**Impact of E-Learning Platforms on Students' Competency Development in Private Secondary Schools in Morogoro Municipality, Tanzania**

**ABSTRACT**

This study assessed the impact of E-Learning platforms on student's competency development in private secondary schools in Morogoro municipality, Tanzania. The study was guided by Constructivism learning theory by Levy Vygosky, which holds that students understand better when they interact with the society and the content. A mixed-methods approach of convergent design was adapted under pragmatism philosophy. Data were collected through the use of questionnaire to Teachers and interviews to Heads of Schools (HoS). A total sample of 33 respondents, including 3 Heads of Schools and 30 Teachers were used in data collection. Data were analyzed descriptively using SPSS version 20 and thematically to enrich quantitative and qualitative data. The study found high teacher perceptions of e-learning fostering independent learningthematic, personalized learning experiences, and collaboration, but lower confidence in enhancing academic competencies, digital literacy, and critical thinking. School heads reported positive impacts, supported by robust infrastructure. The study concluded that teachers had mixed perceptions of e learning platforms' effectiveness in competence development of students. The study recommended that educational administrators in the region collaborate with stakeholders to strengthen teachers' professional development in using e-learning platforms to enhance teaching and learning. Selected private schools should ensure the supply of necessary ICT facilities and devices and improved access to maximize e-learning’s potential for competency-based curriculum delivery.

*Keywords*: *E-Learning platform, Competency, private school, students.*

**1. INTRODUCTION**

The technological advancement in education has brough e-learning platforms, which are transformative tools facilitating a shift from traditional pedagogical methods to more interactive and learner-centered approaches. The eLearning platforms enhance access to unlimited learning resources, personalized learning, self-directed assessment, and skills development as important competencies for learners (Hamad et al, 2023). Most of the e-learning platforms upscaled during the COVID-19 pandemic, when they were inevitably adopted globally to maintain educational continuity and promote active student engagement (UNESCO, 2021).

The evolving globalization brings about technological innovations in education that diversify educational delivery alongside traditional physical classrooms. Through the e-learning platforms, it has paved the way for learners to study and get assessed for their achievement without contextual barriers (Vainionpää, 2020). The platforms further save time for classroom interactions and minimize distractions as learners will get focused on the learning content and competence development tasks provided while navigating the platforms.

The adoption of e-learning platforms across different African countries remains uneven, largely due to infrastructural and socio-economic challenges. In countries like South Africa, there is a growing movement towards digital learning as the country has been leading the way in implementing technology-driven curricula (Mshiu et al, 2023). The eLearning platforms in schools has recorded active learning by offering interactive modules and fostering peer collaboration inculcating practical skills rather than rote memorization.

Other Sub-Saharan Africa countries are struggling for implementing e-learning platforms in their schools due to significant barriers such as limited internet connectivity, inadequate teacher training, and high operational costs (Walters et al., 2021). Different studies highlighted that where e-learning platforms have been adopted, they play a vital role in CBC implementation by introducing innovative teaching methods and tools for continuous assessment even though the education systems are under sever challenges (Mjenda and Kyaruzi, 2025).

Governments and other private actors in East Africa have made concerted efforts to adopt e-learning platforms in support of competency-based education reforms, especially during the COVID-19 pandemic and even after. In Kenya for example the eLearning platforms are the means to implement CBC which incorporates digital tools to enhance critical thinking, personalized learning and problem-solving skills. Opicho et al. (2025) underscored that eLearning platforms assist teachers in transitioning from traditional to modern teaching approaches by providing digital content aligned with specific competencies for learners.

Unlike public schools, the majority of the private schools in Tanzania are adopting the e-learning platforms slowly due to budgetary, teachers’ competencies, and infrastructural constraints (Lubua, 2023). The new competence-based curriculum, revised in 2023, emphasizes the integration of technology in education to equip learners with practical skills and relevant knowledge (URT, 2024). The potential of e-learning platforms has been evidenced in Morogoro Municipality private secondary schools as they foster students' personalized learning, engagement, competency assessment, and teachers' collaboration (Simbeye, 2020). Therefore, this study assessed the impact of e-learning platforms adopted in private secondary schools in Morogoro Municipal on the competence development of learners.

**1.1 Statement of the Problem**

E-learning platforms are a vital technological approach for competence-based teaching and learning, which ensures personalized learning pathways and skill-based assessment (Langat, 2025). The flexibility and accessibility of learning platforms allow effective competence development among learners as they provide innovative means for student self-directed learning and assessment with real-time feedback.

