

A Brief Historical Synopsis of eLearning Development in Zambia (1964 to 2024)

Billy C Sichone*
Central Africa Baptist University
*bsichone@cabuniversity.com

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Abstract

The study aimed at assessing awareness levels of eLearning development history among Zambians. It also suggests ways to foster local eLearning development history recording for posterity while vouching for future eLearning mainstreaming. This qualitative study relied on cross-section and documentary review theoretical frameworks to arrive at a final sample of 35 participants leveraging inclusion and exclusion criteria buttressed by purposive sampling at any given site. Using open ended question interview approach, the enquiry was executed. The study found that eLearning development history record tracking in Zambia was absent. The enquiry also found that relevant benchmarked specific national policy for eLearning was lacking though was being discussed. The study further revealed low awareness levels of eLearning development history among respondents (23%). The study concludes that absence of structured data and historical tracking of eLearning history works against incremental progressive development and mainstreaming of eLearning in Zambia. The study also concludes that the absence of a specific eLearning policy potentially hampers eLearning growth. The research recommends that structures and strategies to support eLearning are developed by government and stakeholders ensuring eLearning history development is not only tracked but preserved in journals, symposiums, websites or associations dedicated to eLearning. Finally, the enquiry also recommends the setting up of a dedicated database, digital Journal or dedicated Association for eLearning.

Key words: eLearning; Educational Technology (EdTech); History; Higher Educational Institutions (HEIs); Artificial Intelligence (AI); Pedagogy; Higher Education Authority (HEA); Technology

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Introduction

Different forms of emergent technologies have been around for generations. For example, technology is expressed in electronic games, calculators, analogue phones, TV or computers, teller machines, jukeboxes and now AI, among many others. Even the seemingly mundane hard copy books and pens presently used are in fact a form of technology, albeit now perceived normatively basic. However, in recent years, rapid technological changes have globally occurred from the well-established technological material forms to the novel digital. Nearly everything is in rapid evolutionary flux with no sign of abating. Historically, people largely used analogue or electronic 'technology' mainly for transactional purposes before it reached these present advanced levels (Sichone, 2023). Lately, advancements have leaped frogged out of a single human control. Technology is now all-pervasive in nearly all devices as found in smart phones, watches, glasses, Internet of Things (IoT) and now expressed in varied Generative Artificial Intelligence (AI) brands including DeepSeek, Google Gemini, ChatGPT, among a host of other emerging offerings. Not only is software technology extremely advanced but has enabled devices possess enhanced computing power, storage and processing capacities etc. This is indeed a deeply interconnected web world. Further, technology is at the centre of relentless money transfers, unrelenting business transactions, predictive decision-making, data gathering, analytics, intelligent tutoring, research, large (big) data swathe analysis or communication, among other doors this technology evolution opens up to. In an ideal scenario, we expect technology in Zambia to seamlessly generate efficiencies, transform processes, up root inherent systemic bugs or chronic red tape. This technology should be reliable as intelligent. Additionally, it should be responsive to contextual needs leading to a normative mainstreamed digital culture. All these technology-driven innovations ought to be well-documented and easily traceable for posterity. However, there presently is little documented buttressed by a critical mass of citizens unaware and indifferent to what is going on around them. They merely react to events and then move on, leaving no recorded historical trace of eLearning transitions in the context. This is a problem in itself. Furthermore, technology facilitated and enhanced education has not been fully embraced or mainstreamed either (Sichone, 2023). Nobody potentially affirmatively advocates

for eLearning in public spaces. This study contributes to eLearning history construction and preservation in Zambia.

Objectives

To execute a study of this nature and magnitude, three objectives have been established:

1. Identify early models/forms/Techs of/for learning in Zambia that have historically existed.
2. Highlight current practices, issues and history recording challenges faced by eLearning in Zambia.
3. Propose contextual solutions to entrench historical eLearning development recording in Zambia.

Research Questions

1. What are the early models/technologies of learning in Zambia?
2. What are the current practices, eLearning history collection challenges and issues faced in Zambia today?
3. What are the proposed solutions to historical eLearning development narrative recording for Zambia?

Significance and contribution of study

4 significant points and two major contributions are highlighted:

1. The study offers documented data on history of eLearning for the Zambian context which posterity could reference.
2. Potentially, the study could be a basis for decision making for planners in future.
3. The study may trigger discussion or contribute to on-going conversations around eLearning development in the country.
4. Future generations will know where to commence or pick up from as this report proffers foundational historical information for the Zambian context.

As for contributions, this study makes the following:

First, the study provides empirical data on the history of eLearning in Zambia and second, the enquiry adds to contextual existing body of knowledge.

Literature review

By 'literature review' is meant the evaluation of published literature written directly or indirectly on the subject under discussion. From this assessment, a gap demanding attention is then identified. Accordingly, this enquiry assessed a number of relevant research reports, synthesised content and highlighted key findings. Before deeply delving into this review, it is prudent to briefly trace generic traditional educational development history with special attention to Zambia. We first briefly state the accepted practices, standards and technologies before transitioning to recent developments leading to eLearning in Zambia.

Education has generally been stable and predictable over many years although has varied in its execution, modes, approaches and circumstances (Chembe et al., 2023; Molebash, 1999: 1)ⁱ. Siaciwena and Lubinda (2008) trace policy changes over the years. The list proffered by them demonstrates that Zambia has actually witnessed several transitions over time as exemplified through the National Policy for Education (1996), the Poverty Reduction Strategy Program (PRSP: 2002-2004), among others. Despite these variations, the essential aim of education has been to disseminate information from a well-informed and relatively more experienced teacher (often) to a younger less exposed or inexperienced learner. This is called 'pedagogy' though best described 'andragogy' in tertiary settings (Pappas, 2013). Historically, and depending on how a context executed the task of educating the next generation, it adopted and used different approaches, orientation lengths, artefacts or supporting activities. In ancient times, people taught and learnt by observation, hands-on involvement and imitation (apprenticeship) where teacher and learner did life together but later the learning process became formally structured where the physical timed structured classroom instruction attendance became the norm, away from the informal homestead arrangement typified in the Jewish Shemaⁱⁱ. Dewey and others significantly spoke into the education process in their age (Hargraves, 2019). From learning under a tree to a formal enclosure adopting a structured formal written curriculum, the educational task transitioned (Dewey, 2001). As earlier stated, different time appropriate tools, technologies, artefacts or aids were adopted to facilitate training. Assessments of different sorts, forms and kinds buttressed this educational process until a time the teacher was satisfied the learner had sufficiently acquired requisite skills by demonstrating acceptable practical mastery

evidence. This has been the normative standard that scarcely changed over millennia. It may safely be argued that the curriculum and attendant syllabus were relatively stable, predictable, standard and codified in acceptable supporting technologies from cuneiform, to papyrus, paper, printed, bound, electronic and now in digital formats for content preservation, transmission and learning. However, since the 1600s or earlier, the task of education has progressively been undergoing gradual shifts with more overt tectonic movements in recent years (HEA, 2021; DODE, 2010; Banda, 2014; Hargraves, 2019; Dewey, 2001). Its approaches, not necessarily the content or structure, have undergone massive changes from physical hardcopy to digital formats. In the 20th century, the dynamics have further drastically altered with the Covid-19 epoch forcing ICT integration into education.

Perceived from another perspective, prior to the Christian Missionary advent into the continental heart land, Africans had their own unique indigenous ways of learning or generating knowledge. Natives possessed unique systematic and systemic ways of transmitting educational content to posterity. This long traditional stable educational march was disrupted when formal schools and schooling was introduced (by missionary agency) and in many senses, remains their legacy today. However, in their respective home contexts, the sending missionary countries have over time transitioned to newer modern modes of learning while their colonial legacy lingers on in African terrain. That partly explains the variance today between the global north and south nations. Consequently, the gap increasingly widened until a global pandemic decidedly forced definitive transformations as to how education was to be delivered beyond the twentieth century (Siaciwena & Lubinda, 2008; Pelletier et al., 2023).

