hours, commuting realities, uncertainty about the relevance or currency of materials, and a growing dependence on general internet searching reduced regular engagement with the library. This distinction between appreciation and utilisation was one of the clearest findings in the Nigerian data. Pre-service teachers respected the library as an institution but did not consistently integrate it into everyday academic practice. Several factors help explain this pattern.

- First, access was shaped by timetable and infrastructure constraints. Where lectures finished late, pre-service teachers had little opportunity to visit the library during opening hours. Pre-service teachers living off campus also faced additional barriers. Such findings support previous research showing that access is not merely a matter of whether a facility exists, but whether it is realistically usable within students' daily routines (Julien et al., 2018).
- Second, the perceived adequacy of resources influenced motivation. Some students were unsure whether they would find what they needed, especially for assignment or research tasks. This uncertainty weakened the incentive to make the effort required to visit the library physically. In contexts where online searching offers immediate convenience, even imperfect digital alternatives may displace underused institutional resources.
- Third, Information Literacy support appeared relatively implicit rather than systematically embedded. Although the librarian described formal orientation activity and referred to the Big6Skills model, pre-service teachers did not consistently recall or recognise structured Information Literacy provision. This suggests a disconnect between institutional intentions and student experience. It may indicate that orientation occurred but lacked visibility, continuity, or pedagogical integration.

The perspectives of the librarian, course coordinator, and placement tutor deepened this interpretation. The librarian articulated a strong belief in the academic role of the library and described efforts to maintain relevant collections, offer orientation, and create conducive study spaces. The programme coordinator recognised the importance of directing students towards credible academic sources rather than relying exclusively on open web searching. Yet the placement tutor highlighted a major challenge at school level, which is that the placement school

lacked a functioning library and had minimal Information Literacy infrastructure. As a result, the transfer of university-based library values into classroom practice was severely constrained. This is a crucial finding. Even where pre-service teachers valued academic information practices, their opportunities to enact those practices during school placement were shaped by the realities of host institutions. The movement from university learning to professional practice was therefore not automatic. It depended on whether placement environments possessed the resources and culture necessary to sustain such practices.

➤ **Case Study Two: Uni B - England**

In the Uni B case, the overall pattern was more strongly characterised by alignment between positive attitudes and supportive provision. Pre-service teachers reported high levels of recognition of the library's academic importance, and survey findings indicated generally favourable views of library facilities, resources, and services. Participants valued the library as a space for independent study, research, quiet concentration, and access to academic materials.

The data suggest that students in England operated within a more mature and explicit Information Literacy environment. Library orientation was widely reported, pre-service teachers were introduced to search tools and subject resources, and the institutional context reflected the presence of established professional frameworks such as SCONUL and CILIP. While not always visible to pre-service teachers as named frameworks, their principles appeared embedded in support structures and academic expectations. The quality and breadth of resources were particularly important. Pre-service teachers reported positive perceptions of up-to-date materials, electronic texts, access to journals, and digital search systems. This reflects the role of academic libraries as hybrid infrastructures supporting both campus-based and flexible learning (CILIP, 2023).

Nevertheless, the Uni B case was not without tensions. Some areas of service provision attracted mixed responses, including perceptions of staff support and practical services such as printing or photocopying. In addition, although resources were strong, not every pre-service teacher demonstrated equally deep engagement with them. Some responses suggested that availability does not automatically produce advanced Information Literacy behaviours. Students may have access to extensive systems while still relying on familiar or convenient strategies unless explicit curricular demands require more sophisticated practice. This finding is particularly important because it challenges deficit assumptions that resource-rich environments automatically

generate optimal learning outcomes. The Uni B case demonstrates that provision matters greatly, but engagement remains behavioural and relational as well as infrastructural.

Comparative Findings Across Cases

When both cases are viewed together, several key comparative findings emerge.

- First, students in both contexts valued libraries conceptually. Across national and institutional differences, the library retained legitimacy as a site of learning and academic development.
- Second, provision differed markedly. The English context offered more stable infrastructures, broader digital access, and more visible orientation systems. The Nigerian context reflected more constrained conditions, including time barriers, concerns about resource adequacy, and uneven integration of Information Literacy support.
- Third, engagement was variable in both cases, though for different reasons. In Nigeria, barriers were often structural and logistical. In England, barriers were subtler and related more to habits, service perceptions, or selective use despite strong provision.
- Fourth, the transition from university learning to school practice was fragile in both settings, but especially in Nigeria. Where placement schools lacked library resources or information-rich cultures, opportunities to apply university learning were restricted. This reinforces the need to understand Information Literacy ecologically rather than solely at the university level.
- Fifth, the findings support the study's conceptual framework by showing that Information Literacy development is shaped by the interaction of access, mediation, engagement, and transfer. None of these elements alone is sufficient. Students need resources, guidance, motivation, and opportunities to apply learning in authentic professional contexts.

7.2 Contributions to Knowledge

This study makes several original and meaningful contributions to knowledge in teacher education, library and information science, and comparative education.

➤ A Comparative Contribution

A major contribution lies in the cross-national comparison between Uni A and Uni B. Although substantial literature exists on Information Literacy and academic libraries, fewer studies examine pre-service teachers' experiences comparatively across Global South and Global North

contexts. By placing these cases in dialogue, the study moves beyond isolated national narratives and demonstrates how structural conditions shape educational experiences differently.

Importantly, the comparison does not reduce one context to deficit and the other to success. Instead, it shows that each setting contains strengths, tensions, and lessons. Nigeria demonstrates the resilience of positive attitudes and professional aspiration amid constraints. England demonstrates the benefits of strong provision while indicating that access alone does not guarantee deep engagement.

➤ **A Teacher Education Contribution**

The study contributes to teacher education scholarship by foregrounding Information Literacy as a professional competence for future teachers. Much teacher education research prioritises pedagogy, assessment, behaviour management, or curriculum knowledge. While these are essential, the ability to locate, evaluate, interpret, and ethically use information is equally central in contemporary education systems shaped by misinformation, digital abundance, and evidence-informed practice (OECD, 2021). Teachers are not only consumers of information, rather, they are mediators of knowledge for children and young people. If pre-service teachers graduate without robust Information Literacy capabilities, this has implications beyond university achievement. It affects classroom teaching, resource selection, critical thinking pedagogy, and learners' preparedness for democratic participation.

A Conceptual Contribution

The study also contributes conceptually by proposing and applying an integrated framework linking:

- i. Access – physical and digital availability of resources
- ii. Mediation – orientation, staff guidance, and curricular support
- iii. Engagement – attitudes, behaviours, and sustained use
- iv. Transfer – movement of learning into school placement and professional practice

This framework extends traditional Information Literacy models by emphasising progression across contexts rather than only individual search competence. It recognises that Information Literacy is socially situated and institutionally mediated.

