

Original Research

Exploring the Factors Influencing Teachers' Perceptions of Information and Communication Technology (ICT) Integration in History Teaching and Learning: A Case Study of Lesotho

Atang Thulo , Walter Sengai 

Department of Languages and Social Education, Faculty of Education, National University of Lesotho, Roma, Lesotho

Article Info

Article history:

Received 11 15, 2025

Revised 12 31, 2025

Accepted 01 04, 2026

Keywords:

Information and communication
technology
Teachers
Perceptions
History
Teaching
Factors

ABSTRACT

The integration of information and communication technology (ICT) has the potential to enhance teaching and learning in History by improving learner engagement and access to diverse perspectives. This study explored the factors influencing teachers' perceptions of ICT integration in History teaching and learning in Lesotho. A qualitative approach was adopted, using a multiple case study design. The sample comprised five History teachers from five secondary schools, purposively selected for their accessibility. Data were collected through semi-structured interviews, conducted both face-to-face and via telephone, and analysed using thematic analysis with the support of ATLAS.ti software. The findings indicate that although teachers generally hold positive perceptions of ICT integration, effective use is constrained by limited ICT skills, inadequate and inaccessible resources, insufficient administrative and technical support, and limited professional development opportunities. The study concludes that ICT integration in History teaching and learning is shaped primarily by institutional and capacity-related factors rather than teachers' attitudes alone.

This is an open-access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Atang Thulo

Department of Languages and Social Education, Faculty of Education, National University of Lesotho,
Roma, Lesotho

Email: thuloatang@gmail.com

1. INTRODUCTION

In the contemporary digital era, the integration of Information and Communication Technology (ICT) in education is widely recognised as a key driver of effective teaching and learning. ICT offers opportunities to enhance learner engagement, broaden access to diverse learning resources, and support the development of critical 21st-century skills. Nonetheless, the successful integration of ICT in classroom practice is not determined solely by technological availability but is largely shaped by teachers' perceptions, beliefs, and attitudes towards its use (Banda et al., 2020).

In the teaching and learning of History, ICT integration presents unique pedagogical opportunities and challenges. ICT can support historical inquiry by providing access to multiple sources, visual materials, and alternative interpretations of past events. At the same time, History is traditionally viewed as a humanistic subject that emphasises critical thinking, interpretation, and dialogue. As a result, some History teachers remain hesitant, perceiving ICT as a potential threat to the subject's interpretive and reflective nature (Haydn & Ribben, 2017; Jasik et al., 2016).

Teachers' perceptions are central to understanding how, why, and to what extent ICT is integrated into History classrooms. These perceptions determine whether teachers embrace or resist technological innovations, ultimately shaping classroom practices and learner experiences. Despite extensive policy advocacy for ICT integration, limited attention has been paid to how teachers, particularly History teachers, perceive and enact ICT in specific national contexts. Consequently, this study examines the factors that influence teachers' perceptions of ICT integration in the teaching and learning of History in Lesotho. As a result, understanding these perceptions is essential for informing policy implementation, teachers' professional development, and effective curriculum practice.

1.1. Background to the study

Globally, integrating ICT into education has become a major priority for education systems seeking to remain relevant in the 21st century. Education reforms worldwide emphasise the use of ICT to enhance instructional quality and equip learners with the skills needed to participate in a knowledge-based economy (Buabeng-Andoh, 2012; Kuppusamy, 2020). ICT is widely regarded as one of the most influential global developments, facilitating communication, fostering innovation, improving productivity, and supporting socio-economic development.

In response to these global developments, many countries, including Pakistan, Australia, India, South Africa, Malaysia, Indonesia, Rwanda, and Turkey, have integrated ICT literacy into their core curricula (Albugami & Ahmed, 2015; Balanskat et al., 2006; Blau & Shamir-Inbal, 2017; Eickelmann & Vennemann, 2017; Munyengabe et al., 2017). Empirical evidence from these contexts indicates that while ICT policies are often well articulated, effective classroom implementation remains uneven and is strongly influenced by teachers' perceptions, confidence, and pedagogical beliefs (Ghavifekr et al., 2014).

Research across Europe, Asia, and Africa consistently show that teachers' perceptions are a major determinant of ICT integration across disciplines (Saxena, 2017). For example, studies in European countries such as Poland, Ireland, Belgium, and Germany report persistent challenges in implementing ICT, despite adequate infrastructure and policy support (Ayllón et al., 2020; Eickelmann & Vennemann, 2017). These challenges are closely linked to teachers' attitudes, beliefs, and readiness to integrate technology into their teaching practices (Eickelmann & Vennemann, 2017). Similar patterns are evident in developing Asian contexts, where teachers often have basic ICT knowledge but show limited classroom use due to motivational, experiential, and pedagogical factors (Mahdum & Safriyanti, 2019; Ra et al., 2016).

In the African context, several studies reveal a paradox in ICT integration (Baguma, 2018; Kayombo & Mlyakado, 2016; Makgato, 2014; Mnisi et al., 2024). Although teachers often express positive attitudes towards ICT, classroom implementation remains limited (Banda et al., 2020; Hong, 2016; Makuru, 2020). This discrepancy highlights the complexity of ICT integration and highlights the importance of examining teachers' perceptions within specific disciplinary and contextual settings. Further studies suggest that teachers' beliefs and attitudes significantly influence whether ICT is accepted or rejected in classroom practice (Akran & Aşıroğlu, 2018; Ali, 2018; Banda et al., 2020; Belay et al., 2020; Herro & Quigley, 2017).

The challenge of integrating ICT is particularly pronounced in History teaching and learning. Research indicates that History teachers tend to be more cautious or resistant to adopting ICT than teachers in other subjects, largely because of concerns that technology may undermine the subject's humanistic and interpretive foundations (Haydn & Ribben, 2017; Walsh, 2017). Studies in History and social studies teaching and learning emphasise that teachers' perceptions are critical to successful ICT integration, as they shape pedagogical choices and classroom practices (Hui Fung & Maat, 2021; Hong, 2016; Sengai & Mokhele, 2022).

In Lesotho, the government has demonstrated a strong commitment to ICT integration through various policy frameworks. The ICT Policy for Lesotho (2005) emphasises ICT literacy as a national priority, aiming to enhance educational quality, improve access to information, and develop a technologically skilled population. Furthermore, the Curriculum and Assessment Policy (CAP), 2009 and the Lesotho Basic Education Policy (LBCEP), 2024 promote an integrated curriculum approach designed to equip learners with ICT competencies (Ministry of Education and Training, 2021). The History curriculum for Grades 10 and 11 also encourages technological awareness in the teaching and learning process (Ministry of Education and Training, 2020). Additionally, the National Strategic Development Plan II (NSDP II), 2023/24-2027/28 identifies ICT as a key driver of socio-economic transformation.

Despite these comprehensive policy commitments, there is limited empirical evidence on how ICT integration is experienced and enacted by teachers in History classrooms in Lesotho. Existing studies on ICT integration in Lesotho have primarily focused on science subjects (Kalanda & De Villiers, 2013; Makuru, 2020), leaving History teaching and learning largely unexplored. This suggests a critical policy-practice gap, particularly regarding the perceptions of History teachers, who are central to the successful implementation of ICT initiatives.

