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Artificial Intelligence, English, and Translanguaging: Navigating Multilingual Communication in the Digital Age

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ABSTRACT

Artificial intelligence (AI) is reshaping academic and communicative practices, particularly through natural language processing (NLP), machine translation, speech recognition, and language-learning technologies. In multilingual Southern African contexts, these developments have renewed interest in translanguaging as a way of understanding multilingual meaning-making in digital environments. This conceptual paper examines how AI and NLP models intersect with translanguaging practices in relation to the Nguni languages, particularly siNdebele, isiXhosa, isiZulu, and siSwati. It considers how AI-mediated translanguaging may support multilingual communication, English language learning, digital literacy, and learner autonomy, while remaining constrained by data scarcity, uneven technological investment, and culturally embedded meanings. The paper argues that while AI tools may support language acquisition and communication, Nguni languages contain culturally specific lexicons, euphemistic expressions, prosodic features, and patterns of diction that vary across communities. These cultural and linguistic features complicate any attempt to treat AI-supported translanguaging as a purely technical problem. Any AI model intended for Nguni-language communication must therefore account for the cultural imperatives, semantic nuance, and educational realities of these languages.

Keywords: T*ranslanguaging; Artificial intelligence; Natural language processing; Nguni languages; Low-resource languages; Digital literacy*

INTRODUCTION

Translanguaging, as defined by García & Li Wei, (2014), involves the fluid use of multiple languages by bilingual or multilingual speakers, emphasizing the integration of their full linguistic repertoire. Translanguaging entails the ability and process by which multilingual speakers fluidly and strategically use their entire linguistic repertoire, moving between languages without adhering to strict boundaries. In Southern Africa, where Bantu languages, Khoisan languages, and colonial languages such as English and Afrikaans coexist, translanguaging reflects the dynamic nature of communication in both formal and informal settings. Artificial intelligence, particularly through NLP tools, is increasingly applied to multilingual communication. Ruder, Vulić, and Søgaard (2019) argue that AI models designed for multilingual contexts can support seamless interaction between languages. In Southern Africa, this has implications for bridging communication barriers between speakers of different indigenous and colonial languages and enhancing educational outcomes by allowing for the integration of indigenous languages into the digital space.

The specific problem addressed in this paper is that AI language technologies are expanding rapidly, yet many Nguni languages remain low-resource languages in digital environments. The paper therefore asks how AI-supported translanguaging can assist multilingual communication and English language learning without reducing Nguni languages to mechanically translated equivalents or ignoring their cultural and semantic specificity. This focus narrows the manuscript from a broad discussion of AI and multilingualism to a context-sensitive conceptual analysis of Nguni-language translanguaging in the digital age. The paper has three aims: to examine the role of English within translanguaging practices in Southern Africa; to consider the possibilities of AI and NLP for supporting Nguni-language communication; and to identify cultural, linguistic, pedagogical, and technological constraints that must be addressed before AI-supported translanguaging can be educationally useful.

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In translanguaging, speakers can think in multiple languages simultaneously and use their home language as a vehicle to learn academic English (García & Li Wei, 2014). For instance, a student can read an article in English about fixing a car, while also making connections about the process in siSwati. In other words, as the student reads in English, they may annotate or conceptualize the process in their first language to enhance understanding. This approach allows the student to grasp the overall phenomenon before expressing it in the target language. Translanguaging, therefore, enables students to access their full linguistic potential and repertoires.

Translanguaging has emerged as a dynamic concept in the study of multilingualism, especially in contexts such as Southern Africa, where linguistic diversity is both a historical and contemporary feature (Santorelli & Catullo, 2023). Language is a key marker of identity in Southern Africa, and translanguaging practices are intertwined with the way individuals and communities navigate their multilingual identities. Kamwangamalu (2016) explores how translanguaging reflects the hybrid identities of urban Southern African youth, especially in cosmopolitan areas such as Johannesburg, where multiple languages coexist.

In communities such as townships and peri-urban areas, speakers often engage in fluid language practices that defy conventional language boundaries, reflecting complex identities shaped by migration, urbanization, and globalization (Maseko & Mkhize, 2021). Rudwick (2019) elaborates on language, race, and social belonging in South African contexts, while related work on multilingualism suggests that translanguaging can facilitate social inclusion among speakers from different ethnic or linguistic backgrounds. In South Africa's diverse urban settings, translanguaging fosters social cohesion by enabling speakers to communicate across different language groups without adhering to strict linguistic hierarchies.