➤ **A Methodological Contribution**

Methodologically, the mixed-methods design allowed quantitative breadth and qualitative depth. Survey data identified patterns of attitudes and use, while interviews illuminated the lived realities behind percentages. This combination was especially valuable in revealing discrepancies between official provision and student perception, or between positive attitudes and limited practice.

➤ **A Practice-Oriented Contribution**

Finally, the study offers practical insight for universities, libraries, and policymakers seeking to strengthen teacher preparation. It highlights the importance of embedding Information Literacy across programmes rather than treating it as a one-off induction topic. It also draws attention to the often-overlooked role of placement schools in sustaining or undermining professional learning.

7.3 Reflections on the Research Process

Conducting this research has been both intellectually demanding and personally formative. Comparative inquiry across two countries required sustained reflexivity, methodological flexibility, and sensitivity to context.

- One important reflection concerns the value of listening to multiple voices. If the study had relied only on student surveys, the analysis would have been narrower. Including librarians, coordinators, and placement tutors revealed how institutional actors interpret responsibility differently and how systems operate from multiple vantage points.
- A second reflection relates to the complexity of comparison. Comparative research is not simply the placement of two datasets side by side. It requires attention to history, policy, culture, infrastructure, and language. Similar survey responses may carry different meanings in different contexts. For example, “library use” in one institution may involve advanced digital systems, while in another it may refer primarily to physical access.
- A third reflection concerns the role of the researcher. As with all qualitative and mixed-methods work, interpretation is shaped by judgement. Care was therefore taken to maintain transparency, align findings with evidence, and avoid imposing simplistic assumptions on either case.

Finally, the process reaffirmed that educational research is most powerful when it remains connected to practice. Questions about libraries are never only about buildings or books. They are questions about equity, opportunity, professional identity, and the kind of learning cultures institutions choose to build.

7.4 Limitations of the Study

No study is without limitations, and these should be acknowledged clearly.

- First, the study involved two case institutions rather than nationally representative samples. The findings therefore provide analytical insight rather than statistical generalisation. They illuminate patterns and possibilities but should not be assumed to describe all universities in Nigeria or England.
- Second, some participant groups were necessarily small, particularly librarians and institutional staff. While their perspectives added valuable depth, caution is required in extrapolating from single-role respondents.
- Third, survey responses relied on self-reporting. Participants may overestimate or underestimate their behaviours, confidence, or frequency of use. Self-reported attitudes do not always align perfectly with observed practice.
- Fourth, the study captured experiences within a particular period. Library systems, digital services, and institutional policies continue to evolve rapidly. Findings should therefore be understood as contextually situated rather than permanently fixed.
- Fifth, although the mixed-methods design strengthened interpretation, observational data of actual library behaviour or classroom enactment were beyond the scope of the project. Future studies could use ethnographic or longitudinal approaches to examine practice more directly.

These limitations do not weaken the value of the research. Rather, they clarify the boundaries within which the findings should be interpreted.

7.5 Recommendations for Practice and Policy

Based on the findings, several recommendations are proposed.

i. Embed Information Literacy Across Teacher Education Programmes

Information Literacy should not be confined to induction sessions. It should be integrated into modules, assignments, research methods teaching, and reflective practice across the programme lifecycle. Repeated engagement supports deeper learning.

ii. Strengthen Collaboration Between Academics and Librarians

Academic staff and librarians should co-design learning activities that require students to use scholarly sources, evaluate evidence, and reflect on search strategies. Partnership models are associated with stronger student outcomes (ACRL, 2016).

iii. Improve Visibility of Support Services

Where orientation exists, students must recognise and remember it. Institutions should communicate support clearly, provide just-in-time guidance, and offer multiple access points including workshops, online tutorials, and drop-in support.

iv. Address Practical Access Barriers

Institutions should review opening hours, remote access systems, and user experience barriers. In commuter contexts especially, flexibility matters.

v. Invest in School Placement Partnerships

Teacher education providers should work with placement schools to support information-rich learning environments. Even modest school library development, digital resource access, or mentor training can strengthen transfer from university learning to classroom practice.

vi. Recognise Information Literacy in Professional Standards

Policymakers and accreditation bodies should make Information Literacy more explicit within teacher standards and programme expectations. This would signal its professional importance.

vii. Support Resource Equity in Under-Resourced Contexts

Where budgets are constrained, strategic investment in digital collections, open educational resources, and staff development can widen access without relying solely on expensive physical expansion.

7.6 Suggestions for Future Research

This study opens several pathways for further inquiry.

1. Longitudinal Studies – Track pre-service teachers into their early careers to examine how Information Literacy develops over time and influences classroom practice.
2. Placement School Studies – Investigate school libraries, mentor practices, and the information cultures of placement settings more directly.
3. Intervention Research – Evaluate specific curricular models for embedding Information Literacy in teacher education.
4. Larger Comparative Studies – Extend comparison to multiple universities or additional countries and increased number of participants, to test the transferability of findings.
5. Digital Behaviour Research – Explore how pre-service teachers navigate AI tools, search engines, social media, and scholarly databases in combination.
6. Equity-Focused Research – Examine how socio-economic background, commuting status, disability, or digital access shape library engagement.
7. Student Voice Studies – Use participatory methods to co-design library and Information Literacy services with students themselves.

7.7 Concluding Statement

This thesis has argued that the relationship between pre-service teachers and libraries remains profoundly important. In both Nigeria and England, the library continues to symbolise intellectual growth, academic credibility, and independent learning. Yet the study also shows that symbolic value is not enough. Information Literacy flourishes where resources are accessible, guidance is intentional, engagement is cultivated, and learning can travel from university into professional practice. As education systems confront misinformation, rapid technological change, and growing demands for evidence-informed teaching, preparing teachers who can navigate information critically is no longer optional. It is foundational. Libraries, when fully integrated into teacher education, are not peripheral services. They are central partners in shaping thoughtful, reflective, and professionally capable educators.

REFERENCES

- Adeleke, A., & Eze, U. (2024). Digital competence development in Nigerian teacher education institutions. *African Journal of Educational Technology*, 15(2), 44–61.
- Admiraal, W., Schenke, W., De Jong, L., Emmelot, Y., & Sligte, H. (2021). Schools as professional learning communities: What can schools do to support professional development of their teachers? *Professional Development in Education*, 47(4), 684–698. <https://doi.org/10.1080/19415257.2019.1665573>
- Aguilar, A., & López-Medina, I. (2023). *The EXIT model: Examination, interpretation and transformation in Information Literacy practice*. [Publisher details as applicable].
- Aina, L. O. (2014). Library and information science text for Africa. Third World Information Services.
- Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, 6(1), 7–16. <https://doi.org/10.1080/20020317.2020.1729587>
- Association of College and Research Libraries. (2016). *Framework for Information Literacy for higher education*. American Library Association. <https://www.ala.org/acrl/standards/ilframework>
- Aubrey, C. (2011). Leading and managing in the early years. *Educational Management Administration & Leadership*, 39(4), 435–448. <https://doi.org/10.1177/1741143211408459>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Barnett, R. (2007). *A will to learn: Being a student in an age of uncertainty*. Open University Press.
- Bawden, D., & Robinson, L. (2012). *Introduction to information science*. Facet Publishing.
- Beauchamp, G., Clarke, L., Hulme, M., & Murray, J. (2015). Research and teacher education: The BERA-RSA inquiry. *British Educational Research Journal*, 41(1), 1–18. <https://doi.org/10.1002/berj.3149>
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234.
- Biesta, G. (2020). *Educational research: An unorthodox introduction*. Bloomsbury.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40.
- Branch-Mueller, J., & Rodger, E. (2021). Teacher-librarian collaboration and instructional design in teacher education. *School Libraries Worldwide*, 27(1), 1–15.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Braun, V., & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. Sage.

