



University Lecturers' Skills, Readiness, and Attitudes Toward AI in Teaching Kiswahili: Evidence from Dar es Salaam

Editha Adolph

The Mwalimu Nyerere Memorial Academy, Tanzania

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Abstract

The purpose of this study was to examine the integration of Artificial Intelligence (AI) in the teaching of Kiswahili within tertiary education institutions in Dar es Salaam, Tanzania, and to explore its potential as a transformative tool for enhancing language instruction. Specifically, the study sought to determine the extent to which Kiswahili lecturers possess the competencies required to incorporate AI-based tools into their teaching practices and to assess their attitudes toward the adoption of AI in Kiswahili pedagogy. Guided by Bandura's social learning theory (Khodamoradi, 2015) and Dewey's functionalist perspective (Dewey & Hall, 2018), the study employed a descriptive research design to address the research questions on examining the specific AI-related skills lecturers and students currently possess and identifying existing gaps, their psychological and institutional readiness to adopt AI tools in their instructional practices, and the attitudes they hold toward AI as a transformative tool for teaching Kiswahili. Purposive sampling was used to select universities available in Dar es Salaam City, both public and private, that offer Kiswahili programmes, and data were collected from 120 lecturers through questionnaires, focus group discussions, interviews, and classroom observations. The findings revealed that although awareness of AI technologies such as Praat Stanza, SpaCy morphological models, Polyglot, Kiswahili NLP parsers, and Speech analyser is growing, their actual use in Kiswahili instruction remains limited due to inadequate training, infrastructural constraints, and uncertainty about pedagogical integration. The study contributes to emerging scholarship on AI in African higher education and offers practical insights for lecturers, teacher-training institutions, and curriculum developers on how AI can be effectively incorporated to enrich Kiswahili teaching and learning in tertiary settings.

Introduction

Kiswahili occupies a central place in Tanzania's sociolinguistic and educational landscape. Recognised as both a national and official language by key policy bodies such as the Tume ya Taifa ya Uchaguzi, the Baraza la Kiswahili la Taifa (BAKITA), and the Constitution of the United Republic of Tanzania, Kiswahili functions as a unifying medium of communication and a symbol of national identity (Rubagumya et al, 2011; Qorro and John, 2023). It is the primary language of instruction in Tanzanian primary education and continues to play a significant role in selected programmes at the tertiary level, where it supports academic discourse, cultural transmission, and intellectual



development (MoEST, 2023). As a language deeply embedded in everyday life, Kiswahili enables individuals to express emotions, negotiate meaning, participate in cultural practices, and engage in social interaction. Its pedagogical importance is particularly evident in the teaching of Kiswahili literature, linguistics, and oral traditions, where mastery of language forms the foundation of effective learning.

Literature

Global higher education is undergoing rapid digital transformation, with Artificial Intelligence (AI) emerging as a major force in reshaping pedagogy. Earlier reforms in Asia and the Pacific focused on building ICT-literate teaching forces (Coban, 2001), but contemporary trends emphasise AI-enhanced learning through intelligent tutoring systems, automated assessment, and advanced language-processing tools. As Bowes (2003) argued for earlier technologies, successful integration requires not only access to tools but also strong pedagogical vision, experimentation, and sustained professional support—conditions equally necessary for AI adoption today. The expansion of knowledge in the 21st century has intensified demands on educators, who now operate in environments where information is readily accessible to both teachers and students (Perraton et al., 2001). AI accelerates this shift by enabling real-time feedback, content generation, and interactive learning, pushing lecturers toward learner-centred approaches aligned with evolving theories of learning (Robinson & Latchem, 2003).