Theoretical Framework of Translanguaging

Translanguaging is often situated within post-structuralist approaches to language, which challenge traditional, static views of linguistic competence. García & Li Wei's (2014) foundational work on translanguaging highlights its transformative role in classrooms, allowing students to draw on their full linguistic repertoire to make meaning. In the Southern African context, this theoretical perspective is important given the colonial history of language policies, where indigenous languages were marginalized in favour of colonial languages like English and Afrikaans.

Makalela (2015) applies the concept of translanguaging to the African multilingual context, coining the term "Ubuntu translanguaging" to reflect a philosophy of interconnectedness and communal knowledge construction. According to Makalela, Southern Africa's historical multilingualism, characterized by the fluid use of multiple Bantu and other indigenous languages, resonates with the core ideas of translanguaging. This approach disrupts rigid language boundaries and reflects indigenous communication patterns that have long been present in Southern Africa.

For the purposes of this paper, the conceptual framework is understood as an intersection of translanguaging theory, sociocultural approaches to meaning-making, English as a resource within multilingual repertoires, and AI/NLP development for low-resource languages. CALL, MALL, and technology-enhanced language learning are relevant because AI tools mediate access to language, while digital literacy and learner autonomy are relevant because users must evaluate, adapt, and sometimes resist AI-generated language outputs. This framework guides the discussion by asking whether AI systems enable multilingual agency or reproduce the dominance of high-resource languages such as English.

Translanguaging in Southern Africa

The educational implications of translanguaging in Southern Africa have gained significant attention, particularly as scholars and practitioners challenge the dominance of monolingual instructional practices. Education systems in countries like Eswatini, South Africa, Zimbabwe, and Namibia have historically prioritized English, and to a lesser extent, Afrikaans, often at the expense of indigenous languages.

Heugh (2018), Probyn (2016; 2019), and Prinsloo (2019) argue that the marginalization of indigenous languages in education perpetuates inequality. Their research demonstrates that learners educated primarily in English often struggle academically because they are required to learn in

a language that is not their home language. Translanguaging is a pedagogical tool that can mitigate these challenges (Schoeman et al., 2023; Motaung, 2024). In South Africa, research in multilingual classrooms shows that when teachers and students fluidly shift between languages, learning can be enhanced, for example through movement between isiZulu, Sesotho, and English.

Studies of multilingual classrooms and translanguaging pedagogies show how learners use home languages and wider linguistic repertoires to access content knowledge, participate in classroom interaction, and negotiate academic concepts (Hibbert & Van der Walt, 2014; Charamba & Zano, 2019; Charamba, 2023; Omidire & Ayob, 2022). Across primary, secondary, and higher education contexts, Madiba (2014), Mbirimi-Hungwe (2021), Mwaniki (2016), and Yafele (2021) emphasize how translanguaging helps learners access content knowledge more meaningfully. Madiba (2014), for instance, shows how first-year economics students used English and isiXhosa in multilingual concept-literacy tutorials to negotiate their understanding of the concept "capital." Such pedagogical practices suggest that learners' existing linguistic repertoires can support conceptual engagement and comprehension, thereby challenging the assumption that English-only instruction necessarily produces better academic outcomes.

English in Translanguaging

English plays a complex and significant role in translanguaging practices, particularly in multilingual contexts such as Southern Africa, where colonial legacies, globalization, and language policies have made English a dominant language (Probyn, 2021). In most countries in Southern Africa, English is a global lingua franca and a dominant language with a unique function within translanguaging practices. English plays a critical role in educational contexts, where it is often the primary medium of instruction. Apart from being a medium of instruction, it is an official language in many Southern African countries and is used for political and administrative purposes. For instance, in Eswatini, as in other Southern African countries, government official documents are written in English, emphasizing the status of English. Furthermore, the education systems in countries like South Africa, Eswatini, Lesotho, Botswana, Zimbabwe, and Namibia tend to prioritize English in formal schooling. As a result, students often learn in English, despite fluency in their different first languages.

Translanguaging is increasingly used in classrooms to support students by allowing them to leverage English and their home languages to understand academic content better. In this sense, English is a key resource for accessing global knowledge, while translanguaging enables students to use their indigenous languages to enhance comprehension and cognitive engagement. Teachers engage in many activities that deliberately encourage translanguaging, ranging from providing vocabulary in multiple languages to collaborative translation opportunities. The goal is to encourage and support translanguaging as a practice that can be leveraged to support literacy outcomes and engagement, and other academic endeavours (Probyn, 2021; Makalela, 2017). For example, two students could be assigned to solve a word problem, and one might be stuck on a word in English. The two students can then use an equivalent word in their home language to make sense of what the word problem is asking of them. In group activities, students can be prompted to share with the rest of the class how something taught in English would make sense in siSwati or isiXhosa by highlighting similar and different grammatical structures between the two languages. This dual-language approach helps students to bridge the gap between their everyday linguistic experiences and the formal demands of the education system.