Bray, M., Adamson, B., & Mason, M. (2018). *Comparative education research: Approaches and methods* (2nd ed.). Springer.

British Educational Research Association. (2018; updated 2024). *Ethical Guidelines for Educational Research*. BERA.

Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard University Press.

Brofenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner (Ed.), *Handbook of child psychology* (6th ed., Vol. 1, pp. 793–828). Wiley.

Brown, C., Schildkamp, K., & Hubers, M. D. (2022). Combining the best of both worlds: A conceptual framework for evidence-informed school improvement. *Educational Research*, 64(2), 139–158.

Bruce, C. (1997). *The seven faces of Information Literacy*. Auslib Press.

Bruce, C. (2008). *Informed learning*. Association of College and Research Libraries.

Bundy, A. (Ed.). (2004). *Australian and New Zealand Information Literacy framework: Principles, standards and practice* (2nd ed.). Australian and New Zealand Institute for Information Literacy.

Carbery, A., & Leahy, J. (2018). Evidence-based Information Literacy instruction: Students' perceived confidence and actual research performance. *Journal of Information Literacy*, 12(2), 4–21. <https://doi.org/10.11645/12.2.2465>

Carvalho e Rodrigues, M. C. and Mandrekar, B. (2020). Impact of Academic Library Service on Students' Success and Performance. *Library Philosophy and Practice* (e-journal) September 2020, 4246. <https://digitalcommons.unl.edu/libphilprac/4246>.

Case, D. O., & Given, L. M. (2016). *Looking for information: A survey of research on information seeking, needs, and behavior* (4th ed.). Emerald.

Chartered Institute of Library and Information Professionals. (2018). *CILIP definition of Information Literacy 2018*. CILIP. <https://infolit.org.uk>

Chartered Institute of Library and Information Professionals. (2021). *Information Literacy in schools: Policy and practice guidance*. CILIP.

Chourio-Acevedo, L., Köhler, J., Coscarelli, C., Gacitúa, D., Proaño-Ríos, V., & González-Ibáñez, R. (2024). *Information Literacy development and assessment at school level: A systematic review of the literature*. arXiv. <https://arxiv.org/abs/2404.19020>

Cohen, Louis, Manion, Lawrence, & Morrison, Keith. (2018). *Research methods in education* (8th ed.). Routledge.

Coldwell, M., Greany, T., Higgins, S., Brown, C., Maxwell, B., & Stiell, B. (2021). Evidence-informed teaching: An evaluation of progress in England. *Educational Review*, 73(1), 1–21.

Cordingley, P. (2015). The contribution of research to teachers' professional learning and development. *Oxford Review of Education*, 41(2), 234–252.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage.

Czerniewicz, L., & Brown, C. (2014). The habitus of digital “strangers” in higher education. *British Journal of Educational Technology*, 45(1), 44–53.

Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. Jossey-Bass.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). *Implications for educational practice of the science*

Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage Handbook of Qualitative Research* (5th ed.). Sage.

Department for Education. (2011/2021). *Teachers' standards: Guidance for school leaders, school staff and governing bodies*. DfE.

Department for Education. (2019). *Realising the potential of technology in education: A strategy for education providers and the technology industry*. DfE.

Department for Education. (2022). *Initial teacher training and early career framework reforms*. DfE.

Department for Education. (2024). *Initial teacher training and early career framework statutory guidance*. DfE.

Department for Education. (2021). *Teachers' standards: Guidance for school leaders, school staff and governing bodies*. UK Government. <https://www.gov.uk>

Department for Education. (2023). *School workforce in England: Statistical release*. DfE.

Department for Education. (2023). *Teachers' standards (updated guidance)*. DfE.

Dinsmore, D. L. (2020). Metacognitive processes and self-regulated learning in higher education. *Educational Psychology Review*, 32(3), 627–652.

Education Endowment Foundation. (2021). *Metacognition and self-regulated learning: Guidance report*. EEF.

Eisenberg, M., & Berkowitz, R. (2020). *The Big6: Information Literacy for the real world* (3rd ed.). Information Literacy Press.

Ellis, V., Steadman, S., & Mao, Q. (2020). 'Come to a screeching halt': Can change in teacher education during the COVID-19 pandemic be seen as innovation? *European Journal of Teacher Education*, 43(4), 559–572. <https://doi.org/10.1080/02619768.2020.1821186>

Ennis, R. H. (2018). Critical thinking across the curriculum: A vision. *Inquiry*.

Eraut, M. (2007). Learning from other people in the workplace. *Oxford Review of Education*, 33(4), 403–422. <https://doi.org/10.1080/03054980701425706>

European Commission. (2018). *Supporting teacher competence development for better learning outcomes*. Publications Office of the European Union.

European Commission. (2022). *Digital Education Action Plan 2021–2027: Progress report*. Publications Office of the European Union.

Farias-Gaytan, S., Aguaded, I., & Ramírez-Montoya, M.-S. (2023). Digital transformation and digital literacy in the context of complexity within higher education institutions: A systematic literature review. *Humanities and Social Sciences Communications*, 10, 386. <https://doi.org/10.1057/s41599-023-01875-9>

Federal Ministry of Education. (2023). *Education sector analysis: Nigeria 2022–2026*. Abuja: FME.

Federal Republic of Nigeria (FRN). (2013). *National policy on education* (6th ed.). NERDC Press.

Federal Republic of Nigeria (FRN). (2019). *National digital economy policy and strategy (2020–2030)*. Federal Ministry of Communications and Digital Economy.

Federal Republic of Nigeria (FRN). (2022). *National development plan 2021–2025*. Ministry of Budget and National Planning.

Fernández-Otoya, F., Cabero-Almenara, J., Pérez-Postigo, G., Bravo, J., Alcázar-Holguin, M. A., & Vilca-Rodríguez, M. (2024). Digital and Information Literacy in basic-education teachers: A systematic literature review. *Education Sciences*, 14(2), 127. <https://doi.org/10.3390/educsci14020127>

Fetters, M. D., & Molina-Azorín, J. F. (2020). The mixed methods research integration trilogy and its dimensions. *Journal of Mixed Methods Research*, 14(3), 291–307.