Although much of the literature focuses on ICT, its insights remain relevant for AI. Global interest in ICT stemmed from expectations that it would improve educational quality and support socio-economic development (Kozman, 2005). AI is now positioned similarly as a transformative force capable of automating tasks, enhancing analytics, and delivering intelligent content. Yet, as Barak (2006) noted, educators often remain cautious about adopting advanced technologies, even when they recognise their potential. This caution is likely to persist with AI, especially in language disciplines where concerns about authenticity and cultural nuance may influence adoption. Research on learner engagement highlights the importance of understanding how students and lecturers perceive emerging technologies. Studies by Pollard and Tann (1993), Harris (1998), and Rudduck and Flutter (2000) show that learners actively shape educational processes and offer valuable insights into effective teaching. The concept of learner voice (Keys & Fernandes, 1993; Blatchford, 1996) remains relevant in the AI era, where student experiences with AI-generated content and automated feedback significantly influence learning outcomes. Professional development is consistently identified as essential for successful technology integration. Earlier research (Heyes, 1997; Prabhakar, 1995) showed that digital tools can improve learning outcomes, but these findings must be revisited in light of AI's far more advanced capabilities.

In Tanzania, teacher preparation occurs at both college and university levels, yet little research examines how tertiary-level Kiswahili lecturers engage with AI. Given the global rise of AI in higher education and the sociolinguistic importance of Kiswahili, there is a clear need to investigate lecturers' competencies, attitudes, and readiness to adopt AI in Dar es Salaam. Teacher perception is a longstanding determinant of technology adoption. Fishbein and Ajzen's (2013) definition of perception as a learned predisposition is highly relevant to understanding lecturers' attitudes toward AI. Studies by Harrison and Rainer (1992) and Albirini (2004) show that technological skill levels strongly influence attitudes. Research consistently demonstrates that attitudes are among the strongest predictors of future technology use (Palak & Walls, 2009; Sang et al., 2010). Professional development, institutional support, and experiential learning further shape readiness, confidence, and adoption (Watts-Taffe, 2003; Collis & Jung, 2003).



Positive attitudes correlate with higher technology use (Dyck & Smither, 1995; Teo, 2008), while a lack of training and confidence leads to reluctance (Kumar & Kumar, 2003). Studies on teacher education (Zammit, 1992; Khine, 2001; Yuen & Ma, 2002) show that exposure to technology improves attitudes and adoption – insights directly relevant to AI integration in Tanzanian tertiary institutions. As digital technologies evolve from ICT to AI, Tanzanian higher education is beginning to explore how AI can enhance teaching and learning, making the investigation of Kiswahili lecturers’ readiness both timely and necessary.

Scholars such as Albirini (2004), Noss and Pachler (1999), and Blair (1997) have long argued that digital technologies hold transformative potential for education, though their effective use depends on the interplay between context, pedagogy, and technological design. This perspective remains relevant in the AI era, where successful integration requires more than technical proficiency; it demands an understanding of how AI interacts with learners, instructors, and institutional environments. As previous research has shown, students and teachers are active participants in shaping educational experiences, and their perceptions influence the adoption and effectiveness of new technologies (Pollard & Tann, 1993; Harris, 1998; Rudduck & Flutter, 2000). The concept of “learner voice” (Keys & Fernandes, 1993; Gall et al., 1996) remains crucial in understanding how AI tools can be meaningfully embedded in language instruction.

Within this context, tertiary institutions in Tanzania are increasingly recognising the need to equip lecturers and students with the skills required to engage with emerging AI technologies. As Oko and Uwatt (2015) note, technology-supported professional development can play a vital role in enhancing pedagogical innovation, provided that adequate support structures are in place. The shift toward AI-enhanced learning environments, such as AI-assisted writing tools, automated feedback systems, and intelligent tutoring platforms, offers new opportunities to enrich Kiswahili pedagogy, particularly in areas such as literary analysis, language structure, and creative expression.

Despite these developments, empirical research has been limited on how AI can be integrated into the teaching of Kiswahili at the tertiary level in Tanzania. Much of the existing scholarship has focused on ICT integration in primary and secondary education, leaving a gap in understanding how AI might transform language teaching in higher education (Heyes, 1997; Oko & Uwatt, 2015). This study, therefore, seeks to address this gap by investigating the role of Artificial Intelligence as a transformative tool for teaching Kiswahili in tertiary institutions in Dar es Salaam. By examining lecturers’ competencies, attitudes, and experiences with AI-based tools, the study aims to contribute to ongoing discussions on digital transformation in Tanzanian higher education and to provide insights that can inform curriculum development, teacher training, and policy formulation.