A quote from Sichone (2023:44) is handy and probably better summarizes previously highlighted elements:

“Traditionally, all structured, authentic, proper... formal education in Zambia (and elsewhere) has been designed... assumed to be Face to Face (F2F) personal interaction between a relatively well informed teacher... and comparatively ignorant but knowledge-thirsty learners passively... couched inside a four-walled physical bricks and motor class room (Nitza & Roman, 2022; Obeidat et al., 2020; Harrison, 2020; Mafunda & Swart, 2020; Palvia et al., 2018; MoE, 2010). In earlier times (in Africa), the Missionaries set up a formal class, using whatever available means including learning under a tree. Whatever the environment, location or setting, the venerable teacher was the primary knowledge disseminator and by that token, exercising firm control and management of the class. In such a setting, the student (pupil) missed mandatory class at their own peril; class absence attracted attendant sanctions, at least at basic education level. This is the model most learners have been accustomed to and carried on until dynamics began to shift with the introduction of alternative modes of learning including Correspondence/Distance Learning, night school, among others (Mwansa, 2019; Palvia et al., 2018; Banda, 2014).” Sichone’s observations sync with other field experts.

In 2020, with the pandemic advent, things suddenly changed (Oyedotum, 2020; Kimmons & Rosenberg, 2022). Covid-19 effectively opened doors for eLearning visibility and forced global experimentation. Post Covid-19 however, there is an evident decline into what was during pandemic. For a time, learners were excited and compelled to use available digital technologies but now seem to have relapsed into the default and perceived easier F2F mode. That is the status quo but this study primarily explores the historical development of eLearning in Zambia.

In the introductory section, we noted that online education has progressively developed in the past few years. Figure 1 expresses a generic evolution path of online education, not necessarily the trajectory Zambia took. Nonetheless, this gives a good picture of what could have been elsewhere. Sichone (2023) modified the original model by inserting one element (2011). I have equally added yet another element (2022) to highlight AI emergence.

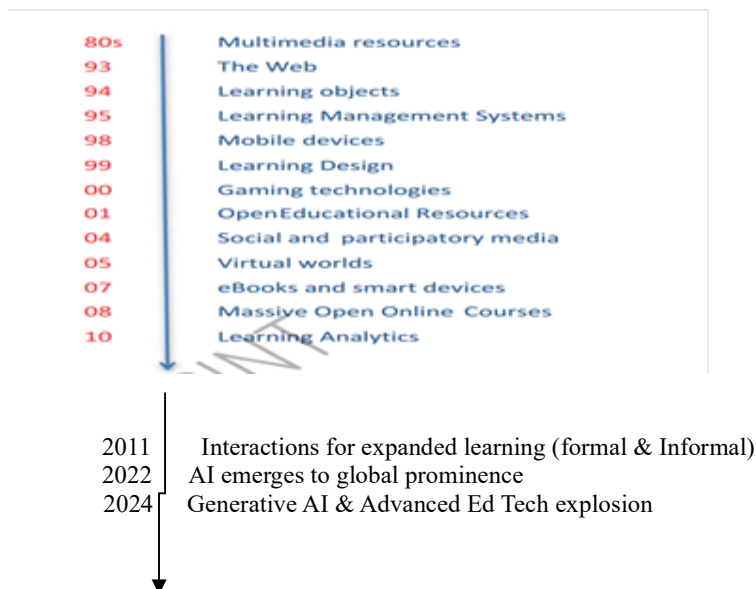


Figure 1: Evolution of online Education
Source: Adapted (with modifications) from Conole (2013)

Note that eLearning has been around for several decades in other contexts, especially the global north where Ed Techs are now normative; a-fact- of-life. However, in Zambia, this whole phenomenon appears somewhat relatively novel. In an ideal situation, people should instantly know and be aware of technological developments. Equally, they should also track emerging technologies, their capabilities or potential trajectories. Evidently, it is clear that not many know much nor do they bother to. This study partly addresses this problem, hence the necessity of this brief historical analysis. For example, currently, not much documented evidence exists in Zambia chronicling how online education or education through digital technologies has evolved. Given such ignorance of history, it is not surprising that people are not interested or could it be that they simply are unexposed, unsensitised, resulting in eLearning not being mainstreamed, let alone, known? According to Sichone (2023), eLearning was until recently relatively unknown in Zambia and neither was it considered essential, necessary, important, cardinal, central, or a ‘must have’. Another notable point is that, although eLearning presently is verbally applauded with people expressing and asserting all sorts of good commendable things about it, in reality, few voluntarily adopt it. On average, an individual within the HEI ecosystem would pass positive affirmative insightful remarks supporting eLearning, but would they voluntarily adopt the eLearning mode for themselves? During his study, Sichone (2023) repeatedly found that verbal positive claims about eLearning were at variance with practice. He concluded that, unless users, learners, key decision makers, opinion leaders and primary stakeholders personally experientially interfaced and appreciated the immense benefit of digital learning, they would most likely not vouch for online learning mainstreaming. Sichone further opined that it likely all ended in mere lip service as the critical mindset shift was lacking. An additional observation made was that, eLearning was ranked or perceived as inferior to face-to-face (F2F) in sync with several field experts. The probable reason for this is that pundits are ignorant of eLearning history, its place, benefits, development and significance in this digital age. Had they known how education has evolved, they probably could have had a different view. A further point made by Sichone (2023) is that effective, strong, benchmarked universally accepted standards and policy in the country for eLearning was lacking at the time thus inhibiting progress. While generic policies for Education exist (Konayuma, 2015), eLearning is not specifically targeted (policy wise, 2023). For now, F2F remains the traditional pedagogical gold standard mode of learning and teaching, hence its importance. Any other competing approach is currently frowned upon or treated with reservations, and rightly so. This, in turn, likely affects eLearning growth and adoption. Finally, in the absence of integrated formal structures to specifically facilitate, sustain and support eLearning, little can and has been accomplished. All these need documenting, hence the need to have formal historical records tracking and chronicling steps in eLearning development journey in Zambia. Extant fragmented records need collating for future reference. This paper contributes to narrowing this gap. Table 1 provides a constructed summary of developments towards eLearning in Zambia from traditional physical in-class attendance all the way through distance learning days to the present (2025):

Table 1: Draft high-level summary of eLearning development epochal time line in Zambia 1964-2025 ⁱⁱⁱ

Block/Period	Activity/approach/Technology	Major Actors/players	Significance
1964-1975	✓ B/F: Missionary educational standards, curriculum & in person pedagogical approaches. ✓ Correspondence courses ✓ Night School ✓ Educational Radio broadcast ✓ Use of Hardcopy books/curriculum through out ✓ Introduction of formal, non-formal and informal education ✓ In focused physical day class attendance from kindergarten to tertiary level in given locality ✓ Black Chalk boards ✓ Audio tapes/reels/projectors ✓ Hardcopy books/materials ✓ Libraries (Mobile and stationery for City Council)	✓ GRZ/NIPA ✓ Churches/Mission stations ✓ Zambia Broadcasting Services [ZBS]: Interactive Radio Instruction (IRI) ✓ Cambridge/University of London ✓ Dr. A. Msimuko (UNZA) ✓ Community/Village Schools ✓ MoE (DODE) ✓ Zambia Library Services (ZLS)	✓ Early efforts at mass educating a young newly independent low human capital nation using available technologies e.g. hardcopy books, content focused etc.
1980-1989	✓ Distance learning Education ✓ Ed TV broadcast ✓ Land line (PTC) ✓ Audio tapes ✓ Projectors ✓ Black Chalk boards ✓ Interactive Radio Instruction (IRI) ✓ Library (mobile & Stationery) ✓ Hard copy books/materials	✓ UNZA ✓ ZNBC (ZBS) ✓ Dr. A. Msimuko (UNZA) ✓ Dr. D. Mwansa (UNZA) ✓ Zambia Library Service (ZLS) ✓ Churches (denominations)	✓ Further expansion of reach using available technologies
1990-1994	✓ Open & Distance Learning ✓ Residential school (or/and Block release) ✓ Internet introduction (UNZAnet/Zamnet) ✓ ISP era commences ✓ Projectors (over head etc.)	✓ Mr. Neil Robinson (UNZAnet/Zamnet) ✓ Mr. Mark Bennett (UNZAnet/Zamnet) ✓ Prof. D. Mwansa (UNZA) ✓ Radio Pheonix ✓ MoTC (GRZ)	✓ Internet introduction radically transforms dynamics though largely limited to tertiary and some government institutions. Education becomes a wider probability