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE.

Finlay, L. (2002). “Outing” the researcher: The provenance, process, and practice of reflexivity. *Qualitative Health Research*, 12(4), 531–545.

- Finlay, L. (2021). Thematic analysis: The ‘good’, the ‘bad’ and the ‘ugly’. *European Journal for Qualitative Research in Psychotherapy*, 11, 103–116.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring. *American Psychologist*, 34(10), 906–911.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill.
- Fryer, L. K., Larson-Hall, J., & Stewart, J. (2018). Quantitative methodology. *The palgrave handbook of applied linguistics research methodology*, 55-77.
- Gee, J. P. (2015). *Social linguistics and literacies: Ideology in discourses* (5th ed.). Routledge.
- Greene, J. C. (2007). *Mixed Methods in Social Inquiry*. Jossey-Bass.
- Hahn, S., Pfeifer, A., & Kunina-Habenicht, O. (2022). Multiple facets of self-rated digital competencies of pre-service teachers: A pilot study on the nomological network, empirical structure, and gender differences. *Frontiers in Education*, 7, Article 999679. <https://doi.org/10.3389/feduc.2022.999679>
- Hammersley, M., & Atkinson, P. (2019). *Ethnography: Principles in Practice* (4th ed.). Routledge.
- Head, A. J. (2013). Learning the ropes: How freshmen conduct course research once they enter college. *Project Information Literacy Research Report*. <https://projectinfoilit.org>
- Head, A. J., & Eisenberg, M. B. (2010). *Truth be told: How college students evaluate and use information in the digital age*. Project Information Literacy.
- Head, A. J., Fister, B., & MacMillan, M. (2020). *Information Literacy in the age of algorithms*. Project Information Literacy.
- Herring, J. E. (2011). *Improving students’ web use and Information Literacy*. Facet Publishing.
- Hicks, A. (2024). Information Literacy and the sociocultural turn: Practice, power and participation. *Journal of Information Literacy*, 18(1), 5–19.
- Holmes, W., et al. (2022). *Artificial intelligence in education: Promise and implications for teaching and learning*. OECD Publishing.
- <https://www.dcu.ie/create/teacher-occupational-wellbeing-research-2026>
- <https://www.gov.uk/government/publications/initial-teacher-training-criteria>
- IFLA. (2022). *IFLA school library guidelines* (2nd ed.). International Federation of Library Associations and Institutions.
- Issa, A. O., Amusan, B. B., & Daura, U. D. (2009). Effects of library resources on students’ academic performance. *Educational Research and Reviews*, 4(9), 443–449.
- Jisc. (2022). *Digital experience insights survey: UK higher education findings*. Jisc.

- Johnston, M. P. (2018). Secondary school teachers' perceptions of the role of the school librarian. *School Libraries Worldwide*, 24(2), 18–34. <https://doi.org/10.29173/slw8217>
- Julien, H., & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for Information Literacy skills development. *Library & Information Science Research*, 31(1), 12–17. <https://doi.org/10.1016/j.lisr.2008.10.008>
- Julien, H., Gross, M., & Latham, D. (2018). Survey of Information Literacy instructional practices in higher education. *College & Research Libraries*, 79(2), 179–199.
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965.
- Kuhlthau, C. C. (2004). *Seeking meaning: A process approach to library and information services* (2nd ed.). Libraries Unlimited.
- Kuhlthau, C. C., Maniotes, L. K., & Caspari, A. K. (2015). *Guided inquiry: Learning in the 21st century* (2nd ed.). Libraries Unlimited.
- Lamb, J., Howard, S. and Easey, M. (2014). Pre-service Teachers' Use of Library Databases: Some Insights.
- Lance, K. C., & Kachel, D. E. (2018). Why school librarians matter: What years of research tell us. *Phi Delta Kappan*, 99(7), 15–20.
- Lankshear, C., & Knobel, M. (2011). *New literacies: Everyday practices and social learning* (3rd ed.). Open University Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, 23(2), 157–172. <https://doi.org/10.1080/03075079812331380364>
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2018). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed.). Sage.
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2018). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed.). Sage.
- Lloyd, A. (2010). *Information Literacy landscapes: Information Literacy in education, workplace and everyday contexts*. Chandos.
- Lloyd, A. (2021). Shaping Information Literacy for social resilience: Insights from a fractured information landscape. *Journal of Documentation*, 77(5), 1078–1094.

- Lupton, M. (2023). Information literacy and learning in higher education: Contemporary perspectives and future directions. *Journal of Information Literacy*, 17(1), 4–19.
- Mackey, T. P., & Jacobson, T. E. (2014). *Metaliteracy: Reinventing Information Literacy to empower learners*. ALA Neal-Schuman.
- Marín, V. I., Carpenter, J. P., & Tur, G. (2023). Social media and data privacy in education: An international comparative study of perceptions among pre-service teachers. *Journal of Computers in Education*, 10, 769–795. <https://doi.org/10.1007/s40692-022-00243-x>
- Markless, S., & Streatfield, D. (2007). *Three decades of Information Literacy: Redefining the parameters*. Facet Publishing.
- Markless, S., & Streatfield, D. (2007). *Three decades of Information Literacy: Redefining the parameters*. Facet Publishing.
- McNicol, S. (2016). *Information Literacy in teacher education*. Chandos Publishing.
- Mercieca, B. (2017). What is a community of practice? *Educational Studies*, 43(1), 3–19. <https://doi.org/10.1080/03055698.2016.1246415>
- Merga, M. K. (2022). *School libraries supporting literacy and wellbeing*. Facet Publishing.
- Merga, M. K. (2022). *School libraries supporting literacy and wellbeing*. Facet Publishing.
- Merga, M. K. (2022). *School libraries supporting literacy and wellbeing*. Facet Publishing.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Merriam, Sharan B., & Tisdell, Elizabeth J.. (2016). *Qualitative research: A guide to design and implementation*. Federal Republic of Nigeria. (2013). National policy on education (6th ed.). NERDC Press.
- Miller, W., & Pellen, R. (2005). *Libraries and Google*. Haworth Information Press.
- Moon, J. A. (2006). *Learning journals: A handbook for reflective practice and professional development* (2nd ed.). Routledge.
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry*, 20(8), 1045–1053. <https://doi.org/10.1177/1077800413513733>
- Müller, L.-M., & Cook, R. (2022). The evolution of teacher professionalism in England. *Oxford Review of Education*, 48(6), 715–732.
- Mutton, T., Burn, K., & Hagger, H. (2020). Teacher education and learning to teach: The role of practical experience. In I. Menter (Ed.), *The Palgrave handbook of teacher*

education research (pp. 291–307). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-59533-3_17

National Commission for Colleges of Education. (2022). *Minimum standards for Nigeria certificate in education programmes*. NCCE.

