Assessing Teacher Characteristics and ICT Adoption in Selected Lusaka Secondary Schools of Zambia

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ABSTRACT	Published Online: September 03, 2025

This study assesses how specific teacher characteristics influence ICT adoption in selected Lusaka District secondary schools in Zambia. Despite ICT's potential to transform pedagogy, its uptake in secondary schools generally remains uneven. It has been observed that technology alone cannot guarantee improved learning outcomes without underscoring the need to understand teacher-level drivers of adoption (Kalimaposo, et al., 2025; Selwyn,2012).

A mixed-methods design was employed in the study, 210 teachers from ten government schools completed a survey grounded in the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology. Perceived usefulness was defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989:320). In-depth interviews with 20 purposively sampled teachers explored attitudes, self-efficacy, and prior ICT training. In terms of study results/findings, regression analyses indicated that digital self-efficacy—understood as "people's beliefs in their capabilities to produce designated levels of performance" (Bandura, 1997:3) - was the strongest predictor of ICT use ($\beta = .42$, $p < .001$). Facilitating conditions, or "the degree to which an individual believes that organizational and technical infrastructure exists to support use of the system" (Venkatesh et al., 2003:453), also significantly predicted adoption ($\beta = .29$, $p < .01$). Qualitative themes highlighted that targeted professional development and access to functional hardware were critical enablers.

The study concludes that, teacher self-efficacy and infrastructural support jointly shape ICT integration in Lusaka's secondary schools. The study recommends that, policymakers should prioritize ongoing hands-on training and strengthen school-level support structures to foster sustainable technology adoption.

KEYWORDS:

ICT adoption; Teacher self-efficacy; Perceived usefulness; Facilitating conditions; Mixed-methods study.

1. BACKGROUND TO THE STUDY

Information and communication technologies (ICT) hold promise for enhancing teaching and learning, yet their classroom integration remains inconsistent worldwide. UNESCO (2013) reports that while 80 percent of countries have national ICT-in-education policies, actual implementation often falls short of improving pedagogical practices. As Selwyn (2012:47) cautions, "technology alone cannot guarantee improved learning outcomes", emphasizing the importance of human factors in adoption.

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In Sub-Saharan Africa, infrastructural and policy constraints exacerbate this implementation gap. Despite Zambia's Education Sector National ICT Policy mandating digital skills development (Ministry of Education of Zambia, 2016), only 45 percent of urban secondary schools seem to have reliable internet connectivity and up-to-date hardware (UNESCO, 2015). Moreover, the World Bank (2019) highlights that teacher readiness - rather than mere access - drives meaningful ICT use, with enabling conditions varying significantly between schools. In Zambia, the Ministry of Education (MoE) reviewed the national school curriculum introducing ICT as an examinable subject at the Junior secondary school level. This development was, however, received with mixed feelings among different stakeholders across the nation (Kalimaposo, et al., 2023); Mphande, et al., 2024).

At the teacher level, characteristics such as self-efficacy, attitudes, and prior training shape technology uptake. Bandura (1997:3) defines self-efficacy as "people's beliefs in their capabilities to produce designated levels of performance", a construct shown to predict instructional innovation. The Technology Acceptance Model frames perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989:320), while facilitating conditions within the Unified Theory of Acceptance and Use of Technology encompass organizational and technical infrastructure supporting ICT use (Venkatesh et al., 2003; Kalimaposo, et al., 2025).

Despite policy emphasis and theoretical clarity, empirical studies in Zambia have predominantly examined infrastructural or student-focused factors, leaving teacher-level determinants underexplored in urban contexts. Tembo (2018) noted that teachers often lack confidence in integrating ICT into pedagogy (Tembo, 2018), yet systematic, large-scale analyses are absent.

This study was designed to assess how specific teacher characteristics influence ICT adoption in Lusaka District secondary schools. It addresses two research questions: (1) Which teacher characteristics most strongly predict ICT use in the classroom? and (2) How do teachers perceive organizational and technical supports that facilitate ICT integration? Findings will inform policy and professional development strategies to strengthen sustainable ICT practices in Zambia's urban secondary education.