	✓ Libraries ✓ Deregulation of Radio, TV laws enabling other players enter the industry ✓ Hard copy books/materials ✓ Desk top computers ✓ PDAs ✓ Black Chalk boards	✓ ZLS ✓ Churches	
1995-2005	✓ Additional ISPs (coppernet, UUNet, Africonnect/iConnect, etc.) enter ✓ Legal changes/reforms in Zambia ✓ Deregulation/Liberalization of Telecoms-Monopoly ends (PTC unbundled into Zamtel and Postal office services. ✓ International Gateway/PTC ✓ Mobile phone entry ✓ Open Universities commence in Zambia (e.g. ZAOU) ✓ University Act repealed and progressively amended ✓ Community/University radios ✓ Dial-up ✓ Video tapes/players ✓ Flip charts & Boards ✓ Post it sticky notes ✓ Libraries (Mobile & Stationary) ✓ Digital Libraries ✓ Power point projectors ✓ ZAMREN creation (2006 but operationalized 2012) ✓ CD ROMs ✓ Floppy diskettes ✓ White board	✓ MoTC (GRZ) ✓ CellZ (Zamtel) ✓ Telecell (MTN) ✓ Zamcell (Zain/Airtel) ✓ Coppernet ✓ Zamnet ✓ Mr. Neil Robinson (Zamnet) ✓ Mr. Mark Bennett (Zamnet) ✓ ZLS/Room to read (NGO) ✓ Prof. D. Mwanza (UNZA/ZAOU) ✓ Prof. Siaciwena (UNZA) ✓ Dr. Samuel C Mwanza (UNZA) early eLearning platforms testing ✓ Prof. Hellicy Ng'ambi (Pioneered eLearning at UNZA)	✓ Mobile phone technology and entry of ISPs further opens doors. The deregulation and opening of the international gateway has progressive massive positive impact on Internet access and cost effectiveness. ✓ University act expanded access to tertiary education and thus more inclusive
2006-2010	✓ National ICT policy launch (2006) ✓ Research on ICT integration in Education	✓ MoTC ✓ Dr. V. Chifwepa (UNZA) ✓ MOE (DODE)	✓ The national ICT policy mandated change, give ICT visibility and gave general direction for eLearning seeds. ✓ Research by Chifwepa

	✓ Institutional digital repositories ✓ Open (digital) Educational Resources (OER) ✓ Digital libraries ✓ DODE (vvob) ODL standards and guidelines generation ✓ ZEDuPad introduced ✓ Very Small Aperture Terminals (VSAT) technology introduced ✓ Optic fibre cable introduced ✓ ZICTA creation (2009) to regulate ICT in country ✓ Flash drives/memory sticks ✓ Post it sticky notes ✓ Power point projectors ✓ CD ROMs ✓ White boards ✓ E-Learning platform set up at UNZA (2005) ✓ iSchool (now Mwabu) born ✓ eLearning Africa Conference in Zambia (2010) ✓ Successful generation of ZAMREN proposal (by pioneers)	✓ GTZ (vvob) ✓ Dr. Kachaka (UNZA) ✓ Mr. T. Gondwe (DODE) ✓ ZICTA ✓ Mr. Mark Bennett (iConnect and iSchool) ✓ Dr. S. Mwanza (UNZA) ✓ Professor Sinkala (UNZA) eLearning Africa conference Chair hosting (2010) ✓ Professor Mwase (eLearning Africa) ✓ Prof. J. Mbale [UNZA/CBU] (ZAMREN pioneer) ✓ Mr. M. Sheba [CBU] (ZAMREN pioneer) ✓ Mr. B. Khunga (Successor of Mbale as CEO at ZAMREN)	further brought ICT closer to tertiary education. Landmark study. ✓ Initial eLearning draft standards give initial focus on eLearning in HEIs. Good standards but never launched.
2011-2022	✓ HEA draft ODL Standards & guidelines (2021) ✓ Sustainable Development Goals 2030 (SDG) # 4 of 2015 comes into effect urging universal educational access for all. ✓ Agenda 2063 ('The Africa we want') aspirations for Africa affirms technology adoption for educational and continental advancement. ✓ Covid-19 induced online learning 'global experiment' (2020-21) ✓ Wide forced adoption of eLearning using different learning platforms e.g. Moodle, Astria, Google classroom, canvas etc. ✓ NREN adoption, development and set up (ZAMREN operationalization; 2012) ✓ Investment into institutional digital	✓ Dr. V. Chifwepa/ Prof. Stephen Simukanga (HEA) ✓ Dr. Mfunze (HEA) ✓ MOE (HEA) ✓ HEIs ✓ Prof. D. Kunda (Mulungushi University; ZCASU) ✓ UNICAF ✓ UNILUS ✓ UNZA ✓ Northrise University ✓ CBU ✓ African Union (AU)	✓ HEA leads the way in formulating benchmarked, validated ODeL standards & guidelines (part 1) but sadly never launched despite all stakeholders ratifying/validating policy. All but launch was done. For some reason, standards relegated to the side after demise of key actor (i.e. Dr Chifwepa). ✓ ZAMREN sets up cost effective Internet provision for HEIs in Zambia with progressively expanding reach among local HEIs. Sustainable model too, a shining example in the region after SA. ✓ Smart Zambia project generates efficiencies in public sector. ✓ MOTS creation a masterful

	infrastructure ✓ National Data centre setup (2017) and expansions/upgrades (Tier 3) ✓ Smart Zambia Project (derived from 'Smart Africa Project') ✓ Establishment of MOTS for coordinated integrated digital economy establishment (2022) ✓ Virtual universities commence in Zambia (e.g. Africa Virtual University; UNICAF) ✓ Pedagogical and andragogical shifts to accommodate emerging technologies and opportunities. ✓ Learning Management Systems (LMS)/platforms ✓ Digital Institutional repositories ✓ Digital Libraries ✓ Digital Open Access Journals (DOAJ) ✓ Shift towards learner and learning centred approaches away from previous (archaic) modes ✓ New user attributes and skills essential including self-efficacy, Digital fluency, critical thinking etc. ✓ On-going adoption of emerging and mutating Educational Technologies (edtech). ✓ Cloud computing ✓ Advanced Satellite Technologies (e.g. Starlink) ✓ MOOCs ✓ OER	✓ The United Nations (UN) ✓ NGOs (e.g. World Vision Int., Family Legacy, Plan Int., CARE etc.) ✓ EBSCO HOST (digital Library) ✓ Platforms client providers e.g. Moodle, Astria, Canvas, Blackboard etc. ✓ Governmental organisations e.g. USAID, Irish AID, AusAid, UKAID (DFID), GTZ etc. ✓ Gabriel Konayuma (TEVETA) ✓ Prof. D. Ng'ambi (UCT) ✓ Dr. Shemi (CBU) ✓ Prof. Kalezhi (CBU) ✓ Prof. J. Mbale (CBU) ✓ Prof. Zimba (ZCASU) ✓ Prof. Phiri (UNZA) ✓ Mr. Shimbela ✓ Cavendish University ✓ ISPs ✓ Mobile phone operators ✓ ZICTA ✓ Elastus Mambwe (UNZA) ✓ Mr. B. Khunga (ZAMREN)	stroke to build the digital economy. ✓ National Data centre (2017) a right direction towards Zambian owned digital infrastructure and data security.
2023-2025	✓ Implementation, refinement, investment into digital Infrastructure (e.g. Smart rooms, classes, spaces, redesign etc.) ✓ HEIs encouraged to embrace and exploit eLearning/AI ✓ Hard copy Journals ✓ Digital online open access Journals (DOAJ)/APC Journals ✓ Relevant digital enabling and supporting policies, strategies and guidelines by government	✓ HEIs ✓ HEA ✓ ZAQA ✓ CABU ✓ Mulungushi University ✓ ARU ✓ UNZA ✓ CBU	✓ Sustained investment into the digital economy by all stakeholders, generation of progressive politicise & strategies should leapfrog Zambia to the next level while leveraging emerging technologies like AI for Zambian benefit and development.