Despite the eLearning platform’s potentialities in implementing competences among learners, their effective implementation in secondary schools is handicapped by inadequate ICT infrastructure, budget constraints, insufficient teacher training, and inconsistent integration of digital tools that enhance competence development (Kisanjara, 2023). The recent studies, such as Mkwizu & Ngaruko (2020) and Mtebe & Raphael (2018), assessed the general potentials and setbacks of e-learning adoption for curriculum implementation, where there is scent information on the impact of eLearning platforms to foster competence development among learners in private secondary schools. This study focused on assessing the impact of e-learning platforms on the competence development of students in private secondary schools in Morogoro Municipality.

**1.2Research Objectives**

(i)To assess the impact of E-Learning platforms on students' competency development in private secondary schools in Morogoro municipality.

**1.3 Research Questions**

(i) What are the impacts of E-learning platforms on students' competency development in private secondary schools in Morogoro municipality?

**2. LITERATURE REVIEW**

**2.1. Operationalization of Terms**

**2.1.1 E-Learning Platforms**

E-learning is the way of learning by using the communication mechanisms of modern computer networks and multimedia, including voice, image,and graphics and mechanism to search electronic libraries, as well as web portals, whether in the context of distance learning or in the classroom (Yordzhev, 2020). This means that a student can access the content in regardless of distance and presence of a teacher using ICT devices.

In Tanzania, The Education and Training Policy 2014 (2023 edition) updated national policy where the emphasis is on ICT as essential need for modern education delivery, including distance and open learning modalities aligned with the 2016 ICT strategy. This has opened the doors for different platforms being used in the process of learning. For example, Shule Direct, Smart Class, Open University,and Ubongokid learning have been regularly used by students in learning (Patrobas et al.,2023; Ubongo Impact Report 2020; OUT Prospectus 2020/2021), and infact raise the students' interest and motivation in learning.

**2.1.2 CBC Implementation.**

Competence-Based Curricula (CBC) focus on learners to acquire the practical competencies that holistically uplift their knowledge, skills, and attitudes on the specific subject matter (Munyoki, 2023). In competence curriculum learning is more learner-centred than the traditional teacher-centred approach, and learners are expected to develop competencies relevant to the demands of society. The study assessed how e-learning platforms enhance the implementation of competence curriculum by exploring the role of e-learning platforms in competence development among learners.

**2.2 Theoretical Review**

In assessing the impact of e-learning platforms on students' competence development, the study was underpinned by the Constructivist Learning Theory. The theory was pioneered by developed by Jean Piaget and later expanded by Lev Vygotsky.

**2.2.1 Constructivist Learning Theory**

The constructivist learning theory posits that learners are active participants in their learning, and they acquire knowledge most effectively when it is contextual, collaborative, and learner-centered as proposed in the zone of proximal development (Vygotsky, 1978). The theory is centred on learner motivation and well-designed learning environments to attain desired competence. If the e-learning platforms lack sufficient infrastructure, insufficient budget, and teachers are incompetent in utilising the platforms, it will compromise the attainment of desired competences by learners.

In this study the core assumptions of constructivist learning theory align with the use of e-learning platforms on competence development. The constructivist theory provides the framework for assessing how e-learning platforms impact the competence development among learners such as active engagement, collaboration, and critical thinking. Therefore, this study assesses how eLearning platforms in private secondary schools followed constructivist principles that facilitate competency development.

**2.3 Empirical Literature Reviews**

In this part comprehensive empirical studies related to the impact of eLearning platforms on competency development were presented.

**2.3.1 The Impact of E-Learning Platforms on Students’ Competency Development**

The systematic review conducted in Philippine higher education by Ballano et al. (2022) during the COVID19 pandemic concerning the implementing online teaching and learning during the pandemic underscored that digital literacy, digital competence, and pedagogical digital competence of both teachers and students during that time was reported lower due to several highlighted challenges. To foster competence teaching through online platforms demanded for provision of logistical support for teachers and students, such as stabilizing internet connections and improve access to digital devices and educational technologies. For mandatory use of eLearning platforms for competence based teaching its inevitable for schools to provide information communication technology (ICT) infrastructure for both students interactive learning and teachers professional development in area of online teaching and attitudes towards distance teaching.

Nga and Thuy (2024) investigated the range of appropriate learning activities when organizing online teaching for the teaching methods modules in the bachelor of Pedagogy training and how to manage these learning activities in Vietnam. The study is based on a questionnaire survey about the online learning process with 26 Biology students and 30 Early Childhood Education students, Hanoi Pedagogical University 2. Based on the survey results, the factors affecting the effectiveness of learning activities include subject information, learning organization, teaching technology, student support activities, primary conditions, facilities for learners and lecturers.