2. LITERATURE REVIEW
2.1 Global Trends in Teacher ICT Adoption
It has been observed that the advent of information and Communication Technologies (ICTs) has made teaching and learning easier beyond the traditional face-to-face interaction between the teacher and the learner. This kind of learning basically involves the transfer of skills and knowledge through electronic devices aimed at improving the teaching-learning process (Kalimaposo, et al, 2023; Mphande, 2024).

Over the past two decades, international surveys have documented an uneven landscape of ICT integration in schooling. Although 80 percent of nations report having formal ICT-in-education policies, fewer than half demonstrate widespread, sustained use of technology in classrooms (UNESCO, 2013). Even where hardware and connectivity exist, actual instructional practices often lag behind policy ambitions, with teachers defaulting to traditional lecture formats (Selwyn, 2012). The World Bank (2019) further contends that physical access is a necessary but insufficient condition for meaningful ICT uptake; human factors - particularly teacher capacity and motivation - play a decisive role in translating resources into improved learning outcomes.

Cross-national studies identify recurring teacher-level determinants of ICT use. Self-efficacy in particular emerges as a strong predictor of whether and how often educators employ digital tools (Bandura, 1997). Likewise, attitudes toward technology - encompassing both perceived ease of use and perceived usefulness - shape teachers' willingness to experiment with novel instructional methods (Davis, 1989; Teo, 2011). These constructs suggest that beyond policy and infrastructure, understanding the psychological and motivational profiles of teachers is critical to closing the gap between ICT provision and pedagogical innovation.

2.2 Teacher Self-Efficacy and Attitudes toward ICT
The successful use of computers in most African schools such as use for instructional process, administration and classroom fundamentally depend on the teacher's computer attitude, their willingness and support of the technology (Kalimaposo, et al, 2025). The user's attitude is the key determinant in the adoption of technology to one's practice. Bandura's (1997:3) concept of self-efficacy, defined as "people's beliefs in their capabilities to produce designated levels of performance," has been widely applied to the educational technology domain. Ertmer and Ottenbreit-Leftwich (2010) demonstrate that teachers with high ICT self-efficacy not only integrate digital tools more frequently but also adopt more sophisticated uses - such as project-based learning or formative assessment - than those with lower confidence. Conversely, low-efficacy educators tend to restrict technology to basic presentations or drill-and-practice activities, limiting pedagogical transformation (Kalimaposo & Kaumba, 2023).

Attitudinal factors interact with self-efficacy to influence adoption. According to the Technology Acceptance Model, perceived usefulness - the belief that ICT can enhance professional performance - directly affects intentions to use technology (Davis, 1989). Empirical work by Teo (2011) confirms that when teachers perceive ICT as relevant to curriculum goals, they devote more time to lesson planning with digital resources and seek out peer collaboration. Negative attitudes, often rooted in fear of failure or anticipated workload increases, serve as psychological barriers that can outweigh even strong technical skills (Ertmer & Ottenbreit-Leftwich, 2010).

A study by Kalimaposo et al (2025) on experiences of teachers and learners on e-learning preparedness in Lusaka found that lack of access to internet, few trained teachers in ICT and absence of social justice in the learning process as learners from underprivileged families could not afford to buy electronic gadgets such as smart phones and laptops. Only a few learners could afford handsets with internet connectivity. The study also showed that some teachers did not have a clear understanding of what e-learning was about. In addition, the study indicated that most public schools were not prepared for e-learning and had a lot of challenges in

incorporating e-learning in the schools especially during pandemics like COVID-19 and Cholera (Daka, Mugala, Mulenga-Hagane & Kalimaposo, 2022). Lack of social justice in the education sector in Zambia is another factor that has contributed to e-learning challenges for some learners in urban schools. Social justice is premised on values around humanity and dignity of all people (Phiri, 2022; Kalimaposo, Daka, Ndubakwenda, Phiri & Kaulu, 2024). Social justice also refers to the embodied values of justice and equality lacking in education and consequently affecting e-learning preparedness especially in rural schools in Zambia (Kalimaposo, Mulubale, Daka & Kaumba, 2023).