	✓ National AI strategy generation (2024) ✓ Virtual research supervision, teaching and learning ✓ Direct satellite tech services to Zambia (ISPs: Starlink entrenched and officially licenced to service Zambia) ✓ OER ✓ MOOCs	✓ Mr. E. Liywalii (UNZA; Pretoria University) ✓ Prof. D. Kunda (ZCAS) ✓ Prof. C. Chembe (NIPA) ✓ Prof. R. Siaciwena ✓ Mr. B. Mutale (MOTS) ✓ Mr. F. Mutati (Hon; MOTS) ✓ Prof. Kazhila Chinsembu (HEA) ✓ Prof. Mbale (CBU) ✓ Prof. Kalezhi (CBU) ✓ Dr. B. Sichone (CABU) ✓ Dr. Martin Mushumba (HEA) ✓ Mr. Denny Nsokolo (HEA)	
2025ff	✓ C/d; Odel standards, indicators and guidelines (part ii) for Zambia ✓ Satellite Technology gains traction ✓ Institutional bench marked policies & strategies generation ✓ DOAJs/APC Journals ✓ OERs ✓ MOOCs	✓ HEA ✓ HEIs ✓ NGOs ✓ IGOs ✓ ISPs ✓ Mulungushi University ✓ ARU	✓ National AI/eLearning standards generated, benchmarked, validated, approved, adopted and launched for national use in all HEIs in Zambia.

Source: Study Data (2025).

ELearning has several descriptions, some of them being ‘online learning’, ‘virtual learning’ or ‘digital learning’, etc. This study uses these terms interchangeably although they strictly could be differentiated (Sichone, 2023). ELearning could be executed, learnt or taught in multiple ways, the chief being either asynchronous or synchronous means. The former is not in real time while latter is. A clear universally agreed definition for eLearning remains elusive but we highlight a few definitions here 1. “...also called electronic learning or web-based training...is anywhere, anytime instruction delivered over the internet or corporate intranet to students and other learners via a browser”^{iv}, 2. “...learning conducted via electronic media, typically on the internet.”^v, 3. “...is a type of online distance learning that uses the Internet and new digital technologies to enhance learning processes. This type of teaching lets learners train remotely at whatever time is convenient for them, with access to a huge variety of educational content on a 24/7 basis and from any location. People can train in any field they are interested in, at their own pace.”^{vi} or, “A learning system based on formalized teaching but with the help of electronic resources...”^{vii}. A final chosen definition, for our purposes, by OECD (2005: 2) reads “...the use of information and communications technology (ICT) to enhance and/or support learning in tertiary education. But it covers a wide range of systems, from students using e-mail and accessing course work online while following a course on campus to programmes offered entirely online.” Basically, eLearning has to do with learning exploiting ICT tools for learning in whatever form and not necessarily having an internet connection, although may include this element. Said differently, eLearning may use devices not necessarily connected or connecting to the internet but electronic gadgets as basic as desk top computers (though once state of the art!), word processors

or some such. Though varied, these definitions carry a common thread running through nearly all of them including the idea that digital devices and to some extent, though not necessarily, the internet is included in the ecosystem equation. Sichone (2023: 15) crafted a basic description for eLearning as “...online learning is the option of learning via electronic means such as computers, phones or some such devices [often with but not necessarily] with an internet connection (Obeidiat 2020; Reimers & Schleicher, 2020; Palvia et al. 2018).” All these and several others are adopted in this study to explore and build contextual history of eLearning in Zambia strictly between 1990 and 2025. A passing reference between 1964-1989 is equally made (as a precursor to the 1990-2025 epoch) but this study primarily focuses on the time range highlighted above.

Theoretical Framework

Any undergirding theory (primary or secondary) guides and gives direction to a given scientific enquiry. For this study, two primary theories, Documentary (content) review and Cross-sectional, were adopted. The peer reviewed documentary review states that data is sourced from authentic published (primary or secondary) documented volumes, books, notes, past decisions and rationale buttressing the said adopted decision(s). The researcher undertakes to identify key relevant sources, studies, synthesizes, analyses, reviews and compares with other ‘peer sources’, checks for consistency, validity, authenticity, approval processes and when (period) the same was launched or published. Once satisfied, data is harvested, collated, compared, reviewed and documented before transitioning to the next available relevant source artefact on the subject matter around the same time period^{viii}. This study exploited that route by reviewing available published source documents from as far back as 1964 but more specifically, the 1990-2025 time range. This period captured landmark educational, policy and perception shift towards eLearning in Zambia by noting keystroke epochal actions and contextual local research by key figures like Robinson, Bennett and Chifwepa^{ix} respectively, among other original prime actors. Thus, this theory was relevant to guiding the enquiry. A supporting primary guiding theory was the cross-sectional design approach. The theory posits that to garner a wide array of thoughts, facts and opinions in a prescribed limited timeframe, it is wise to interview purposively selected parties using key open-ended questions to garner quick feedback on a chosen theme. In that way, a wealth of knowledge is efficiently gathered in record time, aiding the researcher with extra baseline data to work from. This study, though largely documentary review, benefitted from triangulating insights elicited from field experts, current practitioners as well as yielded proxy indication of study participants awareness levels on eLearning history in Zambia. A referenced secondary theory was the Stakeholder. The theory posits that in whatever sphere or project, stakeholders with vested interests exist (Styk & Bogacz, 2022; Conservation International, 2014)^x. These may be primary or secondary reacting to decisions made. As such, relevant stakeholders must be identified and consulted before proceeding with a project otherwise they may frustrate the endeavor, no matter how well intentioned it might be. In this case, the theory is essential in identifying relevant people that have been engaged in eLearning, interested in its progress or not. These grant helpful pointers to collating historical data around eLearning development progress in Zambia, hence theory relevance.

Methodology

By ‘methodology’ is meant *how* the study was executed. This adopted qualitative study design was combination of document review and cross-sectional approaches and data for this study was collected between 4th-8th March, 2025. As earlier stated, Cross-sectional approaches allow for different respondents to be interviewed in a limited time period to gain insights, opinions and thoughts about a given subject of enquiry. Creswell (2012), Berg (2009) and Patton (2002) all opine that qualitative designs are best for such richer data inquiries where opinions, thoughts, ideas about a given subject are elicited from respondents. In this research, open-ended questions were used given that the qualitative approach requires the eliciting of historical and perceptive data. To arrive at the initial sample of 13 respondents, the study executed stakeholder mapping to identify eligible study institutional participants followed by further scrutiny via purposive sampling technique. However, at each site, snowballing was encouraged resulting in a larger final sample (i.e. 35). The study primarily exploited an inclusion and exclusion criteria for the selected sample: all potential responsive study participants were included in the sample while unresponsive were excluded. This ensured that only available sources were engaged to give objective data. Further, this criteria ensured that only parties meeting the following criteria were included or excluded from the proposed sample:

- a. They had been in HEI circles for at least six years at interview time. This allowed for study participants to have experienced both the ‘before’ and ‘after’ Covid-19 scenario.
- b. Are decision makers of some sort relating to eLearning development, standard setting etc. (at HEI or national level) in at least the last six years.

c. Have first-hand experience in eLearning pedagogy or learning in the Zambian context.

d. Either an independent eLearning expert or a practicing professional in Zambia.

To collect data, several approaches were used including Phone calls, WhatsApp or email. What ever worked best for the respondent was used but this whole process required some level of personal tact, persistence and patience. Several calls or reminders were helpful. As for artefacts, documents admitted in this review for historical Zambian eLearning context, the following criteria was adopted:

I. The source document lies within the study scope (1964-2025). It should be regarded as primary, authentic source.

II. As close to the event as possible (e.g. 1990-2007)

III. Was generated and authored by the actual (practicing) experts or sourced from credible practitioner narrative history (e.g. Elastus Mambwe, 2014).

IV. Reported on by first hand observers (e.g. in the case of Mark Bennett).

To ensure validity, the study was a multilayered approach with various parties speaking into the subject thus allowing for comparison and triangulation. Additionally, all interviews were recorded verbatim, carefully stored in digital or soft copy form with typed responses retained for future reference, analysis or reporting. The data was then sorted and placed in predetermined categories based on questions. In that way a picture was painted and upon analysis, interpretation resulted. Table 2 shows the initial list of identified (institutional) study participants (i.e. sample description).