They study by Chen et al. (2022) in Taiwan which used online data to investigate the study the generation and usefulness of eLearning evaluation metrics for competency-based teacher professional development curriculum depicted the educational common professional competency keyword co-occurrences, which were then used to design, develop, and apply e-learning curricula evaluation metrics for competency-based teacher professional development. Using the descriptive analysis the study further identified the keyword co-occurrences to measure their centrality metrics, including weighted degree centrality, degree centrality, between’s centrality, and closeness centrality, and to verify their importance and ranking in professional competency in eight categories of educational professionals.

A convergent mixed method study by Kumbo et al. (2024) in 26 public tertiary education institutions in Dar es Salaam city on the use of eLearning platform known as hologram for competence-based teaching and learning revealed that eLearning platforms in most of the institutions are effective for delivering learning contents, uploading lecture notes, and for online assessment activities. However, the study further pinpointed that eLearning platforms are used partly to cover sessions when the instructor is absent but less applied for practical assignments and in final examinations which demand for more advancement of adopted eLearning platforms like Holograms.

**2.4 Research Gap**

Despite the growing body of research on the implementation of CBC, limited studies focus specifically on the role of eLearning platforms in supporting this implementation in Tanzanian private schools. While Nkya et al. (2021) and Makunja (2016) have investigated teachers’ perceptions and challenges regarding CBC in secondary schools, they do not explore how eLearning platforms contribute to the effectiveness of CBC delivery. Furthermore, most existing research, including studies like Malero et al. (2015), tends to focus on public schools, neglecting the unique contexts of private schools. This study addresses these gaps by examining the perceptions, usage, and challenges related to e-learning platforms in facilitating CBC implementation within the private secondary schools of Morogoro Municipality.

**3. METHODOLOGY**

**3.1 Research Philosophy**

Pragmatism philosophy underpinned the study as it centred on the practical application of the reality. Pragmatic paradigm emphasizes on the practical application of knowledge, this approach integrates both qualitative and quantitative research methods to effectively address the research objectives (Creswell & Plano Clark, 2018). Pragmatic philosophy guided the study to collect both qualitative and quantitative findings on the impacts of eLearning platforms on the competency development of students in private secondary schools.

**3.2 Research Approach**

A mixed method approach was adopted to gather qualitative and quantitative insights from respondents on the practical impact of e-learning platforms on competency development (Cohen et al, 2018). Integrating both methods allowed the researcher to utilize quantitative methods to quantify the extent of e-learning platform usage and qualitative methods to explore head of schools’ perceptions and experiences on e-learning platform influence on competence development.

**3.3 Research Design**

The study employed a convergent parallel mixed-methods design to collect qualitative and quantitative data and analyse them separately to identify comparisons and divergences (Creswell & Creswell, 2023). In this design qualitative and quantitative data were collected simultaneously, and their analysis was separated for clear interpretation (Creswell & Plano Clark, 2018). The combination of both methods provided a deeper understanding of the impact of e-learning platforms on students' competency development in private secondary schools in Morogoro municipality.

**3.4 Area of the Study**

Morogoro Municipality is the administrative centre of the Morogoro region, characterised by both urban and rural socioeconomic characteristics. The Municipal consisted well established private secondary schools equipped with electricity and some ICT gadgets (BEST, 2023). Private schools in Morogoro Municipality have been selected due to their potential of having modern ICT infrastructures and less bureaucracy in budgeting for internet and e-learning platform charges. Therefore, the elected private secondary schools will provide valuable insights as they have direct involvement with e-learning platforms and their role in CBC implementation has been explored.

**3.5 Sample Size and Sampling Techniques**

The study purposefully selected three private schools in Morogoro Municipality, which are equipped with ICT facilities and have notable use of eLearning platforms for teaching and learning (Kothari & Gaurav, 2024). Three heads of schools were purposively selected for their administrative responsibilities of supporting and supervising e-learning platforms for curriculum implementation in secondary schools and 30 teachers from three schools based on snowball sampling as they were referred by the head of schools in respective secondary schools who use different eLearning platforms in secondary schools to support teaching and learning.

**3.6 Data Collection Instruments**

Structured questionnaires were utilised to collected quantitative data from teachers. This method is chosen for its efficiency in gathering structured data from large sample within a short period of time (Cohen et al, 2023). In-depth interviews with the head of schools were carried out to obtain their insights from to their natural settings (Johnson & Christensen, 2018). These approaches were flexible and allowed the researcher to adapt questions based on the raport of the conversation while ensuring key topics are covered.