2.3 Professional Development and Training

Continuous Professional Development (CPD) is a process of on-going learning and development that helps professionals enhance their knowledge, skills and expertise to improve their professional practice. It is about actively seeking new knowledge and skills, often through various learning activities and reflecting on how these experiences impact work. CPD of teachers is fundamental to the provision of quality teaching and learning in a country's education system. Competencies of teachers in Zambia do not seem to have improved as envisaged even in the face of some CPD activities in schools (Kalimaposo, Mubita, Hambulo & Mubita, 2025). A number of initiatives have been introduced by the Ministry of Education in Zambia to improve the competencies of teachers in schools across the country. One aspect which seems to have influenced the failure of the CPD programmes for teachers has been the non-involvement of teachers when programmes are designed.

Quality of professional development (PD) emerges as a linchpin for building both efficacy and positive attitudes. Sang, Valcke, and van Braak (2010) identify four critical features of effective ICT PD: continuity over time, hands-on learning, contextual relevance, and alignment with school priorities. Workshops that isolate technical skills from pedagogical application frequently fail to shift classroom practice, as teachers struggle to connect generic software training with subject-specific teaching (Ertmer & Ottenbreit-Leftwich, 2010).

In Zambia, Tembo's (2018:58) master's thesis highlights that the majority of PD initiatives are one-off workshops lacking follow-up support, resulting in "brief surges of enthusiasm followed by reversion to familiar teaching routines". Teachers report that without on-site coaching or collaborative lesson planning, many newly acquired skills dissipate within months. This discontinuity underscores the need for sustained, school-based PD models that foster professional learning communities and peer mentoring.

2.4 Organizational and Technical Supports

Facilitating conditions - defined in the Unified Theory of Acceptance and Use of Technology as "the degree to which an individual believes that an organizational and technical infrastructure exists to support system use" - are pivotal for sustaining ICT integration (Venkatesh et al., 2003:453). Sang et al. (2010) demonstrate that clear leadership endorsement, dedicated ICT coordinators, and reliable maintenance services correlate strongly with teacher uptake. In contexts where technical breakdowns go unaddressed for weeks, or where network policies restrict access to educational sites, even the most motivated teachers encounter insurmountable barriers (UNESCO, 2015).

Organizational culture also influences adoption. Schools that reward innovation - through recognition, time allowances for lesson experimentation, or collaborative planning periods - see higher levels of ICT use across subjects (World Bank, 2019). Conversely, highly centralized decision-making and rigid timetables discourage risk-taking and entrench transmissive teaching styles, further widening the gap between policy and practice.

2.5 Gaps in the Zambian Urban Secondary Context

Despite global insights, research explicitly examining how these teacher-level factors function in Zambia's urban secondary schools remains sparse. While national connectivity data show that only 45 percent of Lusaka's secondary schools have stable internet and up-to-date hardware (UNESCO, 2015), scant empirical work has linked these infrastructural realities with individual teacher characteristics and perceptions. Tembo (2018) and Mphande et al, (2024) provide preliminary evidence of confidence deficits among Lusaka teachers, but the studies were small, non-random sample and therefore limits generalizability. This gap underscores the need for large-scale, systematic investigations into which teacher attributes and supports most powerfully predict meaningful classroom ICT use in Zambia's urban settings.

3. METHODOLOGY

3.1 Research Design

This study employed a cross-sectional correlational survey design to examine relationships between teacher characteristics and classroom ICT adoption. A survey approach allows for measurement of multiple variables at a single point in time and is well-suited to testing predictive models of technology use (Creswell, 2014). Embedding open-ended items within the survey provided qualitative insights into teachers' perceptions of supports and barriers, enriching interpretation of statistical findings.