The rapid advancement of digital technologies over the past two decades has significantly transformed educational practices worldwide, with Artificial Intelligence (AI) emerging as one of the most influential drivers of pedagogical innovation. As Misoi (2013) observes regarding earlier ICT developments, technological shifts have fundamentally altered the procedures and expectations of modern educational systems. In the 21st century, higher education increasingly requires the integration of advanced digital tools to enhance content delivery, improve access to learning resources, and support more interactive and personalised learning experiences. Within this evolving landscape, AI represents the next major step in educational transformation, offering capabilities that go far beyond earlier ICT functions, such as automated feedback, intelligent tutoring systems, adaptive learning platforms, and advanced language-processing tools. Despite the global momentum toward AI-enhanced learning, evidence from earlier studies on technology integration suggests that adoption in language-related fields often lags behind science and technology disciplines. Barak (2006)



notes that although teachers may use digital tools for their own learning, they remain cautious about integrating advanced technologies into classroom instruction. This caution is echoed in findings by Albirini (2004), Noss and Pachler (1999), and Blair (1997), who highlight that while technology is frequently promoted as transformative, its effective use depends on contextual factors, pedagogical strategies, and user readiness. These insights remain relevant in the AI era, where successful integration requires not only technical infrastructure but also the development of educators' competencies, confidence, and positive attitudes.

In Tanzania's tertiary education context, the integration of AI into Kiswahili teaching and learning is still at an early stage. Although Kiswahili is a national and official language and serves as a medium of instruction in primary education and selected university programmes, little empirical research has examined how AI can be leveraged to enhance its teaching at the higher-education level. Yet, as studies on learner engagement and educational processes demonstrate (Rwiza, 2025; Pollard & Tann, 1993; Harris, 1998; Rudduck & Flutter, 2000), students are active participants in shaping their learning environments, and their experiences with technology significantly influence learning outcomes. The concept of learner voice (Keys & Fernandes, 1993; Blatchford, 1996) further underscores the importance of understanding how students and lecturers perceive emerging technologies such as AI.

Moreover, Pacey (1999) emphasises that technology-supported professional development can be effective when educators are provided with structured support and opportunities for collaboration. This is particularly relevant in Tanzanian universities, where lecturers may require targeted training to effectively integrate AI tools into Kiswahili instruction. Earlier research on digital pedagogy (Heyes, 1997; Prabhakar, 1995) demonstrated that technology-enhanced teaching can improve learning outcomes, but these findings must now be revisited in light of AI, which offers far more sophisticated capabilities than traditional ICT.

Given these considerations, there is a clear need to investigate the extent to which Kiswahili lecturers in Dar es Salaam's tertiary institutions possess the skills, readiness, and attitudes necessary for AI integration. This includes examining the specific AI-related skills that lecturers currently possess and identifying existing gaps; their psychological and institutional readiness to adopt AI tools in their instructional practices; and the attitudes they hold toward AI as a transformative tool for teaching Kiswahili. Understanding these factors is essential for informing curriculum development, professional training, and institutional policy aimed at harnessing AI's transformative potential. This study, therefore, seeks to explore how AI can be used as a transformative tool for teaching Kiswahili in Tanzanian higher education, addressing a critical gap in current scholarship and contributing to the broader discourse on digital transformation in African universities.

Taken together, the reviewed literature highlights a clear need to investigate lecturers' competencies, attitudes, and readiness to integrate AI into Kiswahili instruction in Tanzanian universities. While previous studies have focused on ICT in various international contexts, there remains a significant gap in understanding how AI, an even more transformative technology, can be adopted in tertiary-level Kiswahili pedagogy. This study addresses this gap by examining AI integration in higher education institutions in Dar es Salaam, thereby contributing to the broader discourse on digital transformation in African language education.