Table 2: List of sample description

Entity	Public/Private entity	Role
NU	Private (Pvt) HEI	Research & Education
Expert 1 (Prof. C. C.)		Private practitioner
Expert 2 (Prof. D. K.)		Private practitioner
Expert 3 (Mr. S. ICTAZ)		Private practitioner/Association
HEA	Government	HEI regulator, QA & Accreditation
DODE	Government	ODL standards setting
CBU	Public (P) HEI	Research & Education
UNILUS	Pvt HEI	Research & Education
UNZA	P HEI	Research & Education
MOTS (Mr. M)	Government	Digital Economy enabler

Mukuba	P HEI	Research & Education
ZICTA	Government	ICT regulator in Zambia
TEVETA	Government	Technical education regulator

Source: Research data (2025)

Findings

This section presents the findings as expressed in Table 3:

Table 3: Summary of study findings

Respon	Public	Inst	Te	Learn	Aware	Prefer	Ability	Ways	Ability	Propos	Able to	envisio	Thinks
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14
1 A	pvt	HEI		1	0	1	0	0	1	0	1	0	0
2 A1				0	0	0	0	1	0	1	1	1	1
3 HEA		Gov		0	0	1	1	1	0	1	0	0	0
4 DODE		Gov		1	0	0	0	0	1	0	1	1	0
5 Expert 1				1	1	1	1	1	1	1	1	0	0
6 Expert 2				1	1	1	1	1	1	1	1	1	0
7 B	p	HEI		1	0	1	0	1	0	1	1	1	0
8 E1				0	0	1	0	1	1	1	1	0	0
9 C				1	0	1	0	1	0	1	1	0	0
10 C1				0	0	1	0	1	0	0	1	1	0
11 MOTS		Gov											
12 D	p	HEI		0	0	1	0	1	0	1	1	1	0
13 E	p	HEI		1	0	1	0	1	0	1	0	1	0
14 F	p	HEI		0	0	1	0	1	0	0	1	1	0
15 G	pvt	HEI		1	1	1	0	1	1	1	0	1	1
16 ZICTA		Gov		1	0	1	0	1	0	1	1	1	0
17 H	pvt	HEI		0	1	1	1	0	0	1	1	1	0
18 G1	pvt	HEI		0	0	1	0	1	0	1	1	1	0
19 E2				0	0	1	0	1	0	1	1	0	0
20 MOE		Gov		0	0	0	1	0	1	1	1	1	0
21 TEVETA		Gov		0	1	0	1	1	1	1	1	1	0
22 I	pvt	HEI		0	0	1	0	0	0	1	0	1	0
23 C2	pvt	HEI		0	1	1	1	1	1	1	1	1	0
24 J	pvt	HEI		1	1	1	1	1	0	1	1	1	0
25 K	pvt	HEI		1	0	1	0	1	0	1	1	0	0
26 C3				0	0	1	0	1	0	1	0	1	0
27 L	pvt	HEI		1	1	1	1	1	1	1	1	1	0
28 M	pvt	HEI		0	0	1	0	0	0	0	0	1	0
29 N	pvt	HEI											
30 ZAGA		Gov											
31 O	pvt	HEI		1	0	0	0	1	0	0	1	1	0
32 P	p	HEI											
33 F2				0	0	1	0	1	0	1	0	1	0
34 HEA				0	0	0	0	1	0	1	0	1	0
35 G	p	HEI		0	0	0	0	1	0	1	0	1	0
Total				13	8	24	8	25	8	25	21	23	2
%				37	23	69	23	71	23	71	60	66	6

Source: Research data (2025)

From the data adduced, the following findings stood out:

1. From the final sample, 86% were responsive while 14% were not. Figure 2 shows this fact.

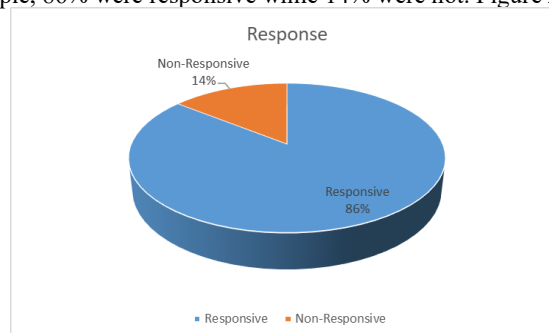


Figure 2: Responses to interview request
Source: Research data (2025)

2. Extremely limited contextual local data on eLearning development history in Zambia exists. Robinson, Chifwepa, Bennett and later, Mambwe (2014) and Zimba et al. (2019) documented local narratives. During the study interviews, the original pioneers and framers of the ZAMREN project (Sheba & Mbale) were discovered. They had a lot of early original source documents but it appears had not been collated published at all. As such, these pioneers were ‘forgotten’ although the labour of their hands is now thriving. Others such as Matthee et al. (2008) are on the Zambian context advanced by LinkNet appear extremely limited to an area (Macha, Southern Province) but give helpful insights into relatively early efforts by independent stakeholders.
3. Evidently, most study participants do not possess updated information on eLearning or its history in Zambia. Only 6% claimed that historical data existed and well tracked. The vast majority (77%; #6) could not chronicle the historical development of eLearning in the country. Figure 3 summarizes what was found.

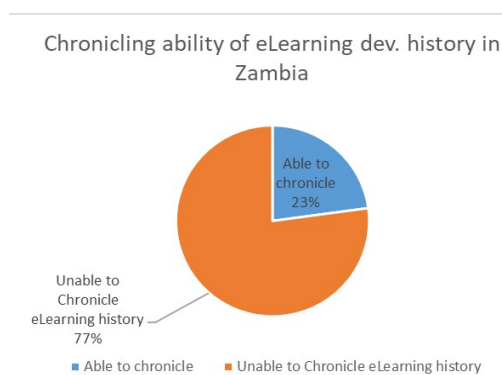


Figure 3: Summary of participant ability to recount eLearning development history in Zambia

Source: Research Data (2025)

4. ELearning is not exactly popular (standing at 37%; #1) or mainstreamed in Zambia yet. However, respondents repeatedly stated that ‘since Covid-19, it was a growing area’. One respondent put it this way: “*Not popular; this is when it is gaining recognition in the Zambian education system.*” Another expressed it this way ‘eLearning is gaining popularity in Zambia, especially among higher education institutions, due to its flexibility and accessibility.’ Figure 4 below summarizes what was found.

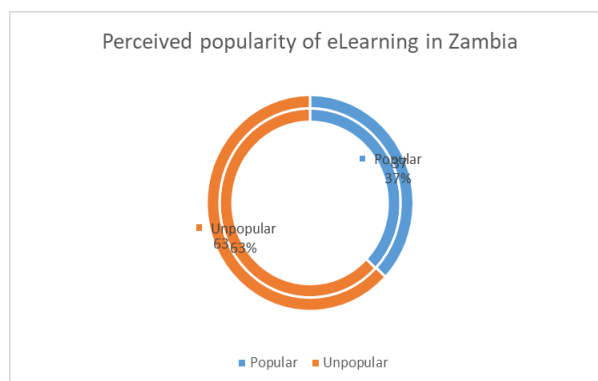


Figure 4: Perceived popularity of eLearning in Zambia

Source: Research data (2025)

5. Attitudes and perceptions of eLearning or what it stands for are changing though pre- Covid-19 pandemic, most were probably negative towards it but things are progressively altering for the better (Sichone, 2023). As earlier stated, only 37% (#1) felt eLearning was popular today while most opined that Covid-19 epoch boosted eLearning. 63% felt eLearning was not popular nor was it the preferred

mode of learning.

6. Education has evolved but content largely remains unchanged. This claim syncs with Molebash (1999). At some point, tech evolution begun to accelerate affecting traditional education in the process. That said, F2F remains the preferred mode of learning where 69% prefer F2F over eLearning (31%). Figure 5 shows what was found.

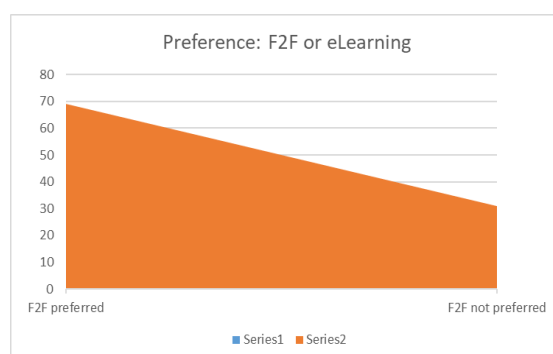


Figure 5: Preference: F2F vs eLearning

Source: Research data (2025)

7. Fragmented efforts exist over time but specific eLearning policy lack is yet to be integrated/generated. This is consistent with what Sichone (2024) found.
8. Though a national digital transformation strategy exists (from 2023), it needs aggressive implementation. Much data needs converting into digital form to build the digital economy from which data could be derived and, in the process, a data base and history created.
9. Additionally, eLearning support structures still lack likely inhibiting it's mainstreaming.
10. On-going sensitization, investment and training are basic essentials for stakeholders buy in, but these are lacking.
11. Lastly, efforts, no matter how well intentioned, are presently still largely fragmented and uncoordinated while good things go unrecorded. Integrated coordination is lacking.