National Commission for Colleges of Education. (2023). *Minimum standards for Nigeria Certificate in Education programmes*. NCCE.

National Literacy Trust. (2022). *Children and young people's reading in 2022*. National Literacy Trust.

Nigerian Universities Commission. (2022). *Benchmark minimum academic standards for education programmes in Nigerian universities*. NUC.

O, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

Oakleaf, M. (2020). The library's role in student learning: Metrics, partnerships, and impact. *portal: Libraries and the Academy*, 20(1), 1–18.

OECD. (2020). TALIS 2018 results (Volume II): Teachers and school leaders as valued professionals. OECD Publishing.

OECD. (2021). Teachers and school leaders as lifelong learners. OECD Publishing.

OECD. (2023). Digital education outlook 2023: Towards an effective digital education ecosystem. OECD Publishing.

Ofsted. (2023). *Initial Teacher Education inspection framework and handbook*. Ofsted.

Ogunniyi, S. O. (2015). School libraries and literacy development in Nigeria. *International Journal of Library Science*, 4(2), 25–32.

Olugboji, O.A. (2012). Teacher Quality and Curriculum Awareness Factors as Determinants of Achievement of English Language Curriculum Objectives in Selected Primary Schools in Ekiti State, Nigeria. *An unpublished M.Ed. Dissertation*. University of Uni A, Uni A, Nigeria.

Olugboji, O.A. (2017). Assessment of Availability, Standard and Accessibility of Primary School Libraries in Oyo State, Nigeria. An unpublished M.Phil. Thesis. Obafemi Awolowo University, Ile-Ife, Nigeria.

Organisation for Economic Co-operation and Development. (2019). *OECD future of education and skills 2030*. OECD Publishing.

Parisi-Moreno, V., Llonch-Molina, N., & Selfa, M. (2021). Information Literacy instruction in early childhood education: the school museum. *Literacy*, 55(2), 83–90.

Peciuliauskiene, P., Tamoliune, G., & Trepule, E. (2022). Exploring the roles of information search and information evaluation literacy and pre-service teachers' ICT self-efficacy in teaching. *International Journal of Educational Technology in Higher Education*, 19, Article 33. <https://doi.org/10.1186/s41239-022-00339-5>

- P21 Partnership for 21st Century Learning. (2019). *Framework for 21st century learning definitions*. Battelle for Kids.
- Phillips, D., & Schweisfurth, M. (2014). *Comparative and international education: An introduction to theory, method, and practice* (2nd ed.). Bloomsbury.
- Pinto, M. (2010). Design of the IL-HUMASS survey on Information Literacy in higher education. *Journal of Information Science*, 36(1), 86–103. <https://doi.org/10.1177/0165551509351198>
- Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. Corwin.
- Russell Group. (2023). *Principles on the use of generative AI tools in education*. Russell Group.
- Salaam, M. O., & Oketunji, I. (2020). Availability and utilisation of school library resources in Nigeria. *Library Philosophy and Practice*, 1–15.
- Saunders, L., Severyn, J., & Caron, J. (2022). Information Literacy instruction in higher education: Trends and innovations. *Communications in Information Literacy*, 16(2), 200–224.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.
- Scholastic. (2023). *School libraries work! A compendium of research supporting the effectiveness of school libraries*. Scholastic Library Publishing.
- School Library Association. (2023). *The state of school libraries in England 2023*. SLA.
- SCONUL. (2011). *The SCONUL seven pillars of Information Literacy: Core model for higher education*. Society of College, National and University Libraries. <https://www.sconul.ac.uk>
- SCONUL. (2023). *Information Literacy in higher education: Updated practice resources*. Society of College, National and University Libraries. <https://www.sconul.ac.uk>
- Secker, J. (2018). The revised CILIP definition of Information Literacy. *Journal of Information Literacy*, 12(1), 156–158. <https://doi.org/10.11645/12.1.2454>
- Secker, J., & Coonan, E. (2013). *Rethinking Information Literacy: A Practical Framework*. Sheila Corrall, S. (2010). Educating the academic librarian as a blended professional. *Library Management*, 31(8/9), 567–584.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–22. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>
- Shupe, E., & Pilerot, O. (2022). Information Literacy as practice: Reframing research and pedagogy. *Library & Information Science Research*, 44(2), 101–110.
- Stake, R. E. (1995). *The art of case study research*. SAGE.
- Stake, R. E. (2006). *Multiple case study analysis*. Guilford Press.

- Streatfeild, D., Shaper, S., Markless, S. E., & Rae-Scott, S. (2011). Information Literacy in United Kingdom schools: Evolution, current state and prospects. *Journal of Information Literacy*, 5(2), 5–25. <https://doi.org/10.11645/5.2.1629>
- Tashakkori, A., & Teddlie, C. (2010). *SAGE handbook of mixed methods in social & behavioral research* (2nd ed.). SAGE.
- Teacher Development Trust. (2021). *Developing evidence-informed teachers*. <https://tdtrust.org>
- Teachers Registration Council of Nigeria. (2025). Professional standards and licensing guidelines. TRCN.
- Teaching Regulation Agency (TRA). (2023). *Qualified teacher status (QTS): Guidance for teachers and employers*. TRA.
- Teddlie, C., & Tashakkori, A. (2021). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences* (2nd ed.). SAGE.
- Tella, A., & Ocholla, D. (2022). School libraries and literacy development in Africa: Contemporary challenges and prospects. *Library Management*, 43(6/7), 365–379.
- Thomas, G. (2021). *How to do your case study* (3rd ed.). SAGE.
- Thomas, G. (2022). *How to do your research project: A guide for students* (3rd ed.). Sage.
- Tikly, L. (2020). Education for sustainable development in Africa: A critique of international agendas. *Comparative Education*, 56(1), 1–17.
- Todd, R. J. (2021). School libraries and evidence-based practice in education. *School Libraries Worldwide*, 27(1), 1–15.
- Todd, R. J. (2022). Evidence-based practice and Information Literacy instruction. *Library & Information Science Research*, 44(3), 101–118.
- Todd, R. J. (2022). Evidence-based practice and Information Literacy instruction. *Library & Information Science Research*, 44(3), 101–118.
- Tondeur, J., Aesaert, K., Pynoo, B., van Braak, J., & Fraeyman, N. (2020). Developing digital competence in Initial Teacher Education. *Computers & Education*, 150, 103841.
- Tondeur, J., van Braak, J., Siddiq, F., & Scherer, R. (2012). Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement. *Computers & Education*, 59(1), 134–150. <https://doi.org/10.1016/j.compedu.2011.10.021>
- Trixa, J., & Kaspar, K. (2024). Information literacy in the digital age: Information sources, evaluation strategies, and perceived teaching competences of pre-service teachers. *Frontiers in Psychology*, 15, Article 1336436. <https://doi.org/10.3389/fpsyg.2024.1336436>
- Trust, T., & Whalen, J. (2020). Should teachers be trained in emergency remote teaching? *Journal of Technology and Teacher Education*, 28(2), 189–199.