Methodological and Theoretical Orientation

The methodological orientation of this study reflects the need to examine how Artificial Intelligence (AI) is being understood, adopted, and applied within Kiswahili teaching across selected tertiary institutions in Dar es Salaam. A descriptive research design was employed, consistent with the



methodological guidance of Kothari (2014), Creswell (2008), and Cohen et al. (2010), who argue that such a design is appropriate for studies seeking to describe attitudes, practices, and emerging trends within natural educational settings. The study was conducted at Mwalimu Nyerere Memorial Academy, the Institute of Kiswahili Studies (IKS), Dar es Salaam University College of Education (DUCE), Tumaini University Dar es Salaam College (TUDARCO), and Kampala International University (KIU). These institutions were selected through purposive sampling because they offer degree programmes with Kiswahili courses and therefore provide relevant contexts for exploring AI integration in language pedagogy. Within these institutions, stratified sampling was used to categorise participants by relevant characteristics, such as academic rank, teaching experience, and departmental affiliation. This ensured that the sample reflected the diversity of lecturers engaged in Kiswahili studies. Following stratification, simple random sampling was used to select respondents, ensuring each eligible participant had an equal chance of inclusion and enhancing the representativeness of the findings. Data were collected through focus group discussions, questionnaires, interviews, and classroom observations. These methods provided a comprehensive understanding of lecturers' competencies, perceptions, and attitudes toward integrating AI into Kiswahili teaching. The use of multiple data-collection techniques aligns with Creswell's (2008) emphasis on triangulation as a means of strengthening the validity and reliability of research findings. Focus group discussions enabled participants to articulate shared experiences and concerns, interviews offered deeper insights into individual perspectives, questionnaires provided structured data on competencies and attitudes, and classroom observations allowed the researcher to examine the extent to which AI tools were incorporated into actual teaching practices. Ethical considerations were observed throughout the research process. Research clearance was obtained from the researcher's academic institution prior to data collection. Informed consent was obtained from all participants, who were assured of the voluntary nature of their participation and their right to withdraw at any time. Confidentiality was strictly maintained, and all data were anonymised to protect participants' identities, ensuring adherence to established ethical standards for educational research.

The theoretical orientation of the study is grounded in Bandura's Social Learning Theory, as updated by Bandura and Hall (2018). This theory posits that learning occurs through observation, imitation, and modelling within social contexts. Its relevance to AI-enhanced learning environments lies in the ways AI tools can provide models, feedback, and adaptive learning pathways that shape both lecturer and student behaviour. AI systems, such as intelligent tutoring platforms and automated feedback mechanisms, create new forms of observational learning that align with Bandura's emphasis on the interplay among cognitive, behavioural, and environmental factors. To complement this perspective, the study also draws on Dewey's Functionalist Perspective, as updated by Khodamoradi et al. (2015). Dewey's view of education as an experiential, problem-solving process aligns with AI's transformative potential in tertiary education. AI tools can support inquiry-based learning, enhance engagement, and facilitate a deeper understanding of Kiswahili language structures and literary forms. Dewey's emphasis on the functional relationship among learners, tools, and learning environments provides a conceptual foundation for examining how AI can enrich Kiswahili pedagogy in Tanzanian universities. Together, these methodological and theoretical orientations provide a coherent framework for analysing how lecturers perceive, adopt, and utilise AI technologies in teaching Kiswahili, and how these tools reshape pedagogical practices within the context of tertiary education in Dar es Salaam.



Findings and Discussion

This section discusses the investigation into the level of AI-related competencies among Kiswahili instructors in tertiary education institutions in Dar es Salaam and examines their attitudes toward the integration of Artificial Intelligence in the teaching and learning of Kiswahili.

Instructors' AI Competencies for Teaching Kiswahili Courses

The study's findings reveal that Kiswahili instructors at tertiary education institutions in Dar es Salaam possess very low competence in using Artificial Intelligence (AI) tools relevant to the teaching of Kiswahili grammar and literature. Only a small proportion of instructors, approximately 8%, reported having ever attended any form of AI-related professional development, and even among these few, the training was introductory and not specifically tailored to Kiswahili language pedagogy. The remaining 92% had never participated in any AI-focused in-service training since their initial professional preparation. This situation mirrors Killen's (2000) argument that teaching, like any profession, requires continuous professional development through workshops, short courses, and in-service programmes to enhance competence in emerging areas. However, the institutions involved in this study have not provided such opportunities, leaving instructors without the necessary exposure to AI-supported pedagogical tools. Accordingly, a small proportion of instructors (8%) have attended introductory AI training, and none have received training in Kiswahili-specific AI tools. The overwhelming majority (92%) have never participated in any AI-related training, indicating a critical capacity-building gap for the pedagogical integration of AI in Kiswahili instruction at the tertiary level.