Discussion

This section discusses key points noted from the findings, their implications and possible remedial actions required. These are briefly discussed in point form.

- a. A specific historical data database is essential for posterity and future planners or decision makers but is presently lacking. Thus, whatever is occurring in Zambia relating to eLearning development remains largely undocumented. It is potentially lost to history. While individual contributors are selectively documenting what they can, nobody seems to particularly take note of this. A clear example is Neil Robinson (1995) that drafted an insightful detailed report but only is accessible by hard searching. Others like Mark Bennett hardly generated written publicly available documentary evidence but what has come down to us is expressed by first hand witnesses in writing^{xi}. Evidently, more research is needed and its' tracking at the very moment an event occurs.
- b. eLearning support structures are lacking. To thrive, this demands functional support towards mainstreaming. While mentioned in decision maker corridors, no leader publicly strongly champions or advocates for eLearning post Covid-19. If these remain absent, history stands to be lost, as already has been.
- c. For eLearning to be etched in history, data has to be digitized and carefully stored. Dr. Kachaka (phone interview, Lusaka, 2023) asserted that digitization was absolutely essential but initially costly. In his opinion, "*digitization was the life blood of eLearning*" and, he was right. Without rapid digitization, Zambia perpetually lags behind.

- d. Sensitization, investment and training are needed. But if absent, students, faculty members, administrators and the general populace at large can better and confidently suggest improvements if they have a historical contextual background. That is absent at the moment.
- e. Development efforts and tracking need coordinating through some unified mechanism such as an association. One responding expert aptly expressed it well when they quipped that “*regularly publishing of papers on eLearning, developing maturity models for eLearning and assessments of institutions using these models.*” These serve as critical hubs accessible to all and sundry.
- f. Zambia lacks think tanks specific for eLearning to map track, trace, predict and chart the strategic direction. Currently, everything is fluid without definitive direction. In the absence of national policy (or accessible strategy), the nation is in a trial-and-error phase, trying this, that and the other because the nation has not yet clearly defined its target destiny or direction. This makes documenting and tracking eLearning historical development all the more necessary. It is critical to urgently establish national policy direction, set up relevant support structures and capabilities to document progress. If this is not done, Zambia is destined to an uncertain future at the risk of repeating the same pitfalls resulting from working in silos bereft of historical records. This may also lead to double dipping, duplication of efforts and a waste of resources at the expense of historical and future progress.

Conclusion

This study generates several conclusions though only key points are highlighted:

1. Published and launched policy specifically for eLearning/ODL is lacking (Sichone, 2024; Konayuma et al., 2023; Siaciwena & Lubinda, 2008). This affects implementation and even the recording of eLearning development history (Sichone, 2023; Siaciwena & Lubinda, 2008).
2. Most technology patrons exploit it for transactional rather than educational purposes. This is consistent with what Sichone (2023) or others have found.
3. Local and contextual empirical published data on eLearning history is generally lacking or at best, scattered thus affecting a number of things including development.
4. eLearning is yet to be mainstreamed in Zambia. In fact, eLearning is far from being front-center stage. The yawning digital divide is still extant (Trepels, 2012; Mukosa & Mweemba, 2019). Acceptability equally remains an issue (Kayombo & Mwiinga, 2021)
5. Supporting structures, structural support or relevant cutting-edge digital infrastructure is insufficient (Konayuma et al., 2023). While impressive improvements (including the establishment of ZAMREN, 2006, National Data centre, 2017) have been recorded in recent years, more remains to be done. Intentional eLearning structures to track and capture transitions, development, growth, investment and data archiving are necessary (Kunda & Khunga, 2021; Foley, 2016; Association of African Universities, nd; Kaumba et al., 2022; Siaciwena & Lubinda, 2008; AU, 2022).
6. A positive mindset change towards eLearning is essential for eLearning adoption success and can only occur by intentional ongoing awareness sensitization and stakeholder engagement efforts. HEIs, HEA, and other concerned pundits need to drive and sustain this (Sichone, 2023).
7. Partners, stakeholders or players in the eLearning field are presently working in silos and thus do not share information or build synergies (e.g. Matthee et al. 2008). Good work has occurred but do not result in synergies. Generated information is not generally documented or shared and disappears with implementers when they leave the center stage.

Recommendations

After meticulous review of data, the study advances a number of key recommends for remedial ends towards sealing the extant eLearning historical collation gap:

1. The government should generate actualize and launch a standard eLearning specific policy for online education. This recommendation is consistent with what Siaciwena and Lubinda (2008: 1) asserted when they stated ‘The implementation of the right to education necessarily requires a firm policy framework.’

2. Periodical updating of historical development of eLearning in Zambia (by a dedicated cohort), akin to what Robinson (1995) did should take place in higher education institutions. The government or an integrated think tank must be constituted to monitor and document eLearning trends and ongoing developments.
3. Structures to support eLearning (and its expansion/scaling up) of the capturing of historical data in real time in Zambia need to be set up. An association by stakeholders is recommended. One participating expert expressed it well in suggesting this option: *“Form an E-Learning association support by Open and Distance learning”*. Another respondent suggested: *“I propose the establishment of a national eLearning repository, regular research and evaluation, and increased collaboration among stakeholders.”* Government should ensure developments are timely captured and archived. Periodic news bulletins, ongoing sensitizations etc. are also recommended. The presence of ZAMREN, optic fibre cable connections and the National data centre is a good starting point to expand what already is.
4. A foundation specifically for eLearning development and recording is a good idea. This enhances visibility and historical record keeping in Zambia. NGOs and HEIs including practicing professionals could spear head this.
5. A digital peer reviewed Journal is yet another avenue to promote and store records for eLearning in Zambia. This proposed Journal could be named something like *‘eLearning in Zambia today’* or some such appealing title. This both records and documents events with attendant historical developments. NGOs, HEIs or Government could facilitate this.
6. Digital infrastructure investment and training etc., is essential. The need for this cannot be over emphasized and must urgently take place. Few individuals possess requisite skills nor do they have essential digital fluency skills. Fluency enhances confidence (Barasa, 2021; Konayuma et al., 2023; AU, 2022; Fulgence, 2019). Siaciwena and Lubinda (2008: 11) rightly asserted: ‘The rising demand for education at all levels of Zambia’s education system necessitates expansion of its Open and Distance learning provision.’ Elearning is a further step in that direction but requires state of the art investment into digital infrastructure. Government should drive this agenda.
7. Stakeholders (like government, HEIs, NGOs, advocacy groups) should facilitate an integrated central coordination unit for eLearning growth buttressed by supporting policy to mandate action. Fragmented efforts, although seemingly helpful, yield little synergy or fruit in the long-run. Sustainability issues come into focus too.
8. Strengthen initiatives such as digitization strategies (AU, 2022; MOTS, 2022), Smart Zambia Project, ZAMREN etc. The World Bank report (2020) recommended quicker digitization of Zambia.
9. Future research (by HEIs, govt.) should invest in learning from the past to build the future. Mambwe (2014:80) made an apt comment when he remarked: “The approach for the next decade or two should be one that is focused on transforming the nation to meet its goal of becoming an information or knowledge-based society.” This study quest is one of the elements to this aspiration. Additionally, future research should devote to the exploring AI in relation to education, giving projections for Zambia to proactively self-position. That is the beauty of history as it proffers trends while helping predict the future (Couch, 2023; Azaroual, 2024). Research into the exploitation of AI for eLearning is essential.

Limitations of study

A number of limitations could have possibly impacted this study. A few are highlighted here.

1. The initial sample was limited and therefore not representative of the entire population though small samples for qualitative studies are normal. By their nature, qualitative study designs are true for a particular case, study and context but not generalizable. The findings in this study may be transferable but not necessarily representative of the entire population. That said, a bigger sample is desirable to allow for saturation, enhancing scientific reliability and validity of results. This study attempted to do that by expanding its sample reach to more than one respondent at a given institution where possible. In that sense, saturation was evident but not firm potentially suggesting a limitation. Had saturation been strong, confidence in the results would have been stronger mitigating sample bias while ensuring all bases were covered. Sampling theory too could have unintentionally biased or skewed results given limited data collection time frame. For example, MOTs, ZAQA did not respond. Their choice could have modified results as they are critical in the field. Had they, other richer insights would have been incorporated.