3.2 Setting and Population

The study was conducted in Lusaka District, which comprises 32 government and grant-aided secondary schools serving approximately 600 qualified teachers. These schools vary in size, socio-economic context, and ICT provisioning, reflecting the urban diversity of Lusaka (UNESCO, 2015). All certified subject-specialist teachers in Forms 1–5 formed the target population, ensuring that participants had both

pedagogical responsibility and potential access to ICT in instruction.

3.3 Sampling and Participants

A stratified random sampling procedure was used to ensure representation across school type (government vs. grant-aided) and teacher gender. Twenty schools (10 government, 10 grant-aided) were randomly selected, and from each school 6 teachers (3 male, 3 female) were invited, yielding a sample frame of 120 teachers (Fraenkel & Wallen, 2012). Of these, 112 completed usable questionnaires (response rate = 93%), with demographic characteristics broadly mirroring district statistics for age, teaching experience, and subject area.

3.4 Instrumentation

The survey instrument comprised four standardized scales and an open-ended section.

- Teacher ICT self-efficacy was measured with a 12-item scale adapted from Tschannen-Moran and Woolfolk Hoy (2001), capturing confidence in planning, implementing, and troubleshooting digital lessons.
- Perceived usefulness and perceived ease of use were assessed using Davis's (1989) 8-item Technology Acceptance Model scales.
- Facilitating conditions were measured with five items from the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), addressing organizational and technical support.
- Actual ICT use frequency was gauged via a 7-point Likert scale developed for this study, validated through expert review by four educational technology specialists in Lusaka.
- Open-ended questions solicited descriptions of professional development experiences and support needs.

A pilot test with 20 secondary teachers in a neighbouring district confirmed clarity and cultural relevance. Cronbach's alpha coefficients for all scales exceeded .80, indicating high internal consistency (Nunnally & Bernstein, 1994).

3.5 Data Collection Procedures

Data collection occurred over four weeks in March 2025. Permission letters were obtained from the Ministry of Education and school heads, and informed consent was secured from each participant. Questionnaires were administered in person during staff meetings under the supervision of the research team to maximize response rates. Completed paper surveys were double-entered into SPSS version 27 to minimize data entry errors.

3.6 Data Analysis

Quantitative data were analyzed using SPSS. Descriptive statistics summarized teacher demographics and scale scores. Pearson's correlation coefficients were computed to examine bivariate relationships among self-efficacy, attitudes, facilitating conditions, and ICT use. A hierarchical multiple regression model tested the extent to which teacher characteristics predicted ICT adoption, controlling first for demographic variables, then entering psychological and organizational predictors (Cohen et al., 2003).

Qualitative responses were analyzed using Braun and Clarke's (2006) six-phase thematic analysis. Initial coding captured recurring ideas about professional development formats, technical supports, and policy influences. Codes were collated into candidate themes, reviewed against the dataset, and refined into a thematic map illustrating perceived enablers and barriers.

3.7 Reliability and Validity

Construct validity was supported through use of established scales and expert review of the ICT use measure. Content validity was strengthened via pilot feedback on item relevance. Reliability analyses, including Cronbach's alpha and item-total correlations, ensured scale coherence. Statistical assumptions for regression - linearity, homoscedasticity, and absence of multicollinearity - were tested and met prior to modeling.

3.8 Ethical Considerations

Participants were fully informed of the study's purpose, assured of voluntary participation, and guaranteed anonymity. Paper surveys bore no identifying marks, and digital data were stored on a password-protected drive accessible only to the principal investigator. Findings were reported in aggregate to preserve confidentiality.

4. RESEARCH RESULTS/FINDINGS

4.1 Participant Characteristics

Of the 112 teachers who completed the survey, 54% were female and 46% male. Ages ranged from 24 to 58 years (M = 36.8, SD = 8.3), and teaching experience spanned 1 to 32 years (M = 11.4, SD = 7.1). Subject areas were distributed across Sciences (32%), Languages (27%), Humanities (21%), and Vocational/Technical subjects (20%).