Therefore, this study addresses a significant gap in the literature by exploring the factors that shape History teachers' perceptions of ICT integration in Lesotho. Therefore, focusing on teachers' perspectives within a specific subject and national context, the study contributes to a deeper understanding of how ICT policies can

be translated into effective classroom practice, thereby informing policymakers, curriculum developers, and teacher educators.

1.2. Statement of the problem

Despite sustained national and international policy efforts to promote the integration of Information and Communication Technologies (ICT) in education, classroom use of ICT remains uneven, particularly in History teaching and learning. In Lesotho, policy frameworks such as the ICT Policy for Lesotho, the Curriculum and Assessment Policy (CAP), 2009 and the History curriculum explicitly advocate ICT integration. However, evidence suggests that actual use of ICT in History classrooms remains limited. This situation presents a paradox; strong policy support and growing technological availability coexist with low levels of subject-specific classroom implementation.

Existing scholarship demonstrates that teachers' perceptions, beliefs, and pedagogical orientations are central to ICT adoption (Hui Fung & Maat, 2021; Hong, 2016). However, research also indicates that History teachers often approach ICT with caution, concerned that technology may undermine the subject's humanistic, interpretive, and dialogic foundations (Haydn & Ribben, 2017; Walsh, 2017). While studies in other contexts have explored these tensions, there is limited empirical evidence explaining how such perceptions operate in the Lesotho context. Moreover, most ICT integration has focused on science subjects, where pedagogical cultures and technological demands differ significantly from those of History teaching and learning.

As a result, the low use of ICT among History teachers cannot be assumed to stem solely from resource constraints or technical skills deficits. Rather, it reflects many connected factors of pedagogical beliefs, subject traditions, and contextual factors that remain insufficiently explored. The absence of subject-specific, theoretically informed research on History teachers' perceptions of ICT integration in Lesotho constitutes both an empirical and an analytical gap in current scholarship.

Therefore, the problem addressed in this study is the lack of a systematic, contextually grounded understanding of the factors shaping History teachers' perceptions of ICT integration in Lesotho. This gap limits policymakers' and educators' ability to design informed interventions that align ICT initiatives with the pedagogical realities of History teaching and learning.

1.3. Purpose of the study

The purpose of this study was to explore how individual, institutional, and technological factors influence History teachers' attitudes, beliefs, and classroom practices regarding the integration of information and communication technology in the teaching and learning of History. This study has answered the main research question: What factors influence teachers' perceptions of ICT integration in the teaching and learning of History? With sub-research questions: (i) What institutional and infrastructural factors influence teachers' perceptions of ICT integration in the History curriculum?; and (ii) How do teachers' personal attitudes and experiences with ICT affect their perceptions of its integration into History teaching and learning?

2. THEORETICAL FRAMEWORK

In this study, teachers' perceptions are defined as their attitudes, beliefs, and self-reported instructional practices concerning the use of ICT in History teaching. This clarification distinguishes perceptions from related constructs such as motivation and skills, which are treated as influencing factors rather than interchangeable terms.

To examine the factors shaping these perceptions, the study is grounded in the Resources and Appropriation Theory (RAT) developed by van Dijk (2005). RAT was selected because it explicitly links structural resource inequalities to individual attitudes, skills, and patterns of technology use, making it particularly suitable for analysing ICT integration in resource-constrained school contexts, such as those in Lesotho.

RAT conceptualises digital inequality as a sequential process comprising access to resources, appropriation of technology, and resulting outcomes. In this study, RAT is used analytically rather than descriptively to explain how unequal access to ICT resources shapes History teachers' attitudes and classroom practices. The theory holds that unequal resource distribution leads to disparities in material access, which in turn affect users' skills, motivation, and actual use of technology (van Deursen & van Dijk, 2019).

RAT conceptualises material access through three dimensions: device availability, device diversity, and maintenance capacity (van Deursen & van Dijk, 2019). These dimensions are central to this study because teachers' attitudes towards ICT integration are shaped by the availability and reliability of resources in their schools. Schools with adequate and diverse ICT equipment are more likely to foster positive attitudes towards ICT integration. Conversely, limited or poorly maintained resources may lead to negative attitudes and reduced classroom use of ICT.

In this study, attitudes are understood as teachers' evaluative judgments (positive or negative) about using ICT in History teaching, rather than as technology acceptance per se. RAT suggests that attitudes develop through prior experiences of access and use, rather than being purely psychological traits.

While models such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) focus primarily on intention and perceived usefulness, they do not adequately

account for structural inequalities in access, which are central to the context of this study. RAT therefore offers a more context-sensitive explanation of how attitudes towards ICT emerge.

RAT further recognises that age, gender, education level, and prior exposure to technology influence how individuals appropriate ICT resources (Clayton & Macdonald, 2013; Ling, 2012; Vroman et al., 2015). In this study, teachers' skills are treated as outcomes of access and training opportunities, rather than as perceptions.

For example, limited exposure to ICT due to age or inadequate professional training may undermine teachers' confidence and willingness to integrate technology into History lessons.

Social support is conceptualised as institutional and collegial assistance that enables teachers to access, maintain, and meaningfully use ICT resources. According to RAT, social capital, such as support from school leadership and peer collaboration, enhances teachers' capacity to appropriate available technologies (Helsper & van Deursen, 2017).

In this study, social support is explored as a mediator between resource availability and teachers' classroom practices. Although frameworks such as Technological Pedagogical Content Knowledge (TPACK) and Substitution Augmentation Modification Redefinition (SAMR) are valuable for analysing levels of pedagogical integration, they assume a baseline level of access and competence. This limits their applicability in contexts characterised by significant resource disparities.

RAT is therefore adopted not to replace pedagogical models but to explain the structural and contextual conditions that shape teachers' perceptions before pedagogical integration can occur. However, a limitation of RAT is its reduced emphasis on subject-specific pedagogy, which this study addresses by focusing explicitly on History teachers' instructional practices.

3. METHOD

This study adopted a qualitative research approach to explore factors that influence History teachers' perceptions of ICT integration, using Resources and Appropriation Theory (RAT) as a lens. Qualitative research is appropriate for exploring how individuals interpret and make meaning of their experiences within specific contexts (Creswell et al., 2015). RAT emphasises not only the availability of resources but also how users interpret, adapt, and appropriate them in practice. Consequently, a qualitative approach enabled the researcher to capture teachers' subjective experiences, perceptions, and meanings related to ICT access, use, and pedagogical integration.

A multiple-case study design was employed, involving five secondary schools in the Maseru district. This design was selected because RAT assumes that technology use and appropriation are context-dependent and shaped by institutional, material, and human factors. Each school, therefore, served as a distinct case, with potentially different ICT resources, support structures, and teaching conditions.