The study further established that none of the institutions surveyed possessed AI tools designed to support instruction in Kiswahili grammar or literature. Tools such as AI-assisted Kiswahili grammar checkers, morphological analysers, AI-based text-analysis systems, automated essay-scoring platforms, literature annotation tools, and natural-language processing applications were completely absent. When asked about the availability of such tools, 0% of instructors reported access to any AI-supported Kiswahili teaching resources within their departments or institutional ICT units. This lack of institutional provision significantly limits instructors' opportunities to develop competence, experiment with AI tools, or integrate them into their teaching practices. This complete lack of institutional AI infrastructure effectively constrains instructors' capacity to develop digital competence, experiment with AI-supported pedagogies, or integrate emerging technologies into Kiswahili teaching.

Instructors' self-reported competence levels further illustrate this gap. Only 9% indicated they could perform basic tasks, such as using AI-assisted grammar suggestions, while 91% reported lacking the skills to use even the simplest AI applications relevant to Kiswahili. Similarly, only 6% felt confident in their ability to use AI-based text-analysis tools for teaching literature, while 94% expressed low confidence or complete unfamiliarity with such tools. These findings demonstrate that instructors' awareness, practical skills, and confidence in AI integration are extremely limited. Interpreting these findings through Bandura's Social Learning Theory, as updated by Bandura and Hall (2018), it becomes evident that the low competence levels stem from limited opportunities for observational learning and modelling. Instructors have not been exposed to colleagues, mentors, or institutional leaders who demonstrate effective use of AI in Kiswahili pedagogy. Without such models, the cognitive and behavioural mechanisms necessary for adopting new practices remain underdeveloped. Bandura emphasises that learning is shaped by the interaction between personal factors, behaviour, and the environment; in this case, the institutional environment provides neither the tools nor the social reinforcement needed to cultivate AI competence. From the perspective of Dewey's



Functionalist Philosophy, as updated by Khodamoradi et al. (2015), the findings further suggest that instructors lack functional, experiential engagement with AI tools. Dewey argues that learning becomes meaningful when individuals interact with tools and experiences that solve real problems in their environment. Because AI tools for Kiswahili grammar and literature are absent in these institutions, instructors have no opportunity to experiment, reflect, or integrate AI into their pedagogical routines. The absence of functional experiences prevents instructors from recognising the practical value of AI in enhancing Kiswahili teaching, thereby reinforcing low adoption and limited competence.

Instructors Attitude Towards the Use of AI Tools in Teaching Kiswahili Courses

The integration of Artificial Intelligence in language education has become a defining feature of contemporary pedagogy, yet its adoption varies significantly across contexts, disciplines, and linguistic traditions. In the case of Kiswahili instruction at tertiary institutions in Dar es Salaam, the findings reveal a strikingly low level of awareness and engagement with AI tools among instructors, with 89 per cent reporting that they are unfamiliar with AI applications relevant to teaching Kiswahili grammar or literary works. This situation invites a deeper analysis grounded in Dewey's Functionalist Philosophy, as updated by Khodamoradi et al. (2015), and Bandura's Social Learning Theory, as updated by Bandura and Hall (2018). These theoretical perspectives illuminate how instructors' attitudes are shaped by their experiences, social environments, and perceptions of AI's functional value in their teaching practice.