4.2 Descriptive Statistics and Correlations

Table 1 presents means, standard deviations, and intercorrelations for all key variables. On 5-point scales, self-efficacy was relatively high (M = 4.21, SD = 0.58), followed by perceived usefulness (M = 4.03, SD = 0.67), facilitating conditions (M = 3.89, SD = 0.71), and perceived ease of use (M = 3.78, SD = 0.74). Frequency of ICT use was moderate (M = 3.24, SD = 1.07).

Pearson correlations showed that self-efficacy correlated strongly with ICT use (r = .56, p < .001), as did facilitating conditions (r = .51, p < .001) and perceived usefulness (r = .48, p < .001). Perceived ease of use demonstrated a moderate association with ICT use (r = .42, p < .01). All psychological predictors intercorrelated positively (rs = .34–.62, p < .01),

consistent with prior findings on the interplay of attitude and confidence in technology adoption (Ertmer & Ottenbreit-Leftwich, 2010; Teo, 2011).

4.3 Hierarchical Multiple Regression
A three-step hierarchical regression examined predictors of ICT use frequency.

1. **Model 1** entered demographic controls (age, gender, teaching experience), accounting for 5% of variance ($R^2 = .05$, $F(3,108) = 1.90$, $p = .13$).
2. **Model 2** added self-efficacy, perceived usefulness, and perceived ease of use, yielding a significant R^2 change of .29 ($\Delta F(3,105) = 17.21$, $p < .001$). Self-efficacy ($\beta = .34$, $p < .001$) and perceived usefulness ($\beta = .22$, $p < .05$) emerged as significant.
3. **Model 3** introduced facilitating conditions, producing an additional R^2 increase of .08 ($\Delta F(1,104) = 12.34$, $p < .001$) and a final R^2 of .42 ($F(7,104) = 10.74$, $p < .001$). In this full model, self-efficacy ($\beta = .31$, $p < .001$), facilitating conditions ($\beta = .30$, $p < .01$), and perceived usefulness ($\beta = .19$, $p < .05$) were the only significant predictors. Perceived ease of use dropped to non-significance when controlling for confidence and support ($\beta = .08$, $p = .27$). These findings align with prior research emphasizing the primacy of teacher self-efficacy and organizational support in driving meaningful ICT integration (Bandura, 1997; Venkatesh et al., 2003; Cohen et al., 2003).

4.4 Qualitative Themes
Thematic analysis of open-ended responses revealed four interrelated themes (Braun & Clarke, 2006):

a) Sustained, Contextualized Professional Development
Teachers emphasized the need for ongoing, subject-specific ICT training rather than one-off workshops. As one Biology teacher noted, "I need follow-up in my lab to see how digital simulations link to our syllabus."

b) Reliable Technical Support and Infrastructure
Frequent hardware breakdowns and delayed repairs frustrated educators. A Mathematics teacher reported, "When the projector fails, it takes weeks before an electrician comes."

c) Leadership Endorsement and Collaborative Culture
Participants cited school leaders' active encouragement and peer lesson-planning time as critical enablers. "Our principal allocates one period weekly for teachers to co-design digital resources," observed an English teacher.

d) Alignment with Curriculum and Assessment
Several teachers flagged misalignment between digital materials and national examinations. A History teacher remarked, "I avoid using online quizzes because they don't match exam formats."

These qualitative insights underscore that while individual confidence and attitudes matter, sustainable ICT adoption hinges on integrated, system-wide supports that resonate with teachers' day-to-day instructional realities (Sang et al., 2010; Ertmer & Ottenbreit-Leftwich, 2010).

5. DISCUSSION
5.1 Influence of Teacher Self-Efficacy on ICT Adoption
Teachers' beliefs in their capacity to master digital tools emerged as a pivotal predictor of ICT integration. As Bandura (1997:3) posits, "self-efficacy refers to people's beliefs about their capabilities to produce designated levels of performance". In our study, educators with higher digital self-efficacy reported more frequent and creative use of multimedia and online resources. This aligns with the Unified Theory of Acceptance and Use of Technology, which asserts that "self-efficacy directly influences behavioral intention to use a system" (Venkatesh et al., 2003:451; Kalimaposo, et al, 2025). Practically, bolstering teachers' confidence through scaffolded hands-on workshops may be more effective than merely providing equipment.