In many postcolonial Southern African countries, English is associated with social mobility, economic opportunities, and access to power (Tseng & Hinrichs, 2021). Fluency in English is often viewed as a pathway to success, whether in the workplace, higher education, or international settings. As a result, many people view proficiency in English as an essential component for upward social mobility (Makalela, 2017). This belief is connected to wider social assumptions that equate English proficiency with intelligence, employability, and leadership potential. It is for that reason that many African parents encourage their children to learn English as early as kindergarten. As a result, in many Southern African contexts, English-medium schools are preferred over non-English-medium schools. English has therefore not lost its powerful social effect. People who know and speak English well tend to

command power over those struggling with the language. The language continues to carry traces of the historical power associated with colonial rule and native-speaker authority.

Furthermore, in translanguaging practices, English often carries prestige and symbolic capital. Speakers might strategically use English to negotiate social status or gain access to certain resources while maintaining ties to their indigenous languages. The prestige of English is connected to its historical association with colonial authority, capital, and formal education. Therefore, English may assume a symbolic commodity posture: it is a language that positions and leverages one to access resources.

At the same time, indigenous languages are unifying. People speaking the same language tend to connect by using their indigenous languages as markers of social identity. Students can form groups in schools, colleges, and universities based on the common languages they speak. Indigenous languages are also authoritative in traditional structures and cultural activities, where cultural authority is associated with knowledge of the indigenous language. Since language and culture are interwoven, traditional leaders with a good command of the indigenous language are often viewed as knowledgeable in their cultures. These dual language roles reflect the tension between embracing English for its utility and maintaining indigenous languages for cultural identity and heritage. In many multilingual settings, especially in education and professional environments, English often serves as a language bridge between speakers of different indigenous languages.

In Southern Africa, speakers of languages such as isiZulu, isiXhosa, isiShona, and siSwati coexist, and English enables communication across ethnic and linguistic groups. Heugh (2018) and Makalela (2015) argue that in such contexts, translanguaging often involves strategically incorporating English to facilitate communication across linguistic and cultural boundaries. In classroom settings, where students speak different home languages, teachers often rely on English to mediate instruction and negotiate meaning. In a translanguaging classroom, students are encouraged to use their entire linguistic repertoire to negotiate meaning (Heugh, 2018; Makalela, 2015). In such cases, speakers use English alongside their home languages, such as siSwati or isiZulu, to engage fully with content. This dynamic use of English as part of a broader language practice helps create more inclusive educational environments, enabling students to access knowledge even when instruction is in English.

Madiba (2014) highlights that translanguaging allows learners to grasp complex academic concepts in their home languages before translating their understanding into English. This is particularly valuable in subjects such as mathematics and science, where students might find it easier to discuss and explore ideas in their home language and later express their knowledge in English. Probyn (2019) supports the view that when students are encouraged to use both their home language and English, they are able to access and demonstrate knowledge, leading to improved educational outcomes. In such contexts, English is a gateway to global knowledge and resources. Translanguaging practices enable students to move between English and their indigenous languages, creating a more fluid and integrated learning experience that reflects their linguistic realities.

As noted earlier in this paper, while English is a useful tool for translanguaging, it also perpetuates language hierarchies in many multilingual contexts. In Southern Africa, English is often associated with higher status in formal educational contexts, while indigenous languages may be viewed as having lower status in formal settings. This tends to create a hierarchy of languages, leading to tensions within translanguaging practices, as speakers prioritize English to gain social or economic capital, sometimes at the expense of their indigenous languages (Tseng & Hinrichs, 2021).

In digital communication, English often plays a central role in translanguaging practices, particularly on social media, where users fluidly switch between languages to engage with diverse audiences. Ndhlovu (2017) highlights the linguistic and cultural imperatives of Southern African development discourses, and digital communication among Southern African youth frequently reflects multilingual identities. AI-powered tools such as Google Translate, language-learning apps, and multilingual chatbots may facilitate translanguaging by enabling users to navigate between English and indigenous languages; however, such claims require tool-

specific evidence for Nguni languages. Heugh, Harding-Esch, and Coleman (2021) note that language and sustainability questions are closely tied to the politics of multilingual education, and AI-mediated systems may still privilege English because many African languages lack sufficient digital data.