Tudge, J. R. H., Mokrova, I., Hatfield, B., & Karnik, R. (2021). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review*, 13(1), 3–24.

UNESCO. (2018). *A global framework of reference on digital literacy skills for indicator 4.4.2*. UNESCO Institute for Statistics.

UNESCO. (2021). Media and Information Literacy curriculum for educators and learners. UNESCO.

UNESCO. (2021). *Media and information literate citizens: Think critically, click wisely*. UNESCO.

UNESCO. (2023). Guidance for generative AI in education and research. UNESCO.

Universal Basic Education Commission. (2022). *UBE annual report 2022*. Abuja: UBEC.

University of East Anglia. (2023). *Library services and student support*. <https://www.uea.ac.uk>

Villarroel, V., Bloxham, S., Bruna, D., Bruna, C., & Herrera-Seda, C. (2018). Authentic assessment: Creating a blueprint for course design. *Assessment & Evaluation in Higher Education*, 43(5), 840–854. <https://doi.org/10.1080/02602938.2017.1412396>

Voogt, J., Knezek, G., Christensen, R., & Lai, K. W. (2021). Developing digital competence in teacher education. *Technology, Pedagogy and Education*, 30(3), 327–344.

Walsh, A. (2010). Information Literacy assessment: Where do we start? *Journal of Librarianship and Information Science*, 42(1), 19–28. <https://doi.org/10.1177/0961000609345096>

Webber, S., & Johnston, B. (2017). Information Literacy: Conceptions, context and the formation of a discipline. *Journal of Information Literacy*, 11(1), 156–183. <https://doi.org/10.11645/11.1.2205>

Webber, S., & Johnston, B. (2017). Information Literacy: Conceptions, context and the formation of a discipline. *Journal of Information Literacy*, 11(1), 156–183. <https://doi.org/10.11645/11.1.2205>

Wenger-Trayner, E., & Wenger-Trayner, B. (2020). Learning to make a difference: Value creation in social learning spaces. *Cambridge University Press*.

Whitworth, A., McIndoe, S., & Whitworth, E. (2011). *eXploring Information in Transition (eXIT): A model for Information Literacy development through transition*. *Journal of Information Literacy*, 5(2), 43–56. <https://doi.org/10.11645/5.2.1643>

Williams, D., & Wavell, C. (2022). Information Literacy in teacher education: Conceptual and pedagogical challenges. *Journal of Information Literacy*, 16(1), 1–18.

Wingate, U. (2022). Academic literacy across the curriculum: Towards a collaborative instructional approach. *Teaching in Higher Education*, 27(4), 546–561. <https://doi.org/10.1080/13562517.2020.1725884>

World Economic Forum. (2024). *Shaping the future of learning: The role of AI in education*. WEF.

Wray, D., & Lewis, M. (1997). Extending Literacy (EXIT Model).

Wray, S., & Lewis, M. (2015). *The eXit model of Information Literacy in teacher education*. Unpublished framework cited in teacher education Information Literacy literature.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE..

Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education*, 61(1–2), 89–99.

Zeichner, K. (2018). The struggle for the soul of teacher education. *Journal of Teacher Education*, 69(5), 437–442.

Zeichner, K. M. (2022). *The struggle for the soul of teacher education*. Routledge.

Zhai, X., Chu, X., Chai, C. S., et al. (2021). A review of artificial intelligence (AI) in education from 2010 to 2020. *Computers and Education: Artificial Intelligence*, 2, 100025.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In *Handbook of Self-Regulation*. Academic Press.

Zimmerman, B. J. (2002). Becoming a self-regulated learner. *Theory Into Practice*, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2

APPENDICES

APPENDIX 1

ATTITUDE QUESTIONNAIRE (AQ)

This Attitude Questionnaire (AQ) aims at assessing the attitude of preservice teachers towards the use of libraries. Information gathered will be used for the purpose of this research and will be treated with utmost confidentiality. Participation in this survey is voluntary, and participants may withdraw at any stage before submitting the Questionnaire. Findings may be published in peer reviewed journals.

Thank you.

Olufunnke Olugboji

Principal Researcher

SECTION A: Demographic Information

1. Name of Institution.....
2. Gender: Male ☐ Female ☐ Other ☐
3. Age: 17 – 20 ☐ 21 – 25 ☐ 26 – 30 ☐ 31 – 35 ☐ 36 & above ☐
4. Highest Qualification _____

SECTION B: Pre-service Teachers' Perception of their Institution's Library

Please tick X in the appropriate box

Please indicate the extent to which you agree with the following statements on a scale of 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree).

Statement	1	2	3	4	5
The library provides study space and a conducive reading environment					
The library provides adequate resources to help me stay updated with my area of study					
The library helps me to cultivate a habit of self-study					
The library is a place for study					
The library is a place for socialisation					
The library is a place to verify information taught in class by my teachers					
The library is a place to widen my scope of knowledge on matters taught in class					
The library is a place to go for information when I have assignments					
The library is a place to spend some quiet time when I am on campus					
The library is an important facility for any academic institution					

Please assess the following items on a scale of 1 to 5 (1=Highly Inadequate, 2=Inadequate, 3=Neutral, 4=Adequate, 5=Highly Adequate).

Assessment item	1	2	3	4	5
Accessibility to the location of the library					
Operating hours per day					
Quality of electricity supply					
Quality of lighting					
Quality of ventilation					
Quality of space for books and materials					
Quality of study area for pupils					
Quality of computer gadgets					
Quality of internet access					
Quality of toilet facilities					

Condition of books and materials					
Age of books and materials					
Availability of variety of books and materials					
Up-to-date textbooks					
Availability of electronic textbooks					
Number of desktop computers for students' use					
Availability of reference materials (Encyclopedia, atlas, globe and so on)					
Availability of current and applicable information to my area of study					
Accessibility to journals in my area of study					
Accessibility to materials from other libraries through the institution's library					
Friendly and helpful library staff					
Fast and reliable internet connection					
Photocopying and printing services					

Thank you for your participation.

APPENDIX 1I

QUESTIONNAIRE ON LIBRARY USE EXPERIENCES (QLUE)

This Questionnaire on Library Use Experiences (QLUE) aims at assessing the library use experiences of preservice teachers. Information gathered will be used for the purpose of this research and will be treated with utmost confidentiality. Participation in this survey is voluntary, and participants may withdraw at any stage before submitting the Questionnaire. Findings may be published in peer reviewed journals. Thank you.

SECTION A: Demographic Information

1. Name of Institution.....
2. Gender: Male ☐ Female ☐ Other ☐
3. Age: 17 – 20 ☐ 21 – 25 ☐ 26 – 30 ☐ 31 – 35 ☐ 36 & above ☐
4. Highest Qualification _____

SECTION B: Library Use Experience of Pre-service Teachers

Please mark with X where appropriate:

1. Do you use the library? Yes ☐ No ☐
2. Do you agree that it is necessary to visit the library, virtual or physical?
Yes ☐ No ☐
3. If yes, how often should one visit the library, virtual or physical?