**3.7 Validity and Reliability**

The validity of the research instruments was tested to ensure the research instruments by aligning the data collection instruments with the study objectives. With the guidance from the expert, the instruments were reviewed to ensure their relevance and comprehensiveness (Cohen et al, 2018). Internal reliability of instruments was computed as presented in Table 1 below;

**Table 1.** **Reliability Statistics**

|  |  |
| --- | --- |
| **Cronbach’s Alpha** | **N of items** |
| 0.76 | 14 |

Internal consistency of the items was estimated at 76% (0.76), which indicates that the set of questionnaire items in the Likert scale has acceptable internal reliability (Tavakol & Dennick, 2011).

**3.8 Data Analysis Procedures**

Quantitative data collected through questionnaires were analysed using descriptive statistics, and results were presented in terms of frequency, percentages, and mean. The conclusion on the respondents' items was based on the weighted mean. Descriptive statistics simplified the identification of patterns and trends in the impact of e-learning on students' competency development (Creswell & Plano, 2018). Qualitative data were reanalyzed thematically following the framework provided by Braun and Clarke (2006). This method involves systematically identifying, analyzing, and reporting patterns and themes within the data. Thematic analysis enabled the researcher to delve deeper into stakeholder perceptions, uncovering nuanced insights into the experiences of heads of schools and students.

**4. RESULTS**

**4.1 DEMOGRAPHIC INFORMATION OF THE RESPONDENTS**

The study collected essential demographic information from the respondents, including gender, age, work experience, and level of education, to describe their insights across demographic characteristics regarding the impact of e-learning platforms on students' competency development in private secondary schools in Morogoro Municipality, Tanzania. Table 2 summarises the findings related to demographic information of the respondents presented in frequencies and percentages.

**Table 2. Gender of teachers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gender** | | **Frequency** | **Percent (%)** | **Cumulative Percent** |
| Valid | Male | 22 | 73.3 | 73.3 |
| Female | 8 | 26.7 | 100.0 |
| Total | 30 | 100.0 |  |

The majority of the teachers are male, 22 (73%), and their counterparts, 8 (27%), are female. This shows that in secondary schools, there is a persistently high number of male teachers compared to female teachers, calling for employers to consider gender balance in deploying teachers without compromising the subjects of specialization and education quality provision in secondary schools.

**Table 3. Age of the respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Age** | | **Frequency** | **Percent** | **Cumulative Percent** |
| Valid | 21-30 | 12 | 40.0 | 40.0 |
| 31-40 | 15 | 50.0 | 90.0 |
| 41-50 | 2 | 6.7 | 96.7 |
| 51 and above | 1 | 3.3 | 100.0 |
| Total | 30 | 100.0 |  |

As to their age in terms of years, the majority of teachers, 15(50%), were in the age bracket 31-40, and 12(40%) were in the age bracket 21-30 while few of them 2(7%) and 1(3%) were on the age brackets 41 – 50 and above respectively(Table-3). This depicts that the majority of teachers were energetic and competent to perform their teaching job and other school activities.

**Table 4. Teachers' work experience**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Work Experience** | | **Frequency** | **Percent** | **Cumulative Percent** |
| Valid | 0-5 | 14 | 46.7 | 46.7 |
| 6-10 | 13 | 43.3 | 90.0 |
| 11-15 | 1 | 3.3 | 93.3 |
| 16 And above | 2 | 6.7 | 100.0 |
| Total | 30 | 100.0 |  |

As for the teachers' experience majority, 14 (47%) and 13 (43%) of the teachers had experience between 0 – 5 years and 6 to 10 years of experience, respectively. While a few numbers of teachers, 1 (3%) and 2 (7%) of the teachers had the experience of 11 – 5 years and above, respectively(Table-4). The majority of the teachers have enough work experience to support them realize the contribution of e-learning platforms in enhancing competence-based curriculum in private secondary schools.

**Table 5. Teachers' level of education**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Level of education** | | **Frequency** | **Percent** | **Cumulative Percent** |
| Valid | Diploma | 1 | 3.3 | 3.3 |
| Degree | 29 | 96.7 | 100.0 |
| Total | 30 | 100.0 |  |

As for the above table majority, 29(97%) of the teachers hold a bachelor's degree, and one (3%) teacher holds a diploma(Table-5). This indicated that private schools employ university graduates who have knowledge, skills, and experience in using e-learning platforms to enhance competence-based teaching in private secondary schools.