2. Local contextual source documents were limited, given the apparent novelty of eLearning in Zambia. It is important to have several indigenous source documents, especially in the African context and particularly in Zambia to both compare and build on what already exists. A source by Kunda and Khunga (2021), for instance was key to understanding ZAMREN history. Yet another by Mambwe (2014) traces the first 20 years of internet history and impact in Zambia. Besides these publicly available prime sources (apart from ZICTA records) not much else was available to this researcher. Other sources like Foley (2016), AU (2022), OECD reports or The World Bank report (2020) are worth disseminating for sensitization purposes and possible buy in. While other global and regional sources proved insightful, Zambian empirical sources would have been appreciated, hence the limitation.
3. A further limitation, closely connected to the previous was that not much is actually documented tracing Internet and Online Education history in Zambia. The closest to ICT integration, eLearning and its history comes from a few like Bennett, Robinson (1995), Chifwepa (2006) and more recently, Mambwe (2014). Writing from a journalistic perspective, Mambwe was an insightful source tracing early movements to install the internet in Zambia. Other sources, such as by Zimba et al. (2019) were equally handy. Although this (eLearning history tracing) is progressively gathering traction, much remains to be done. Sichone (2023) wrote just a little on the Zambian turf but hardly provides much historical data. It therefore, was difficult to draw a comprehensively clear panoramic definitive picture of the field status. This was a limitation and could have led to a skewed perspective of eLearning history in Zambia.
4. Data collection methods could have introduced limitations. Three methods were used: Phone call, WhatsApp and email. Each of these had their own challenges but worked remarkably well. For example, during data collection, I noted that question six was unclear for some of those responding by WhatsApp means but was easily clarified for others opting for the phone call route. This could have been a limitation in some way.

The quest for a better, developed and thriving Africa is enshrined in the Agenda 2063, 'The Africa we want'. This crystalizes the African heart aspirations (# 10) into the uncertain 'moving target' future. ELearning growth and development is a critical step in realizing that age old longing. The earlier history is documented and passed on to posterity, the better.

References

- Association of African Universities (nd). 'Riding the National Research and Education Networking Train in Africa: A Policy Brief for Stakeholders', Available at: <https://www.aau.org/wp-content/uploads/sites/9/2018/05/Riding-the-National-Research-and-Education-Networking-Train-in-Africa.pdf>, Accessed on 30th December, 2024.
- African Union. (2022). 'Digital Education Strategy and Implementation plan (2023-2028)', (Sept). Accessed on 30th December, 2024, Available at: https://au.int/sites/default/files/documents/42416-doc-1_DES_EN_2022_09_14.pdf.
- Agenda 2063. (2015). 'The Africa we want', African Union Commission. Available at: https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf, Accessed on 26th July, 2024.
- Azaroual, F. (2024). 'Artificial Intelligence in Africa: Challenges and Opportunities', Policy Brief (May), Available at: https://www.policycenter.ma/sites/default/files/2024-09/PB_23_24%20%28Azaroual%29%20%28EN%29.pdf, Accessed on 25th November, 2024.
- Banda, S. (2014). *Dialogue Education in Adult Education*, LAP LAMBERT Academic Publishing Available at: https://www.academia.edu/36868804/Dialogue_education_in_adult_education_978_3_659_61778_2_pdf, Accessed on 27th July, 2022.
- Barasa, P.L. (2021). 'Digitization in teaching and educational in Kenya', International Labour Organization. Available at: <https://www.ilo.org/media/386411/download>, Accessed on 12th July, 2022.
- Berg, B.L. (2009). *Qualitative Research Methods: For The Social Sciences 7e*, Pearson Education

Chembe, C., Nasilele, B.N., and Msendo, R. (2023). 'The Fuss about AI in the Education sector: Should we worry?', *Zambia ICT Journal*, Volume 7 no. 2, Available at: <https://ictjournal.icict.org.zm/index.php/zictjournal/article/view/269>, Accessed on: 7th March, 2025.

Chifwepa, V. (2006). 'Development of a Model Plan for the Application of Information Communication Technologies in Distance education at the University of Zambia', PhD Thesis in Distance education, Lusaka: UNZA. Available at: <https://dspace.unza.zm/items/c84b9b41-4c60-47b8-8853-cb84a1d38c38>, Accessed on 7th March, 2025.

Conole, G. (2013). 'Reviewing the trajectories of e-learning', Available at: <https://www.rcfouchaux.ca/blog/2014/01/15/grainne-conoles-trajectories-of-e-learning/>, accessed on 11th March, 2025.

Conservation International. (2014). 'Stakeholder Mapping Guide: For Conservation International Country Programs & Partners', *Social Policy & Practice* (April). Available at: <https://www.iwlearn.net/documents/28815>, Accessed on 25th October, 2024.

Couch, J.R. (2023). 'Artificial Intelligence: Past, Present and Future', *Journal of the South Carolina Academy of Science*, Volume 21 # 1: 1-4. Available at: <https://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=1264&context=jscas>, Accessed on 22nd August, 2024.

Creswell, J.W. (2012). *Educational Research*, 4e, Pearson. Available at: <https://www.pdfdrive.com/educational-research-planning-conducting-and-evaluating-d16448388.html>, Accessed on 3rd October, 2022.

Dewey, J. (2001). *Democracy and Education*, Penn State University Electronic Classic series Publication, available at: <https://nsee.memberclicks.net/assets/docs/KnowledgeCenter/BuildingExpEduc/BooksReports/10.%20democracy%20and%20education%20by%20dewey.pdf>, Accessed on 4th March, 2025.

DODE. (2010). 'Guidelines for Open and Distance Learning Institutions in Zambia', Ministry of Education (GRZ)/VVob (education for development), hard copy accessed on 01st February, 2023.

Foley, M.(2016). 'The Role and Status of National Research and Education Networks (NRENs) in Africa', Available at: <https://africaconnect3.net/wp-content/uploads/2024/01/113114-NRENSinAfrica-SABER-ICTno05.pdf>, Accessed on 30th June, 2024

Fulgence, K. (2019). 'A theoretical perspective how Doctoral Supervisors Develop Supervision Skills', *IJDS*, Available at: https://www.researchgate.net/publication/342591295_A_Theoretical_Perspective_on_How_Doctoral_Supervisors_Develop_Supervision_Skills, Accessed on 17th July, 2024.

Hargraves, V.(2019). 'Dewey's Educational Philosophy', *the education hub* available at: <https://theeducationhub.org.nz/deweys-educational-philosophy/>, Accessed on 4th March, 2025.

HEA (2021). 'Higher Education Standards and Guidelines for Open and Distance Learning (ODL) in Zambia', Draft copy accessed on 23rd February, 2023.

Kaumba, M., Mphahlele, RS., Muleya, G., and Simui, F. (2021). 'Disablers and enablers in the uptake of ICTs in Rural primary Schools of Mwinilunga District, Zambia', *Journal of Education Technology and Online learning* Vol 4 # 1, Available at: <https://files.eric.ed.gov/fulltext/EJ1286746.pdf>, Accessed on 29th September, 2022.

Kayange, A. (2019). 'E-Learning Encounters in Malawi Higher Education Institutions', *International Journal for e-Learning Security*, Volume 8 # 1 (March), Available at: <https://infonomics-society.org/wp-content/uploads/E-learning-Encounters-in-Malawi-Higher-Education-Institutions.pdf>, Accessed on 3rd July, 2021.

Kayombo, K.M., and Mwiinga, B. (2021). 'Acceptability and Challenges of Online Higher Education In the

Covid-19 Era in Zambia', *Academicia*, Volume 11 # 2 (February), Available at: <http://dspace.zcas.edu.zm/handle/123456789/96>, Accessed on 19th August, 2022.

Kimmons, R., and Rosenberg, M.J. (2022). 'Trends and Topics in Educational Technology: 2022 Edition', *TechTrends* (online, February) pp. 134-140. Accessed on 14th March, 2022. Available at: <https://link.springer.com/article/10.1007/s11528-022-00713-0>.