Daily	
Once a week	
Twice a week	
Fortnightly	
Twice a month	
Once a month	
4. Do you agree that students should have some orientation or training on how to use the library in their institution? Yes ☐ No ☐
5. Did you receive any information about how to use the institution's library at the beginning of your course? Yes ☐ No ☐
6. What type of library orientation did you receive? _____

7. Please indicate the extent on a scale of 1 to 4 (1=Not Helpful at all, 2=Helpful a Little, 3=Helpful, 4=Very Helpful).

Statement	1	2	3	4
To what extent was the orientation helpful?				

8. To what extent are you aware of the following Information Literacy Models?

Please indicate the extent on a scale of 1 to 4 (1=Not Aware, 2=A Little Aware, 3=Aware, 4=Very Aware).

Information Literacy Models	1	2	3	4
Big6 Skills				
EXIT Model				
SCONUL				
CILIP				

9. To what extent do you do any of the following when you visit the library?

Please indicate the extent on a scale of 1 to 4 (1=Never, 2=A Few Times, 3=Often, 4=Very Often).

Statement	1	2	3	4
Meeting friends				
Use the internet				
Read newspapers				
Borrow library books				
Use library materials within the building				
Read personal study notes				
Use printing and photocopying services				
Other reasons				

Thank you for your participation.

APPENDIX 1II

QUESTIONNAIRE ON LIBRARY ORIENTATION AND INFORMATION LITERACY (QLOIL)

The aim of this Questionnaire on Library Orientation and Information Literacy (QLOIL) is to know the types of orientation or training that are available to pre-service teachers and the Information Models that have been adopted or adapted for use by the Institution or Department. Information gathered will be used for the purpose of this research and will be treated with utmost confidentiality. Participation in this survey is voluntary, and participants may withdraw at any stage before submitting the Questionnaire. Findings may be published in peer reviewed journals. Thank you.

SECTION A: Demographic Information

1. Name of Institution.....

2. Gender: Male ☐ Female ☐ Other ☐

3. Highest Qualification _____

4. SECTION B: Library Orientation for Pre-service Teachers

1. Please indicate the extent to which you agree with the following statement on a scale of 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree).

Statement	1	2	3	4	5
To what extent do you agree that students should have some orientation or training on how to use the library in their institution?					

2. To what extent does your institution offer this library orientation to new students?

Please indicate the extent on a scale of 1 to 4 (1=Not at all, 2=On Resumption, 3=Every Semester, 4=Every Session).

Types of Library Orientation	1	2	3	4
Introduction to library resources, spaces, and services				
Introduction to databases and subject guides				
Introduction to Library Search				
Basic search strategies				

3. To what extent is each of the library orientation helpful to your students?

Please indicate the extent on a scale of 1 to 4 (1=Not helpful at all, 2=Somewhat helpful, 3= Helpful, 4=Very helpful).

Types of Library Orientation	1	2	3	4
Introduction to library resources, spaces, and services				
Introduction to databases and subject guides				
Introduction to Library Search				
Basic search strategies				

SECTION C: Information Literacy Models

1. Did your institution adopt any Information Literacy Model? Yes ☐ No ☐
2. To what extent does your school adopt any of these Information Literacy Models?

Please indicate the extent on a scale of 1 to 4 (1=Not known to our Institution, 2=Not adopted at all, 3=Adopted a little, 4=Adopted very well).

Information Literacy Models	1	2	3	4
Big Six Skills				
EXIT Model				
SCONUL				
CILIP				

Thank you for your participation.

APPENDIX 1V

INTERVIEW SCHEDULE FOR PRE-SERVICE TEACHERS

1. In your opinion, what is the role of the library in learning?
2. Please rate the frequency of your library usage in terms of high, moderate, or low.
3. What are your barriers to the effective use of the institution's library as a student?
4. Did you receive any library use orientation?
5. What type of orientation did you receive? Formal or informal? Graded or ungraded?
6. What Information Literacy model does the library use as a guide to provide information to students?
7. What can be done to improve the students' rate of utilisation of the library?

Thank you for your participation.

APPENDIX V

INTERVIEW SCHEDULE FOR LIBRARIANS

1. In your opinion, what is the role of the library in learning?
2. Please rate the frequency of the students' library usage in terms of high, moderate, or low.
3. What are the barriers to the effective use of the institution's library by the students?
4. Do the students receive any library use orientation?
5. What type of orientation do the students receive? Formal or informal? Graded or ungraded?
6. What Information Literacy model does the library use as a guide to provide information to students?
7. What can be done to improve the students' rate of utilisation of the library?

Thank you for your participation.

APPENDIX VI

Interview Questions for Teacher Training Course Coordinators

A. Role and Programme Context

1. Can you briefly describe your role within the teacher training programme and your responsibilities in relation to curriculum design?

B. Information Literacy in the Curriculum

2. How is Information Literacy defined or conceptualised within your programme?
3. Are there explicit IL-related learning outcomes or competencies embedded in the course?
 - If so, where do these appear in the curriculum structure?
4. Which modules or course components provide opportunities for pre-service teachers to develop IL skills?
5. How are IL skills taught — for example, through lectures, workshops, embedded library sessions, or independent tasks?
6. To what extent do you collaborate with academic librarians in planning or delivering IL content?

C. Assessment and Progression

7. How are pre-service teachers' IL competencies evaluated at various stages of the programme?
8. Do you notice variation in students' IL abilities upon entry and as they progress through the course?
 - What factors do you think influence this progression?

D. Access to Documentation

9. Which course documents describe or support IL provision?
(e.g., module descriptors, student handbooks, curriculum policy documents)
10. Would you be willing to share copies or extracts of relevant documentation for inclusion in this research?
 - With your permission, anonymised excerpts may be quoted or paraphrased in the final thesis.

E. Perceptions of Library Use and Placement Experience

11. How frequently do pre-service teachers engage with the university library or library services during their studies?
12. In your view, how confident are they in using library resources (e.g., databases, catalogues, research tools)?
13. Do students transfer IL skills into their school placement settings?
 - What strengths or challenges have you observed?
14. How do mentors or school contexts enable or limit students' use of school libraries during placement?

F. Challenges and Future Development

15. What barriers exist to fully embedding IL within the teacher education programme?
16. What improvements or changes would you like to see to strengthen IL learning for future pre-service teachers?

APPENDIX VII

Interview Questions for Placement Tutors (Nigeria/England)

Section A: Role and Placement Context

1. Can you briefly describe your role as a mentor for pre-service teachers?
2. How long have you been mentoring, and in what subjects/school phases?