**5. DISCUSSION**

The study sought to assess the impact of e-learning platforms on students' competency development in private secondary schools in Morogoro Municipality, Tanzania. The study administered structured questionnaires to subject teachers in three private schools, and in-depth interview was used to grasp insights from school heads of the selected schools. Table 6 presents the summary of teachers' perceived impacts of e-learning platforms on students’ competency development in private secondary schools across specified items.

**Table 6 Teachers Response on the impact of e-learning platforms on students’ competency development in private secondary schools**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **SA**  **n(%)** | **A**  **n(%)** | **N**  **n(%)** | **D**  **n(%)** | **SD**  **n(%)** | **Mean score** | **SD** |
| E-learning platforms enhance students' academic competencies in various subjects | 20  (67) | 10  (33) | **0**  **(00)** | **0**  **(00)** | **0(00)** | 1.33 | 0.48 |
| The use of e-learning tools improves students' digital literacy skills | 20  (67) | 9  (30) | 1  (03) | **0**  **(00)** | **0(00)** | 1.37 | 0.56 |
| E-learning platforms support critical thinking development, and students' abilities in problem-solving | 17  (57) | 13  (43) | **0**  **(00)** | **0**  **(00)** | **0(00)** | 1.43 | 0.50 |
| Students become more independent learners through e-learning platforms | 17  (57) | 11  (37) | 0  (00) | 2  (06) | **0(00)** | 1.57 | 0.82 |
| E-learning platforms enable teachers to provide personalized learning experiences | 18  (60) | 9  (30) | 1  (03) | 1  (03) | 1  (03) | 1.60 | 0.99 |
| The integration of multimedia content in e-learning enhances students' understanding of complex concepts | 18  (60) | 9  (30) | 1  (03) | 2  (07) | 0(00) | 1.57 | 0.86 |
| E-learning platforms facilitate continous learning beyond the classroom environment | 23  (77) | 7  (23) | 0  (00) | 0  (00) | 0(00) | 1.23 | 0.43 |
| Teachers find it easier to monitor and assess students’ progress using e-learning systems | 16  (53) | 9  (30) | 4  (13) | 1  (03) | 0(00) | 1.67 | 0.84 |
| E-learning platforms contribute to the development of students' practical and life skills | 19  (63) | 9  (30) | 1  (03) | 1  (03) | 0(00) | 1.47 | 0.73 |
| Students demonstrate improved communication and collaboration skills when using e-learning platforms | 14  (47) | 13  (43) | 2  (07) | 1  (03) | 0(00) | 1.67 | 0.76 |

*Note:* N =30, SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree. Decision weighted average ****

Data in Table 6: reveals that most respondents strongly believe e-learning platforms foster independent learning (Mean = 1.57, SD = 0.82), enable teachers to deliver personalized learning experiences (Mean = 1.60, SD = 0.99), and enhance students’ understanding of complex concepts through multimedia content (Mean = 1.57, SD = 0.86). They also highly value these platforms for simplifying teachers’ monitoring and assessment of student progress and improving students’ communication and collaboration skills (Mean = 1.67, SD = 0.84). Interviews with school heads corroborate these perceptions, highlighting the integration of e-learning through diverse digital tools, including computers, tablets, the Elimu App, Google Classroom, Zoom, and smart classes. These tools provide interactive, curriculum-based content that supports both independent and real-time collaborative learning, thereby boosting student engagement, competence, and understanding.

Data in Table 6: Shows that respondents expressed lower confidence in e-learning platforms’ ability to develop students’ academic competencies across subjects (Mean = 1.33, SD = 0.48), digital literacy, critical thinking, problem-solving skills, continuous learning beyond the classroom, and practical life skills (Mean = 1.37, SD = 0.56). However, school heads reported positive impacts, noting that e-learning platforms deepen students’ understanding, broaden knowledge, and enhance real-world application of learning, such as through coding skills. They also emphasized support mechanisms, including open-access computer labs, reliable internet connectivity, provision of devices (e.g., computers, tablets, smartphones, smartboards, and cameras), and teacher guidance, which create an engaging and accessible digital learning environment.

The findings align closely with the Peaget’s and Vygotsky’s constructivism theory, which emphasizes active, contextual, and collaborative learning (Piaget, 1970; Vygotsky, 1978). Respondents’ high regard for e-learning platforms’ role in promoting independent learning, personalized experiences, and multimedia-enhanced understanding reflects the theory’s focus on learner-centered knowledge construction. The use of tools like the Elimu App and Google Classroom, as reported by school heads, facilitates interactive and scaffolded learning environments, supporting Vygotsky’s concept of the zone of proximal development. These findings echo Sangrà et al. (2012), who highlighted e-learning’s enhancement of learning through accessibility and interactivity, and Alqahtani and Rajkhan (2020), who noted its effectiveness in learner tracking and course management. Learners' improvements in communication and collaboration skills further align with the constructivist theory, which emphasizes social interaction, as platforms like Zoom and Google Classroom enable real-time engagement and resource sharing, which concurs with the findings on eLearning roles in competency development highlighted by Chen et al.’s (2022).