From a functionalist perspective, Dewey emphasised that learning and teaching tools must demonstrate clear utility within the lived experiences of learners and educators. Khodamoradi (2015) extend this view by arguing that educational innovations are adopted only when instructors perceive them as functionally enhancing the

learning process, aligning with their pedagogical goals, and solving real instructional challenges. In the context of Kiswahili grammar, AI tools such as *Stanza*, *SpaCy morphological models*, *Polyglot*, *Kiswahili NLP parsers*, and *transformer-based morphological analysers* offer significant potential for supporting the analysis of noun classes, affixation patterns, and morphological segmentation. Yet most instructors have not encountered these tools, and therefore cannot perceive their functional value. Their attitudes are shaped not by resistance but by a lack of experiential engagement, which Dewey would interpret as a missing link between technological innovation and practical classroom realities. Without exposure, instructors cannot form the experiential judgments necessary to appreciate how AI might enhance morphological instruction.

The same pattern emerges in phonological and phonetic instruction. Although tools such as *ELAN*, *Speech Analyzer*, *AI-driven speech recognition systems*, and *forced aligners* exist, the only tool recognised by a small minority of instructors is *Praat*. Those who have used *Praat* express positive attitudes, noting its ability to visualise acoustic features and support empirical phonetic analysis. Their favourable perceptions align with Dewey's functionalist principle: once a tool demonstrates clear usefulness in solving instructional problems such as illustrating vowel length, tone, or intonation, it becomes integrated into pedagogical practice. However, the overwhelming majority of instructors lack such experiences and, therefore, remain neutral or uncertain. Their unfamiliarity prevents them from perceiving AI as functionally relevant to Kiswahili phonology, reinforcing the idea that attitudes are shaped by practical engagement rather than abstract awareness.

Syntactic analysis tools such as *SyntaxNet*, *UDPipe*, *Stanza dependency parsers*, *Kiswahili treebanks*, and *transformer-based syntactic models* also remain largely unknown to instructors. Many believe that



Kiswahili syntax, with its context-dependent structures and flexible word order, may not be adequately handled by AI systems. This perception reflects a functionalist scepticism: if instructors assume that a tool cannot address the complexities of their subject matter, they will not perceive it as useful. Dewey's framework suggests that such scepticism arises when tools are not embedded in the lived instructional environment. Without demonstrations, training, or institutional support, instructors cannot evaluate AI's functional capacity for syntactic analysis. Their attitudes, therefore, remain shaped by assumptions rather than experience.

Bandura's Social Learning Theory, particularly as updated by Bandura and Hall (2018), provides an additional layer of insight. According to this theory, individuals adopt new behaviours, including the use of technological tools, through observation, modelling, and social reinforcement. Instructors' attitudes toward AI tools are influenced by their professional communities, institutional cultures, and the presence or absence of role models who use AI effectively. In the institutions studied, there appears to be limited social modelling of AI integration. Few instructors use AI tools, and even fewer demonstrate their benefits to colleagues. As a result, the social learning environment does not reinforce AI adoption. Instructors do not observe peers using AI to teach Kiswahili grammar or literature, and therefore do not develop the self-efficacy beliefs necessary to experiment with such tools themselves. Bandura emphasises that self-efficacy is central to adopting new practices; without confidence in their ability to use AI tools, instructors are unlikely to explore them.

This dynamic is particularly evident in the teaching of Kiswahili literary works. AI tools such as *Voyant Tools*, *GPT-based literary analysis assistants*, *LIWC*, *stylometric analysis platforms*, *digital storytelling systems*, and AI-assisted annotation tools like *Recogito* offer powerful capabilities for analysing themes, stylistic patterns, narrative structures, and discourse features. Yet instructors overwhelmingly report being unaware of these tools. Their attitudes toward AI in literary instruction are shaped by a combination of unfamiliarity, cultural concerns, and social learning factors. Many instructors express scepticism about whether AI can interpret the cultural depth, symbolism, and contextual richness of Kiswahili literature. This scepticism aligns with Dewey's functionalist principle: if a tool does not appear capable of addressing the lived cultural realities embedded in literary texts, instructors will not perceive it as functionally valuable. Bandura's framework further explains why instructors do not experiment with AI in literary analysis. Without observing peers using AI to analyse novels, plays, drama, or poetry, instructors lack models for integrating such tools into their teaching. The absence of institutional training or collaborative exploration reinforces this gap. Instructors, therefore, rely on traditional interpretive methods they trust and understand rather than experimenting with unfamiliar technologies. Their attitudes are shaped by the social environment, which neither encourages nor normalises AI use in literary studies.