The multiple-case study design enabled within-case analysis exploring how ICT resources were perceived and appropriated in each school and cross-case analysis (comparing how differences in resources, support, and constraints influenced teachers' perceptions and appropriation practices across schools). This design was directly aligned with the research questions, which sought to understand not only individual teachers' perceptions but also how contextual factors across schools shape ICT integration in History teaching and learning.

The study population consisted of History teachers in secondary schools in the Maseru district. Purposive sampling was used to select participants who could provide information-rich data relevant to RAT. Five schools were selected for their accessibility and the offering of History, with the intention to explore their differences in terms of ICT availability and institutional support.

From each school, one History teacher with more than one year of teaching experience was selected, yielding a total sample of five teachers. This criterion was important within the RAT framework, as ICT appropriation is viewed as a gradual process that develops over time through sustained interaction with resources. Teachers with at least one year of experience were therefore more likely to have formed stable perceptions and practices related to ICT integration (Russell et al., 2007). Applying the same criteria across cases enhanced comparability in the cross-case analysis.

Five History teachers, each from a different secondary school, participated in the study (Table 1). All held a Bachelor of Education qualification, with teaching experience ranging from two to fifteen years. While demographic characteristics such as age, gender, and experience were not analysed as variables in themselves, they provide important contextual background for understanding teachers' perceptions. Notably, differences in ICT perceptions did not consistently align with age or experience alone, suggesting that contextual and institutional factors played a more decisive role than individual demographics.

Table 1. Participant Profile

School Pseudonym	Teachers' Qualifications	Teaching Experience	Gender	Age	N
School A	Bachelor of Education	Fourteen years	Male	35-44	1
School B	Bachelor of Education	Fourteen years	Male	35-44	1
School C	Bachelor of Education	Two years	Male	25-34	1
School D	Bachelor of Education	Five years	Female	35-44	1
School E	Bachelor of Education	Fifteen years	Male	35-44	1
Total					5

Data were collected through semi-structured interviews, which were suitable for exploring RAT constructs in depth while allowing participants to express their experiences in their own words. The interview guide was explicitly informed by RAT and included questions focusing on: access to and availability of ICT resources, teachers' perceptions and interpretations of these resources, institutional and contextual factors influencing ICT use, ways in which teachers adapted or appropriated ICT in History teaching, and perceived constraints and enabling conditions.

The interviews were conducted by the researchers and lasted approximately 30–45 minutes. Both face-to-face and telephone interviews were used due to logistical considerations. While face-to-face interviews allowed for richer interaction, telephone interviews enabled participation where in-person meetings were not feasible. To address the limitations of telephone interviews, probing and follow-up questions were used to ensure depth and clarity of responses.

Data were analysed thematically using ATLAS.ti to support a systematic and transparent analytic process. All interviews were transcribed verbatim prior to analysis. The use of ATLAS.ti augmented the manual process of thematic analysis, but did not replace the interpretive role of the researchers.

The analysis employed a combined deductive–inductive approach, aligned with the RAT. Deductive coding was guided by key RAT concepts, such as resources (material and non-material), access, interpretation, and appropriation. Inductive coding was then used to capture emerging themes that were not predetermined by the theory but arose from participants' accounts. Codes were iteratively refined and grouped into categories, which were then developed into broader themes. A cross-case analysis was conducted to identify common patterns and contextual differences in how ICT resources were perceived and utilised across the five schools.

Ethical considerations were central to the study. Approval to conduct the research was obtained from the National University of Lesotho and school principals. Informed consent was obtained from all participants, who were informed of the purpose of the study, their voluntary participation, and their right to withdraw at any time. Confidentiality and anonymity were ensured through the use of pseudonyms for participants and schools, and all data were securely stored and accessible only to the researchers.

Trustworthiness was ensured using the criteria of credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985). Credibility was enhanced through careful alignment between RAT, the research questions, and the data collection instruments, as well as through the use of verbatim quotations. Dependability was supported by maintaining a clear audit trail of methodological decisions and analytic steps. Confirmability was addressed through reflexive engagement with the data and systematic coding procedures. Transferability was enhanced by providing rich contextual descriptions of the cases, allowing readers to assess the applicability of the findings to similar educational contexts.

4. RESULTS

The purpose of this study was to explore the factors influencing History teachers' perceptions of ICT integration in teaching and learning. The findings are organised according to the research question: What factors influence teachers' perceptions of the integration of ICT in History teaching and learning? Under the following sub-research questions: What institutional and infrastructural factors influence teachers' perceptions of ICT integration in the History curriculum? How do teachers' personal attitudes and experiences with ICT affect their perceptions of its integration into History teaching?

Analysis is guided by Resources and Appropriation Theory (RAT), which emphasises that ICT integration depends not only on the availability of resources but also on teachers' ability to access, interpret, and appropriate these resources within their teaching contexts.

4.1 Institutional and infrastructural factors influencing ICT perceptions

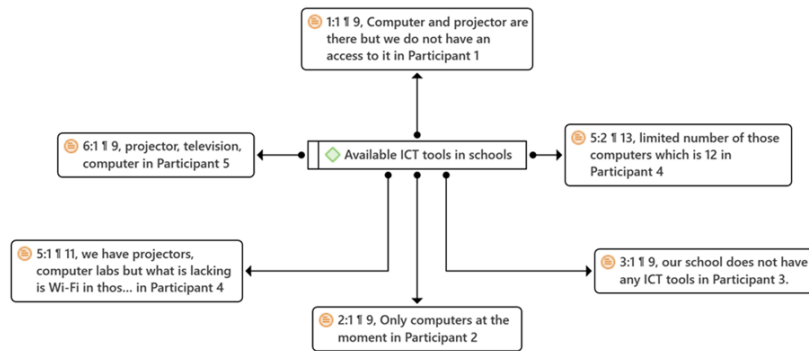


Figure 1. Availability of ICT Resources

As demonstrated by Figure 1, findings indicate that teachers’ perceptions of ICT integration were strongly shaped by the availability of ICT resources in their schools. Although some schools possessed basic ICT tools such as computers, projectors, or televisions, these resources were often insufficient, outdated, or poorly supported by internet connectivity. In some cases, teachers reported the complete absence of usable ICT resources.

From a RAT perspective, the mere presence of ICT tools did not translate into positive perceptions of ICT integration. Teachers perceived ICT as impractical or symbolic rather than functional when resources were unreliable or incomplete. Consequently, ICT was viewed less as a pedagogical asset and more as an idealised expectation imposed by policy but unsupported by school realities. This mismatch contributed to scepticism and frustration among teachers, negatively shaping their perceptions of ICT integration in History teaching.