Data in Table 6: Indicates that respondents had lower perceptions of the items, such as digital literacy, problem-solving, critical thinking, continuous learning, and practical skills were in contrast with the head of schools' opinions. These contrasting findings reflect the weakness highlighted in the constructivist learning theory, which cautioned on the influence of the learning environment and motivation for them to engage in learning through eLearning platforms. The findings were in line with findings by Walters et al.(2021), who cautioned that a poorly designed e-learning system can lead to cognitive overload, endangering competence-based teaching through such platforms. Therefore, when designing effective eLearning platforms in secondary schools, the learning environment and learners' motivations should be highly concerned for effective delivery of competence-based learning as outlined by Nga and Thuy’s (2024).

The effective implementation of an e-learning platform is directly proportional to effective competence-based curriculum implementation. This view has been reported by the head of schools, while their teachers seem to have lower perceptions of the platforms in learners' competency development, coupled with schools' limited ICT infrastructures and facilities to support e-learning platforms for learners' competency development. These findings suggest that e-learning platforms are well-positioned to support CBC through interactive and learner-centered approaches; their effectiveness depends on the effective design of utilizing those platforms, facilities, and infrastructure availability, and teachers' competencies to utilize them for students' competency development.

**6. CONCLUSIONS**

The study findings depicted that teachers had mixed perceptions of e-learning platforms' effectiveness in competence development for students. Most highly value e-learning for fostering independent learning, enabling personalized learning experiences, enhancing understanding through multimedia content, facilitating teacher monitoring, and improving students' communication and collaboration skills. However, some teachers expressed lower confidence in e-learning's ability to develop students' academic competencies, digital literacy, critical thinking, problem-solving abilities, continuous learning beyond the classroom, and practical life skills. In contrast, interviews with school heads highlighted positive impacts, including deepened understanding, improved access to resources, and enhanced practical and academic competencies through tools like the Elimu App, Google Classroom, Zoom, tablets, and smart classes. Support mechanisms, such as open-access computer labs, strong internet connectivity, and teacher guidance, further strengthen e-learning's effectiveness. These findings suggest that while e-learning platforms offer significant benefits, their potential to address broader competencies requires targeted improvements.

**7. RECOMMENDATIONS** The study recommends enhancing teachers' competence development by integrating teaching activities within eLearning platforms to enhance students' problem-solving, critical thinking and digital literacy skills, effectively targeting their academic and practical competencies. Also, schools should ensure consistent access to devices, reliable internet, and user-friendly platforms to support equitable and uninterrupted e-learning experiences for teachers and students. Educational administrators at district levels should implement regular assessments to evaluate teachers' effectiveness in integrating e-learning platforms for their daily curriculum implementation and provide relevant interventions.

**Ethical Approval and Consent:**

The study adhered to the ethical principles emphasizing respect for persons, beneficence, and justice. The researcher obtained ethical approval from relevant authorities, including Jordan University College and the Morogoro Municipal Council, to ensure compliance with institutional and legal standards. Informed consent was sought from all participants, clearly explaining the study’s purpose, participants’ rights, and the voluntary nature of their involvement. Participants were assured of their right to withdraw at any time without consequences, thereby respecting their autonomy.

**Disclaimer (Artificial intelligence)**

Option 1:

We, Paulina Luanda and Onesmo Amos, hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

**REFERENCES**

Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers’ perceptions of technology integration in teaching-learning practices: A systematic review. *Frontiers in psychology*, *13*, 920317.

Alqahtani, A., &Rajkhan, A. A. (2020). E-learning critical success factors during the COVID-19 pandemic: A comprehensive analysis of e-learning managerial perspectives. *Education Sciences, 10*(9), 1–16.

Alshammary, F. M., &Alhalafawy, W. S. (2023). Digital platforms and the improvement of learning outcomes: evidence extracted from meta-analysis. *Sustainability*, *15*(2), 1305.

AnanthaRamu, B.C. (2024). Teachers Perceptions of the Effectiveness of Online Learning Platforms: A Survey Study. *International Journal of Creative Research Thoughts*, 12(8), 1-16.