Section B: Information Literacy Practices in the School

3. How would you describe the Information Literacy expectations for students?
4. Are there policies/programmes in place to support IL skill development?
5. What role does your school library/resource centre play in IL development?
6. What digital resources/technologies support student information use?

Section C: Support for Pre-Service Teachers

7. How are pre-service teachers introduced to library systems and resources?
8. In what ways do you support them to integrate IL into teaching?
9. How confident are they in facilitating students' Information Literacy?
10. What challenges do they face in locating, evaluating, or using information?

Section D: Collaboration and Professional Development

11. Do pre-service teachers collaborate with library/resource staff?
12. Are there structured opportunities for IL-related professional learning?

Section E: Strengths, Barriers & Improvements

13. What enables pre-service teachers to engage with IL in this school?
14. What barriers limit their engagement or use of the library?
15. What improvements would better support IL development during placement?

APPENDIX VIII

PARTICIPANT CONSENT FORM (2nd Copy to Participant)

I, [PRINT NAME], agree to take part in this research study.

In giving my consent, I state that:

- ✓ I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.
- ✓ I have read the Participant Information Statement and have been able to discuss my involvement in the study with the researcher if I wished to do so.
- ✓ The researcher has answered any questions that I had about the study, and I am happy with the answers.
- ✓ I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researcher or anyone else at the University of East Anglia now or in the future.
- ✓ I understand that I can withdraw from the study at any time.
- ✓ I understand that I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study. I also understand that I may refuse to answer any questions I don't wish to answer.
- ✓ I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.
- ✓ I understand that the results of this study may be published, but these publications will not contain my name or any identifiable information about me.

I consent to:

- | | | | | |
|--|-----|-----------------------|----|-----------------------|
| • Audio-recording | YES | ☐ | NO | ☐ |
| • Reviewing transcripts | YES | ☐ | NO | ☐ |
| • Would you like to receive feedback about the overall results of this study? | YES | ☐ | NO | ☐ |

If you answered **YES**, please indicate your preferred form of feedback and address:

o Postal: _____

o Email: _____

APPENDIX IX

Extract of Interview with Pre-service Teachers

Pre-service Teacher 1 – Uni B. (Female gender)

Good morning and thank you for joining. This interview is just a follow up to the questionnaires for my PhD Research. Did you take part in the survey?

Yeah.

I will be asking you a few questions. You don't have to give me yes or no answers because I would like you to expatiate on whatever you have to tell me so I can get as much information as possible. So, I will start by asking you to rate the frequency of your library usage in terms of high, moderate, or low. That is your personal library usage.

Is that just at the university?

Yes, please.

It's probably moderate and although in the last few weeks it's been increased because I had an assignment due. So last Wednesday was the assignment presentation. And so, the last few weeks I've used it more. At the beginning of my studies, I didn't really use it at all, but I am a member of my local library, so I obviously order books and take books out from the library, just not the library. If you see what I mean.

What are your barriers to the effective use of the library as a student?

For me, I think it's probably time, more than anything. When I'm at the uni (on campus), we're in lectures or workshops pretty much all through till five or thereabout. And I live far from the university, so I'm about an hour and a half away from campus, so it's not really that I'm not that keen on sort of staying after hours as such to use the library and when I've been using it the last few weeks. I've been there kind of first thing in the morning, so if I'm getting in early on there and getting to site early then I'm using the library then and so it's yeah, an issue for me is around time and because yeah that I mean as I say, I mean sessions pretty much throughout the day. So, it doesn't really lend itself to spending too much time in the library.

Did you receive any library use orientation when you started your programme at the university?

We didn't spend a huge amount of time being briefed on how to use it and what to do with it. It was part of our tour when we first arrived at the university. But I don't know if that plays into it as much as it is. It's quite a big space and I think that can be quite daunting for people if they're not sure where to go or who to speak to or how to use it, but. And for me, now that I've kind of done it for myself, I know how easy it is to use, but I don't know whether perhaps that puts some people off a little bit.

So, are you saying you didn't have any library use orientation when you started your programme at the university?

No, we did, we had. We visited the library as part of, I think, the first day on campus, and we were told a little bit about it, but that was as you know we were moving around as big groups. And so, I think in terms of using it and knowing anything other than kind of the basics, there's a lot to take in on your first few days at on campus and I think perhaps there and the library staff for me and was a little bit almost too much on top of everything else that was going on. So, I probably didn't take it all in as best as I could at that early stage because there were a lot of other things going on. Perhaps something in a bit more detail would be quite good.

Would you regard the orientation as being formal or informal?

I suppose it was relatively informal. We were just moving around as groups, and we could ask questions and things, and we were able to see them. The curriculum, resources, and things like that. So, we would have been able to have a look around there and see where their education books were, which were relevant to our course. And so, it was informal, but perhaps when people are in bigger groups, it can be hard to ask questions and things.

Was it a graded or ungraded library orientation? Did you have to sign an attendance form?

Not specifically for the library. I think we would have had our attendance registered generally given that it was our sort of our first day on campus. So, we would have had our general attendance registered, but I don't think specific to the library session. I don't think that was necessarily recorded.

APPENDIX X

Illustration of Simple Coding from Interview Data: Pre-service Teacher 1 (Uni B)

Interview Extract	Initial Code	Category	Emerging Theme
Structural constraints limit engagement	Alternative information sources	Information seeking beyond university library	Diverse information environments
Structural constraints limit engagement	Time constraints	Barriers to library	Structural constraints limit engagement
“We’re in lectures or workshops pretty much all through till five.”	Heavy academic schedule	Institutional pressures	Structural constraints limit engagement
“I live far from the university, so I’m about an hour and a half away.”	Travel distance	Physical access barriers	Structural constraints limit engagement
“We didn’t spend a huge amount of time being briefed on how to use it.”	Limited orientation	Library induction experiences	Orientation perceived as insufficient
“It was part of our tour when we first arrived.”	Introductory tour	Adjustment to academic environment	Confidence influenced by familiarity
“It’s quite a big space and I think that can be quite daunting.”	Library intimidation	Informal orientation practices	Orientation perceived as insufficient
“I know how easy it is to use now that I’ve done it for myself.”	Learning through experience	Independent skill development	Information literacy develops through practice
“Perhaps something in a bit more detail would be quite good.”	Desire for additional training	Need for structured support	Orientation as an enabling practice
“It was relatively informal.”	Informal induction	Nature of library support	Information literacy support lacks formalisation
“When people are in bigger groups, it can be hard to ask questions.”	Limited interaction opportunities	Barriers within orientation sessions	Orientation effectiveness affected by delivery format

Key Finding	Evidence from Coding
Pre-service teachers demonstrated basic confidence but uneven depth of competence	Participant became confident through self-exploration but desired more detailed guidance.
Information literacy was present but rarely explicit	Library use and information practices were discussed without explicit reference to information literacy.
Library provision existed but was not fully integrated into teacher preparation	Orientation was limited and informal, with little structured follow-up.