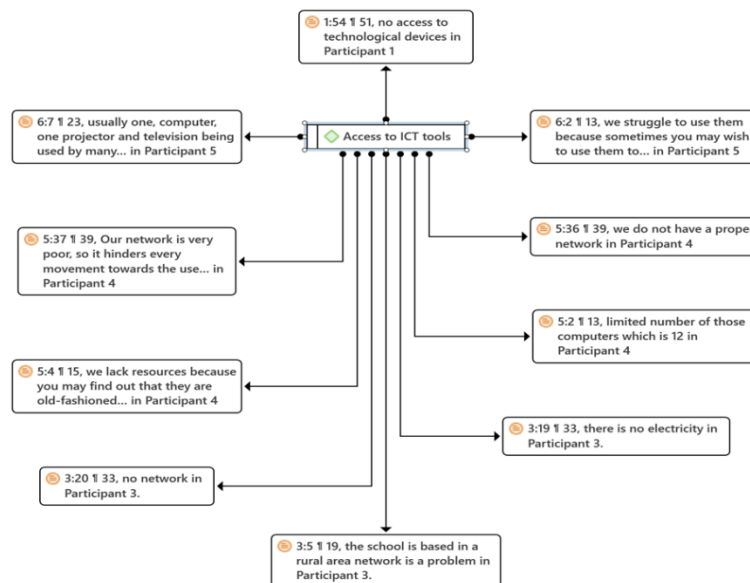


Figure 2. Available ICT tools in schools

With reference to Figure 2, beyond availability, access emerged as a critical factor influencing teachers' perceptions. Teachers reported limited or shared access to ICT tools, resulting in scheduling conflicts and restricted opportunities to integrate technology into History lessons. Poor internet connectivity further constrained the use of digital History resources such as online archives and interactive materials.

These findings illustrate that restricted access limited teachers’ ability to experiment with and appropriate ICT meaningfully. Within RAT, appropriation requires sustained interaction with resources; however, inconsistent access prevented teachers from developing confidence and routine ICT use. As a result, teachers perceived ICT integration as disruptive and time-consuming rather than supportive of History pedagogy.

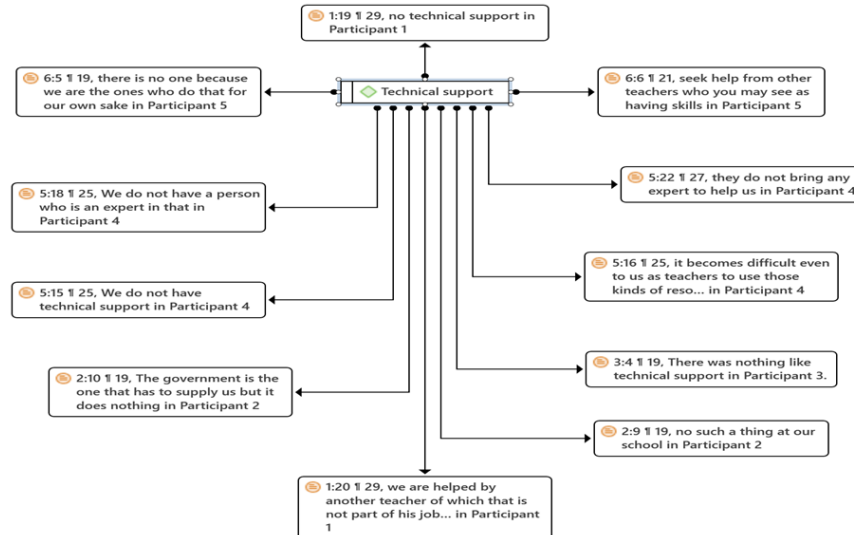


Figure 3. Technical Support

As shown in Figure 3 above, the absence of technical support significantly influenced teachers’ perceptions of ICT integration. Most participants reported that they relied on their own limited skills to resolve technical problems, with no dedicated ICT personnel available at the school level. This lack of support increased teachers’ workload and anxiety, discouraging ICT use.

Teachers’ perceptions of ICT were therefore shaped by the perceived risk associated with technology failure. When technical problems interrupted lessons and no assistance was available, ICT was viewed as unreliable. From a RAT perspective, this undermined appropriation, as teachers were unable to stabilise ICT use within their instructional routines, leading to avoidance rather than adoption.

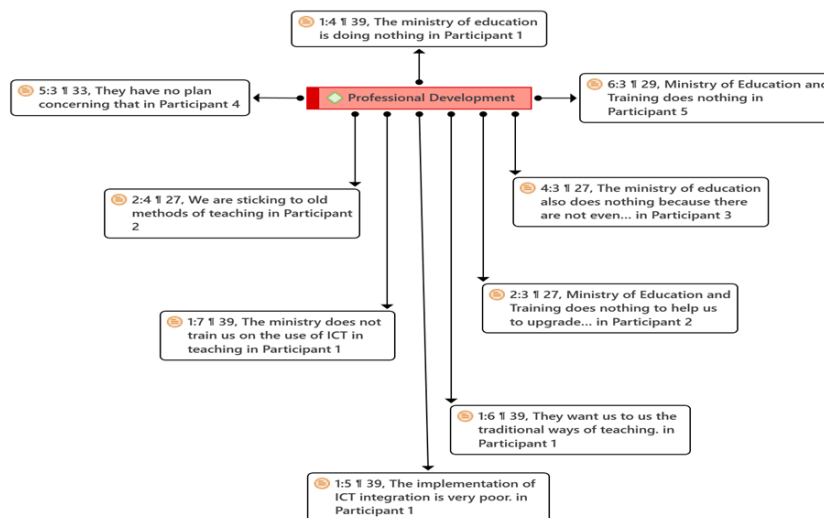


Figure 4. Professional Development

As illustrated in Figure 4, the findings revealed a consistent lack of structured professional development related to ICT integration, particularly for History teaching. Participants reported minimal support from the Ministry of Education and Training and no subject-specific ICT training initiatives.

This absence of professional development limited teachers’ interpretive capacity, an essential component of RAT. Without training, teachers struggled to understand how ICT could be pedagogically aligned with History content. As a result, ICT was perceived as irrelevant or disconnected from curriculum demands, reinforcing reliance on traditional teaching methods.

4.2. Teacher-related factors influencing ICT perceptions

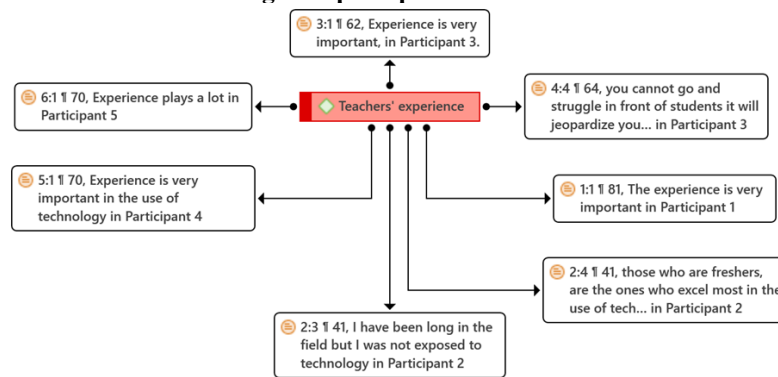


Figure 5. Teaching Experience

According to Figure 5, teachers expressed differing views on whether experience influenced ICT integration. Some perceived experience as enabling adaptation and improvisation in contexts of limited resources, while others viewed recent training as more relevant for ICT use.