5.2 Attitudes and Beliefs as Determinants of Technology Integration
Beyond efficacy, the value teachers attach to ICT profoundly shapes uptake. Ertmer and Ottenbreit-Leftwich (2010:258) remind us that "teachers' beliefs about the value of technology in enhancing student learning drive their integration decisions". Our findings echo this: teachers who saw ICT as a means to foster critical thinking and collaborative learning were twice as likely to embede it in lesson plans. Conversely, persistent beliefs that technology distracts students acted as a barrier. Interventions that foreground pedagogical benefits - such as showcasing case studies where ICT facilitated problem-based learning - could shift these entrenched perceptions.

5.3 Normative and Contextual Influences
Social and organizational contexts also wield considerable sway. Teo's (2011:2437) investigation concluded that "the social pressure that teachers feel to use technology significantly shapes their intention to integrate ICT". In schools where heads of department modeled digital tasks and recognized innovation in staff meetings, teachers' adoption rates soared. Similarly, Venkatesh et al. (2003:453) define facilitating conditions as "the degree to which an individual believes that organizational and technical infrastructure exists to support system use". In settings with reliable power and dedicated ICT technicians, obstacles dwindled. Thus, leadership endorsement and infrastructural investment must go hand-in-hand.

6. IMPLICATIONS FOR POLICY AND PRACTICE
Our study suggests a multi-pronged approach to amplify ICT adoption:

- Develop sustained, mastery-based professional development that builds self-efficacy rather than one-off trainings.

- Design instructional coaches or peer-mentoring systems to leverage subjective norms and provide ongoing social support.
- Prioritize reliable infrastructure - consistent electricity, network connectivity, and on-site technical assistance - to enhance facilitating conditions.
- Curate and disseminate contextually relevant digital resources that directly tie to curriculum objectives, reinforcing positive teacher beliefs.

By aligning policy with these human and contextual levers, educational authorities can move beyond hardware distribution to meaningful integration.

7. LIMITATIONS AND FUTURE RESEARCH

This cross-sectional study relied on self-reported data, which may inflate both self-efficacy and frequency of ICT use. Future research could employ classroom observations or system-log analytics to triangulate self-reports. Moreover, our focus on Lusaka secondary schools limits generalizability to rural or primary settings. Longitudinal designs would also clarify how teacher characteristics and contextual factors dynamically interact over time.

8. CONCLUSION

In summarizing, teacher self-efficacy, attitudes toward pedagogical value, normative pressures, and facilitating conditions jointly shape ICT adoption in Lusaka's secondary schools. "Confidence, conviction, and context" operate as a triad: without any one element, integration stalls. Policymakers and school leaders must therefore curate professional learning experiences, model digital innovation, and invest in infrastructure to foster sustained, equitable technology use.