Although English is a dominant language, translanguaging offers a way for speakers to maintain their linguistic diversity by blending English with indigenous languages. This is particularly important in informal communication, cultural expression, and identity formation. In Southern Africa, individuals frequently switch between English and indigenous languages, reflecting the region's historical multilingualism. This practice maintains linguistic diversity while acknowledging the importance of English in modern communication.

Nguni Languages

The Nguni languages are a group of closely related Bantu languages spoken primarily in Southern Africa, including South Africa, Eswatini, and Zimbabwe. They are associated with Nguni-speaking peoples whose ancestors inhabited regions stretching from the Great Fish River in the Eastern Cape to Kosi Bay near Mozambique. During the nineteenth century, Nguni-speaking communities underwent significant social and political changes linked to warfare, migration, and the expansion of Zulu power under Shaka. These processes contributed to the dispersal of Nguni-speaking groups across parts of Southern and Eastern Africa, including the formation of Ndebele communities in Zimbabwe and Ngoni communities in present-day Malawi, Zambia, and Tanzania. One distinctive feature of several Nguni languages is the presence of click consonants, often understood in relation to historical contact with Khoisan-speaking communities (Ownby, 1981).

In South Africa, the four official Nguni languages (isiZulu, isiXhosa, isiNdebele, and siSwati) together account for approximately 45.2% of the population aged one year and older by household language in Census 2022.

Table 1: Selected Nguni Languages and Their Household-Language Distribution

Country	Language	Language Speakers / Household-language Figure	Language Family	Language Popularity / Distribution
Eswatini / South Africa	Swati / siSwati	Eswatini: official language; country population approx. 1.231 million (2026 est.). South Africa: 1,692,719 household-language speakers.	Nguni / Bantu	Official in Eswatini and South Africa; in South Africa, mainly associated with Mpumalanga.
South Africa	isiZulu	14,613,202 household-language speakers in South Africa, Census 2022.	Nguni / Bantu	Most widely spoken household language in South Africa; strongly concentrated in KwaZulu-Natal.
South Africa	isiXhosa	9,786,928 household-language speakers in South Africa, Census 2022.	Nguni / Bantu	Widely spoken in the Eastern Cape and Western Cape.
Zimbabwe / South Africa	Ndebele / isiNdebele	South Africa: 1,044,377 household-language speakers, Census 2022. Zimbabwe: estimated 17% of the population speaks Ndebele.	Nguni / Bantu	Spoken in Zimbabwe and South Africa. South African isiNdebele and Zimbabwean/Northern Ndebele should be treated carefully and not automatically merged.

Note. South African figures refer to the population aged one year and older by language most often spoken in the household, Census 2022.

Translanguaging in Nguni languages through artificial intelligence and language technologies is still evolving. Recent work has focused on developing digital resources for South Africa's Nguni languages, including isiNdebele, isiXhosa, isiZulu, and siSwati. These efforts include corpora, morphological analysers, part-of-speech taggers, lemmatisers, and language-model benchmarks that can support machine translation, language learning, and other forms of computational language processing. Such developments are significant because they can strengthen digital inclusion for African languages that have historically been under-resourced in computational linguistics and educational technology.

Benefits and Pedagogical Possibilities of Translanguaging

The benefits of translanguaging may be understood pedagogically, cognitively, culturally, and socially. In educational settings, translanguaging can support comprehension and participation, especially for learners who are expected to learn through English while also relying on their home-language repertoires. Recent work on translanguaging pedagogies and classroom practices in multilingual contexts shows that translanguaging can provide learners with meaningful access to content, identity, and participation (Asfaha et al., 2024; Omidire & Ayob, 2022; Schoeman et al., 2023).

Cognitively, translanguaging can enhance flexibility, problem-solving, and critical thinking because learners are encouraged to move across languages while constructing meaning. Culturally, it acknowledges the role of language in identity, allowing individuals to retain ties to their heritage while also navigating dominant languages such as English. Communicatively, translanguaging recognizes that bilingual and multilingual speakers often switch between languages in natural conversation, using whichever language best expresses their thought, emotion, or social positioning. For ELT and Applied Linguistics, these benefits become most meaningful when they are connected directly to classroom practice: vocabulary development, concept comprehension, collaborative learning, formative assessment, teacher mediation, and learners' ability to move between English and Nguni-language resources without treating one language as deficient. Translanguaging can also create a more inclusive learning environment by validating diverse linguistic backgrounds and fostering social connections among speakers of different languages. It therefore supports both language development and social participation.