Rather than experience alone determining ICT use, the findings suggest that experience influenced how teachers interpreted and negotiated constraints. Experienced teachers were more likely to adapt limited resources creatively, positively shaping their perceptions of ICT’s potential. Less experienced teachers, despite being more familiar with technology, felt constrained by institutional limitations, which negatively affected their perceptions.

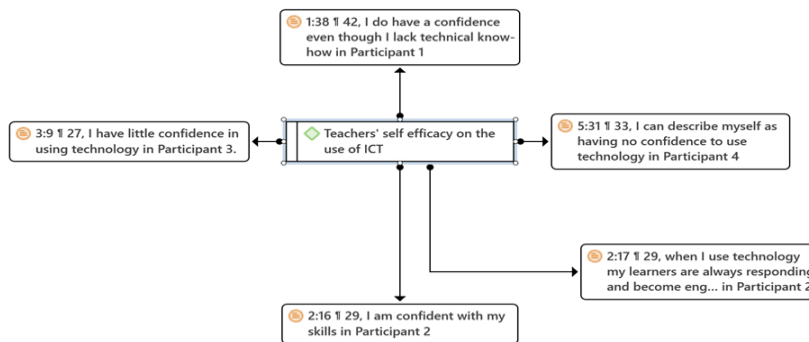


Figure 6. Teachers' Self-Efficacy

As depicted in Figure 6, teachers’ confidence in using ICT emerged as a strong determinant of their perceptions. Teachers with high self-efficacy perceived ICT as motivating and beneficial for learner engagement, even when resources were limited. In contrast, teachers with low confidence perceived ICT as intimidating and avoided its use altogether.

Within RAT, self-efficacy influenced teachers’ ability to appropriate ICT resources. High self-efficacy enabled experimentation and persistence despite challenges, while low self-efficacy led to withdrawal from ICT use. Thus, perceptions of ICT were shaped not only by resource constraints but also by teachers’ belief in their capacity to manage technology.

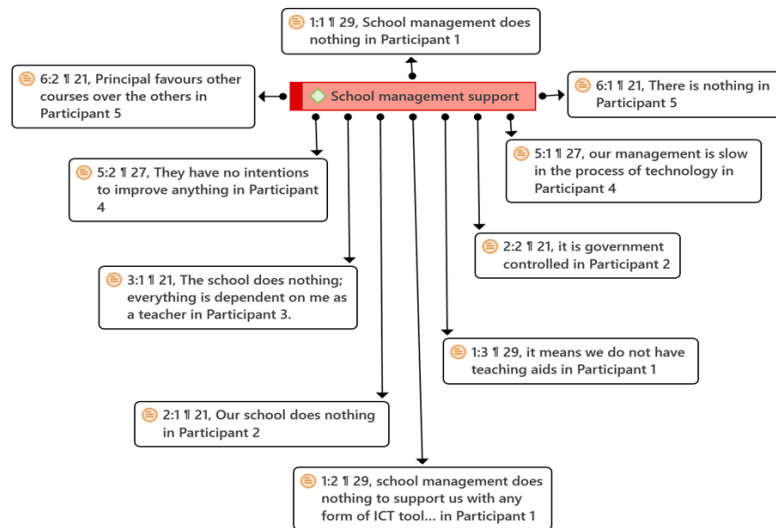


Figure 7. Administrative or Management Support

As presented in Figure 7, lack of support from school management emerged as a major barrier to positive ICT perceptions. Participants reported that school leadership prioritised other subjects and failed to provide resources, training, or encouragement for ICT use in History.

This lack of leadership support weakened the institutional conditions necessary for appropriation. Teachers perceived ICT integration as an individual responsibility rather than a collective school initiative, resulting in fragmented and inconsistent ICT use. Consequently, ICT was perceived as optional rather than integral to History teaching.

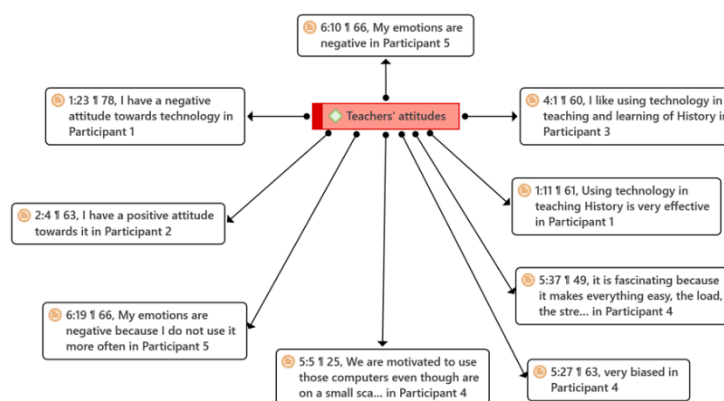


Figure 8. Teachers' Attitudes towards ICT

As evidenced by Figure 8, teachers demonstrated mixed attitudes towards ICT integration. Positive attitudes were linked to perceived learner engagement and instructional benefits, while negative attitudes were associated with inadequate resources, limited skills, and a lack of institutional support.

Importantly, attitudes were not isolated personal dispositions, but reflections of teachers' lived experiences with ICT. From a RAT perspective, positive attitudes developed when teachers were able to meaningfully appropriate ICT, whereas negative attitudes emerged when systemic constraints prevented successful use. This highlights that attitudes are outcomes of contextual interaction rather than fixed personal traits.

5. DISCUSSION

This section discusses the findings in direct relation to the research questions and interprets their significance for ICT integration in History teaching and learning. The discussion explains how the findings relate to existing literature and the Resources and Appropriation Theory (RAT).

5.1. How do History teachers' personal attitudes and experiences influence their perceptions of ICT integration in the teaching of History?

The findings indicate that History teachers generally hold positive attitudes toward ICT integration; however, these attitudes do not result in consistent classroom implementation. This suggests that teachers' perceptions are shaped more by their practical experiences with ICT than by their beliefs about its value. While teachers acknowledged that ICT could enhance learner engagement and improve History teaching, limited skills and low confidence restricted their willingness to integrate technology. This finding supports Muia (2021) and González-Sanmamed et al. (2017), who emphasise the role of teacher attitudes, but it also demonstrates that positive perceptions alone are insufficient without adequate competence and support.

The study further found that teachers' academic qualifications and teaching experience did not significantly influence their perceptions of ICT integration. Although RAT assumes that higher education levels and professional experience facilitate technology use (Clayton & Macdonald, 2013), the findings challenge this assumption. All participants held Bachelor of Education degrees, yet most lacked subject-specific ICT skills, suggesting that general teacher qualifications do not necessarily translate into pedagogical ICT competence in History.

Similarly, age and gender were not found to affect teachers' perceptions of ICT integration. This contradicts claims that younger teachers are more likely to experiment with technology (Ling, 2012) or that older teachers are less inclined to use ICT (Vroman et al., 2015). In this study, demographic factors were less influential than contextual constraints, indicating that structural limitations override individual differences.

Teacher self-efficacy emerged as a critical factor influencing perceptions of ICT integration. Teachers' fear of using ICT incorrectly in front of learners discouraged experimentation, despite recognising its instructional value. While RAT acknowledges personal resources, the findings suggest that the theory underestimates the importance of ongoing pedagogical support in building teachers' confidence. Without opportunities for guided practice and feedback, teachers remain reluctant to integrate ICT meaningfully into History teaching.