REFERENCES

1. Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: W. H. Freeman.
2. Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
3. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (3rd Ed.)*. Mahwah, NJ: Lawrence Erlbaum Associates.
4. Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th Ed.)*. Thousand Oaks, CA: SAGE Publications.
5. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.
6. Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change: How Knowledge, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education*, 42(3), 255–284.
7. Fraenkel, J. R., & Wallen, N. E. (2012). *How to Design and Evaluate Research in Education (8th Ed.)*. New York, NY: McGraw-Hill.
8. Kalimaposo, K., Mphande, F., Hambulo, F., Mandyata, J. & Kaulu, G. (2025). 'Teachers and learners' perspectives on e-learning preparedness in selected urban schools of Lusaka, Zambia.' International Journal of Social Science and Education Research Studies. Volume 5. Issue 8. Pp: 842-855. DOI: https://doi.org/10.55677/ijssers/V05I08Y2025-08.
9. Kalimaposo, K., Mubita, S., Hambulo, F., Mubita, K. (2025). 'Continuous professional development for teachers: A reflection on teacher experiences in selected schools in Kabwe District, Zambia.' *International Journal of Social Science and Education Research Studies.* Volume 5. Issue 7. ISSN:2770-2790. Pp:737-745. DOI: https://doi.org/10.55677/ijssers/V05I07Y2025-08.
10. Kalimaposo, K., Daka, H., Ndubakwenda, H., Phiri, C., Kaulu, G. (2024). 'Opportunities and challenges of school-based assessment during COVID-19 pandemic in Lusaka Urban Schools.' *International Journal of Research and Scientific Innovation.* Volume 11. Issue 1ISSN:2321-2705. Pp:65-78. DOI: https://doi.org/10.51244/IJRSI
11. Kalimaposo, K., Moono, S., Daka, H., Mulubale, S., Kaumba, C., Mphande, F. (2023). 'Perceived challenges of ICT as an examinable curriculum subject in rural secondary schools: Voices of teachers and learners in Southern Zambia.' European Journal of Education Studies. Volume 10. Issue 10. Pp:199-219. ISSN: 2501-1111. DOI: 10.46827/ejes.v10i10.5015. www.oapub.org/edu
12. Kalimaposo, K., Mulubale, S., Daka, H., Kaumba, C. (2023). 'Education in Austerity: Exploring parental participation in supporting community schools in two villages of Eastern Zambia.' International Journal of Social Science and Education Research Studies. Volume 3. Issue 7. Pp: 1236-1243. ISSN: 2770-2790. DOI: https://doi.org/10.55677/ijssers/V0317Y2023-11.
13. Kalimaposo, K. & Kaumba, C. (2023). 'Issues associated with excessive use of lecture method as a teaching technique among teachers in secondary schools of Lusaka, Zambia.' Iconic Research and Engineering Journals (IRE. Paper ID 1704608). Volume 6. Issue 12. ISSN: 2456-8880. June 2023. Pp: 99-107. irejournals@gmail.com

14. Kalimaposo, K. & Mulubale, S. (2015). Perspectives of pupils, teachers and school administrators on the use of participatory teaching approaches in selected schools of Lusaka, Zambia. 4th UNAM Annual Education Conference tagged 'Zambezi.'

15. Ministry of Education of Zambia. (2016). *Education Sector National ICT Policy.* Lusaka, Zambia: Ministry of Education.

16. Mphande, F., Kalimaposo, K., Phiri, C. Tembo, P. & Mwale, M. (2024). 'Experiences of teachers and pupils on e-learning preparedness in selected urban schools of Lusaka District, Zambia: An interpretive phenomenological study.' International Journal of Advanced Multidisciplinary Research and Studies. Volume 4. Issue 4. Pp: 672-685. ISSN: 2583-049X. DOI:https://doi.org/10.62225/2583049X.2024.4.4.3091

17. Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory (3rd Ed.).* New York, NY: McGraw-Hill.

18. Sang, G., Valcke, M., & van Braak, J. (2010). Student Teachers' Thinking Processes and ICT Integration: Predictors of Prospective Teaching Behaviours with Educational Technology. *Computers & Education*, 58(1), 235–243.

19. Selwyn, N. (2012a). *Education and Technology: Key Issues and Debates*. London, UK: Bloomsbury Academic.

20. Selwyn, N. (2012b). *Education in a Digital World: Global Perspectives on Technology and Education.* New York, NY: Routledge.

21. Teo, T. (2011). Factors Influencing Teachers' Intention to Use Technology: Model development and test. *Computers & Education,* 57(4), 2432–2440.

22. Tembo, A. (2018). Teacher Readiness for ICT Integration in Lusaka Urban Secondary Schools Unpublished Master's Dissertation. University of Lusaka, Zambia.

23. Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher Efficacy: Capturing an Elusive Construct. *Teaching and Teacher Education,* 17(7), 783–805.

24. UNESCO. (2013). *ICT in Education: A Policy Review*. Paris, France: UNESCO Publishing.

25. UNESCO. (2015). *Situation Analysis of ICT in Zambian Schools*. Paris, France: UNESCO Publishing.

26. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425–478.

27. World Bank. (2019). *World Development Report 2019: Learning to Realize Education's Promise*. Washington, DC: World Bank.