Hamad,A.J., Ndibalema,P.M. and Matalu,K.Y.(2023). Teachers' Digital Competency in Using Digital Lesson Content in Secondary Schools in Zanzibar. Educational Dimension

Walters,T., Simkiss,N.J., Snowden,R.J. and Gray,N.S. (2021). Secondary School Students' Perception of the Online Teaching Experience During Covid -19: The Impact on Mental Well-being and Specific Learning Difficulties. British Journal of Educational Psychology,92(3), 843-860

Ballano, V. O., Mallari, N. T., & Sebastian, R. R. R. (2022). Understanding digital literacy, digital competence, and pedagogical digital competence: implementing online teaching for Filipino tertiary educators during COVID-19. In *Digital Literacy for Teachers* (pp. 391-409). Singapore: Springer Nature Singapore.

Barikzai, S., Bharathi S, V., & Perdana, A. (2024). Challenges and strategies in e-learning adoption in emerging economies: a scoping review. *Cogent Education*, *11*(1), 2400415.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Castro Castillo, G., Cárdenas-Cobo, J., Soldevilla, M. T., & Vidal-Silva, C. (2024). Analyzing the teaching profile and competency-based training in online education: a case study of Ecuadorian professors. In *Frontiers in Education* (Vol. 9, p. 1397086). Frontiers Media SA.

Charles, K., Song, Z., &Khaing, T. (2022). Factors Affecting the Implementation of Competency-Based Curriculum in Lower Secondary Schools In Uganda: A Systematic Literature Review. *North American Academic Research*, 6(9), 84-102.

Chen, C. W., Huang, N. T., & Hsiao, H. S. (2022). The construction and application of E-learning curricula evaluation metrics for competency-based teacher professional development. *Sustainability*, *14*(14), 8538.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

Creswell, J.W. and Plano Clark, V.I. (2018) *Designing and Conducting Mixed Methods Research*. 3rd Edition, Sage, Thousand Oaks, CA.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Sage Publications.

Paschal,M.J., Gougou,S.A.M. and Kagendo,N.M.(2024). Shifting the Balance: The Status of E-Learning in Sub-Saharan Africa During Global Crisis. In Challenges of Globalization and Inclusivity in Academic Research (pp 20-34). IGI Global

Ige, W. B., Ngcobo, W. B., &Afolabi, O. (2024). Implementation of competency-based education for quality midwifery programmes in Africa: a scoping review. *BMC nursing*, *23*(1), 685.

Isaboke, H., Wambiri, G., & Mweru, M. (2021). Challenges facing implementation of the competency-based curriculum in Kenya: An urban view. *International Journal of Education and Research*, *9*(9), 71-84.

Johnson, B., & Christensen, L. (2018). *Educational research: Quantitative, qualitative, and mixed approaches* (6th ed.). SAGE Publications

Kisanjara, S. B. (2023). Adoption and Use of ELearning in Tanzanian Higher Learning Institutions: A Structural Equation Model. *International Journal of Education and Development using Information and Communication Technology*, *19*(3), 164-191.

Simbeye, V. (2020). ICT Integration in Teaching and Learning: A Case of Selected Secondary Schools in Morogoro Municipal Council, Tanzania. Mzumbe University

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International Publishers.

Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). Sage Publications.

Kumbo, L. I., Juma, S. B., Sikumbili, R. M and Mero, R. F. (2024). Evaluation of E-Learning Platforms under the EASTRIP Project: Enhancing Competency-Based Education and Training through Holographic Technology in Dar Es Salaam, Tanzania. *East African Journal of Education and Social Sciences*, 5(2)111-122.

Langat, A. K. (2025). Transition From Analogue to Digital Technology: Examining Teaching, Learning, and Assessment in Higher Education in Kenya. In *Artificial Intelligence, Digital Learning, and Leadership: Redefining Higher Education* (pp. 89-118). IGI Global.

Makunja, G. (2016). Challenges facing teachers in implementing competence-based curriculum in Tanzania: the case of community secondary schools in Morogoro municipality. *International Journal of Education and Social Science*, *3*(5), 30-37.

Mkwizu, K. H., &Ngaruko, D. D. (2020). Implied benefits of open and distance learning in Tanzania: A qualitative approach on its benefits in Tanzania. *Global and Lokal Distance Education-GLOKALde*, *6*(2), 80-89.

Mtebe, J. S., & Raphael, C. (2018). A critical review of elearning research trends in Tanzania. In *2018 IST-Africa Week Conference (IST-Africa)* (pp. Page-1). IEEE.