5.2. What institutional and infrastructural factors affect teachers' perceptions of ICT integration in the History curriculum?

The findings related to the second research question show that institutional and infrastructural conditions exert a strong influence on teachers' perceptions and practices. Limited access to functional ICT resources, including hardware, software, digital content, and reliable internet connectivity, significantly constrained ICT integration in History classrooms. This finding supports the central claim of RAT that material access is a prerequisite for meaningful technology use (van Dijk, 2005).

However, the study extends RAT by demonstrating that access alone is insufficient. Teachers reported instances where ICT resources were physically available but inaccessible due to connectivity problems or scheduling constraints. This aligns with Gonzales (2016) and van Dijk (2005), who argue that unequal or ineffective access limits users' ability to benefit from technology. In History teaching and learning, where digital tools can enrich content and promote multiple perspectives, unreliable infrastructure directly limits pedagogical innovation.

The lack of technical support further shaped teachers' perceptions of ICT integration. Teachers relied on colleagues for assistance, which created uncertainty and discouraged ICT use during lessons. Although RAT highlights the importance of social resources (Helsper & Van Deursen, 2017), the findings suggest that informal peer support cannot replace structured technical assistance with schools.

Professional development and administrative support also emerged as influential institutional factors. Teachers expressed dissatisfaction with the limited ICT-focused training provided by the Ministry of Education and Training and perceived weak leadership support at the school level. These findings are consistent with van Deursen et al. (2017) and van Deursen and van Dijk (2019), who emphasise the role of institutional support in technology appropriation. The absence of professional development initiatives may prove disastrous, and ultimately deskill and disempower History teachers in their efforts to integrate ICT in the History classroom (Sengai & Mokhele, 2025). Without such support, ICT integration remains superficial despite national policy expectations.

Generally, the findings partially support the Resources and Appropriation Theory by confirming the importance of material and social access to ICT. However, the study also exposes limitations of the theory in explaining ICT integration in subject-specific contexts such as History teaching and learning. While RAT accounts for access-related constraints, it does not fully explain teachers' low self-efficacy or the absence of pedagogical competence in ICT use.

The findings suggest that ICT integration in History teaching and learning requires not only access to resources but also sustained pedagogical training and institutional support. This indicates the need to complement RAT with perspectives that emphasise teacher learning and subject-specific pedagogy to better understand ICT integration in educational practice.

6. CONCLUSIONS

In relation to the first objective, to explore teachers' personal attitudes and experiences regarding ICT integration in History teaching, the study concludes that teachers generally hold positive perceptions of ICT. However, these positive attitudes do not lead to effective classroom integration. The findings show that teachers' age, gender, teaching experience, and academic qualifications do not significantly influence ICT use. Instead, low self-efficacy resulting from limited ICT skills and a lack of subject-specific training in History pedagogy constrains teachers' ability to integrate ICT meaningfully.

Regarding the second objective to identify institutional and infrastructural factors affecting ICT integration in the History teaching and learning, the study concludes that limited access to functional ICT resources, unreliable connectivity, inadequate technical support, insufficient professional development, and weak administrative support are the primary barriers to ICT integration. These factors directly shape teachers' perceptions and practices, leading them to rely on traditional teaching approaches despite recognising the educational value of ICT in the teaching and learning of History.

With respect to the theoretical objective to examine the applicability of the Resources and Appropriation Theory (RAT) in explaining ICT integration in History teaching and learning, the findings partially support the theory by confirming the importance of material and social access to technology. However, the study also reveals that RAT does not fully account for subject-specific pedagogical challenges. Access to ICT resources alone does not guarantee effective integration; teachers require sustained training and institutional support to use ICT effectively within History teaching.

Basically, the study concludes that limited ICT integration in History teaching and learning is driven primarily by systemic and institutional constraints rather than negative teacher perceptions. Therefore, coming up with mitigation strategies that address these constraints is essential for enabling History teachers to translate positive attitudes toward ICT into meaningful instructional practice.

7. IMPLICATIONS OF THE STUDY

Firstly, the finding that History teachers hold positive attitudes toward ICT but lack confidence and subject-specific skills implies a need for targeted professional development rather than broad policy reform. The absence of ICT integration training in History within existing teacher training institutions such as the National University of Lesotho and the National Teacher Training College suggests that pre-service and in-service training should place greater emphasis on pedagogical use of ICT specific to History, rather than on general ICT literacy alone.

Secondly, the study's evidence indicates that limited access to functional ICT resources directly constrains teachers' classroom practices. This implies that efforts to promote ICT integration should prioritise improving the usability and accessibility of existing resources before introducing new technologies. Given that teachers reported infrastructural and connectivity challenges, incremental and context-sensitive improvements may be more effective than large-scale technology initiatives.

Thirdly, the lack of technical and administrative support identified in the findings implies that school-level support structures are critical to sustaining ICT use. School leadership plays an important role in shaping teachers' willingness to integrate ICT by providing encouragement, time, and basic technical assistance. However, this implication should be understood as a supportive condition rather than a guarantee of successful ICT integration.

Finally, while the study indicates that ICT has the potential to enhance learner engagement in History, the data does not allow for strong claims about direct improvements in learning outcomes. Therefore, claims regarding student benefits should be approached cautiously and framed as potential rather than assured outcomes of ICT integration.

In a nutshell, the implications of this study highlight the importance of aligning teacher capacity, institutional support, and available resources. These implications are grounded in the experiences and perceptions of the participating teachers and should inform future efforts to strengthen ICT integration in History teaching and learning without extending beyond the study's empirical evidence.

8. RECOMMENDATIONS

The finding that teachers possess positive attitudes but low self-efficacy and limited ICT skills indicates a need for History-focused ICT training, rather than general digital literacy programmes. Teacher education institutions and in-service training providers should emphasise how ICT can be used to teach historical content (e.g., timelines, digital archives, and historical simulations), addressing the confidence gap identified in this study.

The study found that ICT resources were often unavailable or inaccessible due to connectivity and logistical constraints. Rather than focusing solely on acquiring additional equipment, efforts should prioritise

ensuring that existing resources are functional, accessible during lessons, and supported by reliable internet connectivity. This recommendation reflects teachers' reported frustration with unusable infrastructure.

Given that teachers relied on colleagues for technical assistance, the study recommends the establishment of minimal but structured technical support, such as designated ICT coordinators or scheduled support times. This recommendation directly addresses teachers' reluctance to use ICT due to fear of technical failure during lessons.

The finding that professional development opportunities were limited and disconnected from classroom realities suggests that future training should be practice-oriented and context-specific. Professional development should focus on addressing the specific barriers identified in this study, such as time constraints, lesson preparation challenges, and managing ICT use in resource-limited History classrooms.

The study found that weak administrative support negatively influenced teachers' ICT use. School leadership should therefore play an enabling role by providing encouragement, allocating time for ICT-based lesson preparation, and recognising teachers' efforts to integrate ICT. This recommendation is grounded in teachers' expressed perceptions of limited leadership involvement.