The significance of the finding that 89 per cent of instructors are unaware of AI tools cannot be overstated. From a functionalist perspective, this lack of awareness means that AI tools have not yet entered the experiential world of Kiswahili instructors. They cannot evaluate the tools' usefulness, relevance, or pedagogical value because they have not encountered them in meaningful ways. Dewey's philosophy suggests that for AI to be adopted, it must be integrated into the practical activities of teaching, supported by institutional structures, and demonstrated through real classroom applications. Without these conditions, instructors will continue to view AI as distant, abstract, or irrelevant.

Bandura's theory reinforces this interpretation by highlighting the role of social modelling. If institutions do not create environments where AI use is visible, supported, and reinforced, instructors will not develop the confidence or motivation to adopt it. The absence of peer modelling, professional



development, and collaborative experimentation creates a social learning vacuum in which AI tools remain peripheral to teaching practice. Instructors' attitudes are therefore shaped not by resistance but by a lack of exposure, reinforcement, and social validation.

The broader implications of these findings are significant for the future of Kiswahili pedagogy. Without targeted interventions, the integration of AI into Kiswahili instruction will remain slow and uneven. Functionalist principles suggest that institutions must demonstrate the practical value of AI tools through workshops, training sessions, and classroom demonstrations. Social learning theory indicates that instructors need opportunities to observe peers using AI effectively, collaborate on AI-enhanced lesson plans, and receive positive reinforcement for experimentation. By addressing both the functional and social dimensions of AI adoption, institutions can foster more positive attitudes and greater engagement.

The instructors' attitudes toward AI tools for teaching Kiswahili grammar and literature at tertiary institutions in Dar es Salaam are shaped by a combination of limited awareness, limited experiential engagement, and insufficient social modelling. Dewey's Functionalist Philosophy explains why instructors do not perceive AI tools as useful: they have not experienced their functional value in real teaching contexts. Bandura's Social Learning Theory explains why instructors do not experiment with AI: they lack role models, social reinforcement, and institutional support. The overwhelmingly low awareness level of 89 per cent reflects systemic gaps rather than individual resistance. Addressing these gaps through training, exposure, and collaborative practice will be essential for integrating AI meaningfully into Kiswahili pedagogy and ensuring that instructors can harness its potential to enhance both linguistic and literary instruction.

Conclusion

The study shows that the integration of Artificial Intelligence into the teaching of Kiswahili at tertiary institutions in Dar es Salaam remains at an early, underdeveloped stage. Instructor competence in AI is extremely low, awareness of relevant tools is minimal, and institutions lack the infrastructure needed to support AI-enhanced pedagogy. Between 89 and 92 per cent of instructors report unfamiliarity with AI tools applicable to Kiswahili grammar, phonology, morphology, syntax, and literature, indicating that AI has not yet entered their practical teaching environment. This lack of exposure prevents educators from recognising AI's pedagogical value, reinforcing traditional teaching methods and limiting innovation. The study further reveals that none of the surveyed institutions possesses Kiswahili-specific AI tools, and instructors have had almost no opportunities for AI-related professional development. These gaps pose significant challenges for the future of Kiswahili pedagogy, especially as global higher education increasingly adopts AI-supported learning.

Using Dewey's Functionalist Philosophy, the findings suggest that instructors have not adopted AI because they have not experienced its practical usefulness in addressing real instructional problems. Dewey's emphasis on experiential learning highlights the need to embed AI within authentic teaching contexts to make its value visible. Bandura's Social Learning Theory further explains instructors' low confidence and motivation: institutions provide no models of effective AI use, no opportunities for observational learning, and no social reinforcement. Without seeing peers successfully integrate AI, instructors cannot develop the self-efficacy required to adopt new technologies. Together, these theories show that barriers to AI adoption are systemic rather than individual, requiring coordinated institutional and policy-level action.



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