Konayuma, G.S. (2015). 'Challenges and Enablers in Implementing e-learning policies in Vocational Colleges in Zambia', Available at: <https://www.slideshare.net/GabKon/challenges-enablers-of-elearning-policy-implementation-in-vocational-colleges-in-zambia>, Accessed on 7th March, 2025.

Konayuma, G.S., Shemi, A.P., and Chiinzi, T. (2023). 'Teaching and the Teaching Profession in a digital world', International Labor Organization, Available at: https://labordoc.ilo.org/discovery/fulldisplay?docid=alma995264895102676&context=L&vid=41ILO_INST:41ILO_V2&lang=en&search_scope=ALL_ILO&adaptor=Local%20Search%20Engine&tab=ALL_ILO&query=su b,exact,vocational%20training,AND&mode=advanced&offset=20, Accessed on 11th March, 2025.

Kunda, D., and Khunga, B. (2021). 'Implementing National Research and Education Networks (NRENs) in landlocked African Countries: Critical Success Factors', Available at: <https://caseforrens.org/wp-content/uploads/2021/05/Implementing-NRENs-In-Landlocked-African-Countries.pdf>, Accessed on 30th December, 2024.

Liywalii, E. (2024). 'Artificial Intelligence (AI) Ethics and Governance in Zambia: A philosophical perspectives on the Challenges and Opportunities', Available at: https://www.researchgate.net/publication/381489781_Artificial_Intelligence_AI_Ethics_and_Governance_in_Zambia_A_philosophical_perspective_on_the_Challenges_and_Opportunities, Accessed on 7th March, 2025.

Mambwe, E. (2014). '20 years of the Internet in Zambia: How has journalism been impacted?' *African Trends*, RJR 34 (August): 77-80, available at: <https://journals.co.za/doi/pdf/10.10520/EJC159491>, Accessed on 7th March, 2025.

Matthee, K., Stam, G.V., Mweemba, G., and Rijken, M.(2008). 'Bringing Internet connectivity to rural Zambia using a collaborative approach', *IEEE Xplore* (conference paper), available at: https://www.researchgate.net/publication/224452974_Bringing_Internet_connectivity_to_rural_Zambia_using_a_collaborative_approach, Accessed on 14th March, 2025.

Ministry of Technology and Science (MOTS, 2022). 'National Digital Transformation Strategy: 2023-2027', GRZ. Accessed on 29th May, 2023.

Molebash, P. (1999). 'Technology and Education: Current and Future Trends. Available at: <http://www.itari.in/categories/futuretrendsineducation/FutureofEdu-Tech.pdf>, Accessed on 24th November, 2022.

Mukosa, F., and Mweemba, B (2019). 'The Digital Divide Hindering E-learning in Zambia', *International Journal of Scientific Research and Engineering Development* Volume 2 # 3 (May-June) pp. 860-865. Available at: https://www.researchgate.net/publication/334318597_The_Digital_Divide_Hindering_E-learning_in_Zambia-, Accessed on 28th June, 2021.

OECD (2005). 'E-Learning in Tertiary Education', *Policy Brief* (December), Available at: <https://www.oecd.org/dataoecd/19/33/40600545.pdf>, Accessed on 6th October, 2022.

Oyedotum, T.D. (2020). 'Sudden Change of Pedagogy in Education driven by Covid-19: Perspectives and Evaluation from a Developing country', *Research in Globalization* (online) Volume 2 Available at: <https://www.sciencedirect.com/science/article/pii/S2590051X20300186>, Accessed on 20th July, 2022.

Pappas, C (2013). 'The Adult Learning Theory-Andragogy of Malcom Knowles'. *e-Learning Industry* (online),

Available at: <https://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles>, Accessed on 20th October, 2022.

Patton, MQ (2002). *Qualitative Research & Evaluation Methods*, London: Sage Publications

Robinson, N. (1995). 'Bringing the internet to Zambia', in *Bridge Builders: African Experiences with ICT*. Washington. National Academy Press, available at: <https://nap.nationalacademies.org/read/5260/chapter/5#191>, accessed on 14th March, 2025.

Siaciwena, R., and Lubinda, F. (2008). 'The Role of Open and Distance Learning in the Implementation of Rights Education in Zambia', *International Review of Research in Open and Distance learning*, volume 19 no. 1: 1-12, Available at: <https://files.eric.ed.gov/fulltext/EJ801080.pdf>, Accessed on 22nd November, 2024.

Sichone, B.C. (2024). 'An Enquiry into the Existence of Published Open and Distance e-learning (ODEl) quality standards in Zambia', *Journal of Business, Development and Leadership (JBDEL)*, Available at: <https://jbdjournalonline.com/index.php/files>, Accessed on 23rd July, 2024.

Sichone, B.C. (2023). 'An assessment of eReadiness status for enhanced adaptation to Online Education in 20 selected HEIs in Zambia', Unpublished PhD thesis ARU

Styk, K., and Bogacz, P.(2022). 'A method for Stakeholder Mapping in Connection with the Implementation of a Development Project', *energies* (MDPI) Volume 15, 1592: 1-22, available at: <https://www.mdpi.com/1996-1073/15/4/1592>, Accessed on 25th October, 2024.

The world Bank (2020). 'Accelerating Digital Transformation in Zambia', World Bank/GRZ, accessed on 17th July, 2022. Available at: <https://openknowledge.worldbank.org/server/api/core/bitstreams/3903dda3-4dd5-516e-8002-f88ba863ab30/content>.

Trepels, I (2012). 'Bridging the Digital Divide in Zambia', (Master's Thesis) Radboud University Nijmegen. Available at: https://www.ru.nl/publish/pages/769526/iristrepels_2012.pdf. Accessed on 22nd June, 2021.

Zimba, A., Chibuluma, M., Chishimba, M., and Mbale, T.F. (2019). 'Liberalisation of the International Gateway and Internet Development in Zambia: The Genesis, Opportunities, Challenges, and Future Directions', *IEEE*, available at: https://www.researchgate.net/publication/341600351_Liberalisation_of_the_International_Gateway_and_Internet_Development_in_Zambia_The_Genesis_Opportunities_Challenges_and_Future_Directions, Accessed on 11th March, 2025.

ⁱ This latter source (i.e. Molebash) states that "For over a century, education has remained largely unchanged."

ⁱⁱ Refer to Deuteronomy 6: 1-6; This was a kind of home schooling where the parent did life together with their children, using a given curriculum. Paul suggests something to that end in I Timothy 2.

ⁱⁱⁱ Refer to the following sources: MoE [DODE]; HEA, 2021

^{iv} Source: <https://www.techtarget.com/whatis/definition/Web-based-training-e-learning#:~:text=E%2Dlearning%20%2D%20also%20called,other%20learners%20via%20a%20browser,> accessed on 10th March, 2025.

^v Source: https://www.google.com/search?q=eLearning+definitions&oq=eLearning+definitions+&gs_lcrp=EgZjaHJvbWUyBggAEEUYOdIBCjE0MTUzajBqMTWoAgiwAgHxBQokK9Ht5aHa&sourceid=chrome&ie=UTF-8, accessed on 10th March, 2025.

^{vi} Source: <https://www.digiforma.com/en/definition/e-learning/>, accessed on 10th March, 2025.

^{vii} Source: <https://economictimes.indiatimes.com/definition/e-learning?from=mdr>, accessed on 10th March, 2025.

^{viii} Time distance and hind circumstances is critical in correct documentary interpretation review processes.

^{ix} Incidentally, Bennet and Robinson worked on the same project-Zamnet about the same time. No information was found as to how they related or even worked together.

^x This source (i.e. Conservation International) gives a good definition of ‘stakeholder’ on page 4 as follows ‘Stakeholders are organizations or social groups of any size that act at various levels domestic, local, regional, national, international, private and public), have a significant and specific stake in a given set of resources, and can affect or be affected by resource management.’

^{xi} See: <https://youtu.be/vCdGB1dcNWE?si=Eqx-meud4280cmeu>;
<https://www.inclusivebusiness.net/fr/node/2864>; <https://www.lusakatimes.com/2015/02/13/mark-bennett-founder-zamnet-zambias-first-isp-died/> or <https://www.theguardian.com/world/2015/mar/26/mark-bennett-obituary>, accessed on 8th March, 2025. Bennett accomplished much but generated far less public published reports. He was the ‘news maker’ of sorts so it seems.