Since the study focused on teachers' perceptions rather than direct classroom outcomes, further research is recommended to examine how ICT integration specifically influences teaching strategies and learner understanding in History. This recommendation reflects a limitation identified in the study and responds to the need for deeper subject-specific insight. Future research should conduct a longitudinal study to implement and evaluate ICT-focused professional development interventions for History teachers. The experimental or quasi-experimental studies could assess the impact of such interventions on teachers' confidence, pedagogical practices, and learners' engagement with History.

ACKNOWLEDGEMENTS

I would like to pass my sincere gratitude to my participants who provided their valuable contributions to this study.

DECLARATION OF INTEREST

There was no conflict of interest for this research.

RESEARCH FUNDING

There was no funding for this study.

ETHICAL STATEMENT

Ethical approval for this study was obtained from the National University of Lesotho.

AI USE STATEMENT

The authors used ChatGPT to check Grammar and language improvement.

REFERENCES

- Akran, S. K., & Aşıroğlu, S. (2018). Perceptions of teachers towards the stem education and the constructivist education approach: Is the constructivist education approach preparatory to the STEM education? *Universal Journal of Educational Research*, 6(10), 2175–2186. <https://doi.org/10.13189/ujer.2018.061016>
- Albugami, S., & Ahmed, V. (2015). Towards successful implementation of ICT in Saudi schools (Literature Review).
- Ali, W. (2018). Teachers' perceptions of ICT integration as a pedagogic reform in classroom instruction. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 23(10), 14–31. <https://doi.org/10.9790/0837-2310091431>
- Ayllón, S., Barbovschi, M., Casamassima, G., Drossel, K., Eickelmann, B., Ghețău, C., Haragus, T.P., Holmarsdottir, H.B., Hyggen, C., Kapella, O., Karatzogianni, A., Lado, S., Levine, D., Lorenz, T., Mifsud, L., Parsanoglou, D., Port, S., Sisask, M., Symeonaki, M., & Teidla-Kunitsõn, G. (2020). ICT usage across Europe. A literature review and an overview of existing data (DigiGen - working paper series No. 2). doi: <https://doi.org/10.6084/m9.figshare.12906737>
- Balanskat, A., Blamire, R., & Kefala, S. (2006). The ICT impact report, a review of studies of ICT impact on schools in Europe. *European School net, Brussels, Belgium*, <http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan037334.pdf>.
- Baguma, I. (2018). Integrating ICT into the teaching practice of academics at a University (IDoctoral thesis).
- Banda, M., Hamaundu, M., & Mwansa, B. M. (2020). Views of teachers towards ICT integration in History. *International Journal of Humanities, Social Sciences and Education*, 7(6), 116–122. <https://doi.org/10.20431/2349-0381.0706013>
- Belay, M. T., Khatete, D. D. W., & Mugo, D. B. C. (2020). Teachers' attitude towards integrating ICT in classroom instruction in teaching and learning biology in secondary schools in the Southern Region, Eritrea. *Journal of Education and Practice*, 4(1), 1–18. <https://doi.org/10.47941/jep.393>
- Blau, I., & Shamir-Inbal, T. (2017). Digital competences and long-term ICT integration in school culture: The perspective of elementary school leaders. *Educ Inf Technol*, 22, 769–787. <https://doi.org/10.1007/s10639-015-9456-7>
- Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 8(1), 136-155. <https://www.learntechlib.org/p/188018/>
- Buabeng-Andoh, C. (2019). Factors that influence teachers pedagogical use of ICT in the secondary schools: A case of Ghana. *Contemporary Educational Technology*, 10(3), 272-288. Retrieved from <https://doi.org/10.30935/cet.59009>