Munyoki,J.N. (2023). The State of the Competency-Based Curriculum (CBC) in Kenya: Benefits, Weaknesses, and Recommendations. Moi University & CERM-ESA

Lubua,E.W. (2023). Examining Digital Divide in Secondary and Primary Education Online Content Users Based in Tanzania. University of Dar es Salaam Library Journal,18(2),54-64

Malero,A., Ismail,A. and Manyilizu,M.C. (2015). ICT Usage Readiness for Private and Public Secondary Schools in Tanzania. A Case of Dodoma Municipality. International Journal of Computer Applications, 129(3), 29-32

Mmakola,S. and Maphalala, M.C. (2023). Blended Teaching and Learning in South African Secondary Schools in the Post-Covid-19 Pandemic Era. International Journal of Innovative Technologies in Social Science 4(40)

Natale, R. (2024). *An Exploratory Case Study in Competency-based Higher Education Institutions: Faculty Perceptions of Agency, Self-efficacy, and Preparedness for Implementing Personalized Instruction for Positive Student Learning Outcomes* (Doctoral dissertation, Trident University International).

Nga, N. T. V., & Thuy, A. B. (2024). Designing Course Modules on Competency-Based Teaching Methods in the Context of Digital Transformation: A Case Study for Teacher Education Programs in Vietnam. In *Intelligent Learning Paradigm and Student Empowerment* (pp. 249-287). Apple Academic Press.

Mjenda,M. and Kyaruzi,F. (2025). Investigating the Integration of Technology -aided Assessment Methods in Teaching and Learning 3D Geometry in Tanzanian Secondary Schools. Cogent Education 12(1), Article 2464358

Nkya, H. E., Huang, F., &Mwakabungu, F. (2021). Implementation of competence based curriculum in Tanzania: Perceptions, challenges and prospects. A case of secondary school teachers in Arusha region. *Journal of Education and Practice*, *12*(19), 34-41.

Opicho, E., Chepkonga,S. and Imonje,R. (2025). Teachers' Digital Literacy Skills and Implementation of CBC in Westlands Sub-County,Kenya. International Journal of CSRR, 8(4), Article 12

Ogembo, P. O. (2024). State of preparedness of Kenya’s public universities towards delivery of Competency Based Curriculum. *Indonesian Journal of Education (INJOE)*, *4*(3), 701-722.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

Pius, S. C. (2024). Twenty-first century parental support for competency-based curriculum implementation in public primary schools in Bungoma County, Kenya: A review paper on Bungoma West Sub-County. *European Journal of Education Studies*, *11*(12).

Richards, J. C., & Rodgers, T. S. (2001). *Approaches and Methods in Language Teaching* (2nd ed.). Cambridge University Press.

Shapoval, G. A. (2023). *In-service healthcare providers’ perceptions of e-learning enablers and barriers in continuing professional education during COVID-19 pandemic: A qualitative case study of online CPE platform in Ukraine* (Doctoral dissertation, University of Illinois at Urbana-Champaign).

[Tambwe](https://www.researchgate.net/profile/Mariam-Tambwe), M.A. (2017). Challenges facing implementation of Competency-Based Education and Training (CBET) system in Tanzanian Technical Institutions*. Education Research JournaL,* 7(11), 277-283.

Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social and behavioral research* (2nd ed.). Sage Publications.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6422571/>

Joseph,J. and Lwoga,T. (2023). The Factors Enabling Adoption of E-Learning Post COVID-19 Pandemic for Teaching and Learning in Selected Secondary Schools in Tanzania. European Journal of Theoretical and Applied Sciences Vol. 1 No. 5

UNESCO. (2021). *The impact of COVID-19 on education systems worldwide*. Paris: UNESCO Publishing.

Mshiu,E.G., Mwinjuma,J.S. and Nemes,J. (2023). Managing Distance Learning for Secondary School Students in Tanzania During the COVID-19 Outbreak: Challenges and Opportunities Implicating Educational Inequality. Journal of Issues and Practice in Education Vol. 15 No. 2

Yordzhev,K. (2020). Students Readiness in for E-Learning in Universities in Yemen. Science and Technology Publication. arXiv:2010.04830

Ubongokid Impact Report (2020). ubongokid <https://www.ubongo.org/impacts/annual-report/>

OUT Prospectus 2020/2021. out.ac.tz

Patrobas, M., Machumu, H. J., & Mtawa, N. (2023). Digital skills and learning in Tanzania secondary schools: Students and teachers’ influence. Research Gate.

MoEST(2023). Education and Training Policy 2014(2023 ed.). https://www.scribd.com/document/845088419