- Clayton, J., & Macdonald, S. J. (2013). The limits of technology: Social class, occupation and digital inclusion in the city of Sunderland, England. *Information, Communication & Society*, 16(6), 945–966. doi: <https://doi.org/10.1080/1369118X.2012.748817>
- Creswell, V. L., Clark, P., & John, W. (2015). *Understanding Research*. London: Pearson Education, Inc.
- Davis, F. D. (2017). Advancing technology acceptance: A personal History and prospects for the future. *MIS Quarterly*, 41(1), 7–20. <https://doi.org/10.25300/MISQ/2017/41.1.01>
- Eickelmann, B., & Vennemann, M. (2017). Teachers' attitudes and beliefs regarding ICT in teaching and learning in European countries. *European Educational Research Journal*, 16(6), 733–761. doi: <https://doi.org/10.1177/1474904117725B99>
- Ghavifekr, S., Ahmad, Z. A., Razak, M., Faizal, A., Ghani, N., Yan Ran, Y. M., & Zhang, T. (2014). ICT Integration in education: incorporation for teaching & learning improvement. *Malaysian Online Journal of Educational Technology*, 2(2), 24–54. <http://www.mojet.net/article.php?volume=2&issue=2&vid=34&article=80>
- Gonzales, A. L. (2016). The contemporary US digital divide: From initial access to technology maintenance. *Information, Communication & Society*, 19(2), 234–248. <https://doi.org/10.1080/1369118X.2015.1050438>
- González-Sanmamed, M., Sangrà, A., & Pablo-César, M. (2017). We can, we know how. But do we want to? Teaching attitudes towards ICT based on the level of technology integration in schools. *Technology, Pedagogy and Education*, DOI: <https://doi.org/10.1080/1475939X.2017.1313775>
- Government of Lesotho. (2005). ICT Policy for Lesotho. Retrieved from https://cdn.who.int/media/docs/default-source/digital-health-documents/global-observatory-on-digital-health/lesotho_ict_policy_final.pdf?sfvrsn=6c06cac0_3
- Haydn, T., & Ribben, K. (2017). New technologies in History teaching and learning. In M. Carretero, S. Berger, & M. Grever (Eds.), *Palgrave Handbook of Research in Historical Culture and Education*, 735–753. Palgrave Macmillan.
- Helsper, E. J., & Reisdorf, B. C. (2017). The emergence of a “digital underclass” in Great Britain and Sweden: Changing reasons for digital exclusion. *New Media & Society*, 19(8), 1253–1270. <https://doi.org/10.1177/1461444816634676>
- Helsper, E. J., & Van Deursen, A. J. A. M. (2017). Do the rich get digitally richer? Quantity and quality of support for digital engagement. *Information, Communication & Society*, 20(5), 700–714. <https://doi.org/10.1080/1369118X.2016.1203454>
- Herro, D., & Quigley, C. (2017). Exploring teachers' perceptions of STEAM teaching through professional development: Implications for teacher educators. *Professional Development in Education*, 43(3), 416–438. <https://doi.org/10.1080/19415257.2016.1205507>
- Hong, J. E. (2016). Social studies teachers' views of ICT integration. *Review of International Geographical Education Online*, 6(1), 32–48. Retrieved from <https://rigeo.org/menu-script/index.php/rigeo/article/view/100/90>
- Hui Fung, T., & Maat, S. M. (2021). A Systematic review of teachers' perception towards ICT integrations in mathematics classroom. *International Journal of Academic Research in Progressive Education and Development*, 10(3), 1349–1363. <https://doi.org/10.6007/ijarped/v10-i3/10922>
- Jasik, K. J., Lorenc, K., Mrozowski, J. S., & Walczak, A. (2016). *Innovating History teaching and learning For All: Needs Assessment*. Warsaw: Educational Research Institute.
- Kayombo, J. J., and Mlyakado, B. P. (2016). The paradox of ICT integration in secondary education in Tanzania: Assessment of teachers' ICT knowledge and skills in Tanga and Mwanza regions. *International Journal of Research Studies in Educational Technology*, 5(1), 17–27. <https://doi.org/10.5861/ijrset.2015.1299>
- Kalanda, K., & De Villiers, M. R. (2013). E-learning in the science curriculum: a study in selected high schools in Lesotho. Proceedings of world conference on educational multimedia, hypermedia and telecommunications in Victoria, Canada. *Association for the Advancement of Computing in Education (AACE)*. EdMedia.
- Kuppusamy, P. (2020). Emerging technologies to smart education. *International Journal of Emerging Trends & Technology in Computer Science*, 68(2), 5–6, doi: <https://doi.org/10.14445/22312803/IJCTT>
- Lau, R., & Sim, K. (2008). Exploring the extent of ICT adoption among secondary school teachers in Malaysia. *International Journal of Computing and ICT Research*, 2(2), 19–36. http://www.ijcir.org/volume2_number2/article_3.pdf
- Ling, R. (2012). *Taken for Grantedness. The Embedding of Mobile Communication into Society*. Cambridge, MA: MIT Press.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Mahdum, H., & Safriyanti, M. (2019). Exploring teacher perceptions and motivations to ICT use in learning activities in Indonesia. *Journal of Information Technology Education: Research*, 18, 293–317. <https://doi.org/10.28945/4366>
- Makuru, B. (2020). *Teachers' perceptions on the use of information and communication technology for teaching Biology in Lesotho*. [Masters Thesis].
- Makgato, M. (2014). Challenges Contributing to Poor Integration of Educational Technology at Some Schools in South Africa. *Mediterranean Journal of Social Sciences*, 5(20), 1285–1292. <https://doi.org/10.5901/mjss.2014.v5n20p1285>
- Ministry of Education and Training, Kingdom of Lesotho. (2009). *Curriculum and assessment policy: Education for individual and social development*. Maseru, Lesotho
- Ministry of Education and Training, Kingdom of Lesotho. (2019). *Grade 8 Social Sciences Syllabus*. Maseru, Lesotho.
- Ministry of Education and Training. (2021). *Lesotho basic education curriculum policy (LBECP)*. Ministry of Education and Training, Lesotho.
- Muia, R. K. (2021). *Factors influencing the integration of ICT in teaching and learning: A case of public primary schools in Kitui Central Sub County, Kitui County, Kenya*. [Masters Dissertation].
- Munyengabe, S., Yiyi, Z., Haiyan, H., & Hitimana, S. (2017). Primary Teachers' Perceptions on ICT Integration for Enhancing Teaching and Learning through the Implementation of One Laptop Per Child Program in Primary Schools of Rwanda. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(11), 7193–7204. <https://doi.org/10.12973/ejmste/79044>
- Mnisi, B. R., Mtshali, T. I., & Moses, M. (2024). Moving beyond the challenges of learning through technologies: The current status of ICT integration in South African schools. *Journal of Education and E-Learning Research*, 11(1), 128–134. <https://doi.org/10.20448/jeelr.v11i1.5396>
- Ra, S., Chin, B., & Lim, C. P. (2016). A holistic approach towards information and communication technology (ICT) for addressing education challenges in Asia and the Pacific. *Educational Media International*, 53(2), 69–84. <https://doi.org/10.1080/09523987.2016.1211334>
- Rana, K., & Rana, K. (2020). ICT integration in teaching and learning activities in higher education: A case study of Nepal's teacher education. *Malaysian Online Journal of Educational Technology*, 8(1), 36–47. <http://dx.doi.org/10.17220/mojet.2020.01.003>
- Russell, M., O'Dwyer, L. M., Bebell, D., & Tao, W. (2007). How teachers' uses of technology vary by tenure and longevity. *Journal of Educational Computing Research*, 37(4), 393–417. <https://doi.org/10.2190/EC.37.4.d>
- Saxena, A. (2017). Issues and impediments faced by Canadian teachers while integrating ICT in pedagogical practice. *Turkish Online Journal of Educational Technology*, 16(2), 58–70. Retrieved from <https://tojet.net/articles/v16i2/1626.pdf>
- Sengai, W., & Mokhele, M. (2025). Exploring Teachers' Perspectives of Professional Development Opportunities During the

- Implementation of History 2166 Syllabus Reforms in Zimbabwe. *International Journal of Educational Development in Africa*, 10(Supplementary Issue), 15-pages. <https://doi.org/10.25159/2312-3540/17457>
- Sengai, W., & Mokhele, L. M. (2022). Examining the role of instructional resources in the implementation of the History 2167 syllabus in Zimbabwe: A case of 5 schools in Glen View/ Mufakose District. *African Perspectives of Research in Teaching and Learning- (APORTAL)*, 6(1), 119-131. https://conf.ul.ac.za/aportal/application/downloads/Article_9_2022_march.pdf
- Shin, W. S. (2015). Teachers' use of technology and its influencing factors in Korean elementary schools. *Technology, Pedagogy and Education*, 24(4), 461-476. <https://doi.org/10.1080/1475939X.2014.915229>
- van Deursen, A. J. A. M., van der Zeeuw, A., de Boer, P., Jansen, G., & van Rompay, T. (2019). Digital inequalities in the Internet of Things: Differences in attitudes, material access, skills, and usage. *Information, Communication & Society*, 1-19, <https://doi.org/10.1080/1369118X.2019.1646777>
- van Deursen, A. J. A. M., & van Dijk, J. A. G. M. (2014). The digital divide shifts to differences in usage. *New Media & Society*, 16(3), 507–526. <https://doi.org/10.1177/1461444813487959>
- van Deursen, A. J. A. M., & van Dijk, J. A. G. M. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media and Society*, 21(2), 354–375. <https://doi.org/10.1177/1461444818797082>
- van Deursen, A. J. A. M., Helsper, E. J., & Eynon, R. (2017). The compoundness and sequentiality of digital inequality. *International Journal of Communication*, 11, 452–473.
- van Dijk, J. A. G. M. (2005). *The Deepening Divide*. Thousand Oaks, CA: SAGE.
- Vroman, K. G., Arthanat, S., & Lysack, C. (2015). Who is over 65 online? Older adults' dispositions toward information communication technology. *Computers in Human Behaviour*, 43, 156–166. <https://doi.org/10.1016/j.chb.2014.10.018>
- Walsh, B. (2017). Technology in the History Classroom. In *Debates in History Teaching*, edited by I. Davies, 250–261. London: Routledge.