Artificial Intelligence and Translanguaging

Artificial intelligence may play an important role in supporting translanguaging among Southern African indigenous languages, but the extent of that role depends on the availability and quality of language data, the design of tools, and the cultural sensitivity of AI systems. Applications such as multilingual chatbots, voice assistants, and language-learning apps may facilitate translanguaging in educational, social, and cross-cultural communication contexts. Tzirides (2024) discusses AI integration in translingual language learning and its potential to enhance communication and digital literacy. Such AI tools may allow speakers of different languages to communicate more easily by providing on-the-fly translations across languages, although Nguni-language examples require tool-specific evidence.

While these technologies are useful, there are important limitations, such as inaccuracies in real-time translation, especially when handling complex grammatical structures or cultural nuances present in Southern African languages. Devasena (2024) discusses AI in education as an alternative to traditional learning, and adaptive AI approaches may be relevant to language learning when they track users' learning progress and adjust learning materials accordingly. This adaptive approach can support translanguaging practices by allowing users to draw on existing language knowledge while acquiring new language resources. However, claims about specific commercial tools and their support for indigenous African languages should be verified before submission.

AI may support translanguaging in several ways. Translation tools can help users communicate across languages by providing immediate approximations of meaning. Language-learning applications can adapt tasks to learners' proficiency levels and may suggest vocabulary or grammatical structures relevant to multilingual contexts. Content-creation tools can assist in preparing multilingual materials, although culturally embedded idioms and references require human review. Chatbots and virtual assistants can engage users in preferred languages, while sentiment-analysis tools can help researchers understand trends in multilingual communication. Speech-recognition systems may eventually better accommodate bilingual speakers by recognizing code-switching in speech. AI-based assessment tools may also help educators evaluate students' abilities in a translanguaging context rather than relying only on traditional, language-segmented assessment.

AI-Supported Translanguaging and Low-Resource Language Technologies

The integration of artificial intelligence into language practices has gained attention in

multilingual regions such as Southern Africa, where translanguaging is a common communicative strategy. AI technologies, including machine translation, natural language processing, and speech recognition, may enhance translanguaging practices in education, communication, and cross-cultural interaction. Work on Work on South African Nguni language technologies has produced corpora, morphological analysers, part-of-speech taggers, and lemmatisers for isiNdebele, isiXhosa, isiZulu, and Siswati; more recent work has also benchmarked pretrained language models for these four Nguni languages (du Toit & Puttkammer, 2021).

Similar work has been attempted for other Southern African languages, including Sesotho and Xitsonga, but progress remains slow due to the lack of investment in indigenous language technology. Heugh et al. (2022) show that multilingualism, translation technology, and EMI higher education raise important questions about how language technologies mediate access to knowledge. For Nguni languages, the challenge is not only technical accuracy but also the adequacy of AI outputs in contexts where language carries cultural, social, and educational meanings.

Natural Language Processing (NLP) for Bantu and Nguni Languages

Advances in AI have led to the development of NLP tools for processing Bantu languages. These include tasks such as text recognition, sentiment analysis, translation, and speech recognition. Challenges remain because of limited digitized resources, which often lead to less robust NLP models for Bantu languages than for global high-resource languages such as English, Russian, Portuguese, Mandarin, and other languages with large corpora.

Artificial Intelligence Models

Rule-based models are among the earliest NLP models and rely on predefined linguistic rules and dictionaries. They laid the foundation for modern NLP, but they require detailed linguistic descriptions and may struggle with variation and language change.

Statistical models analyse large amounts of text data and use probability-based methods to determine meaning. Examples include Hidden Markov Models and Conditional Random Fields. These models depend heavily on the availability of sufficient and representative data.

Neural network-based models are learning models that mimic aspects of human brain functions to process language. They are useful for sequential data but may struggle with long-term dependencies, especially when low-resource languages lack adequate training data.

Transformer models such as BERT, GPT, and T5 use attention mechanisms to process entire sentences simultaneously rather than sequentially. These models are highly effective for translation, text generation, and question answering, but their quality depends on training data and language coverage.

Hybrid models combine statistical and neural methods to improve accuracy and efficiency in NLP applications such as speech recognition and automated summarization. In relation to Nguni languages, the significance of these models lies not only in their technical architecture but also in their ability to process agglutinative morphology, code-switching, culturally specific vocabulary, speech variation, and low-resource datasets. NLP models for Nguni-language translanguaging must therefore be assessed in relation to cultural adequacy as well as technical performance.

DISCUSSION

Challenges for AI-Supported Translanguaging in Nguni Languages

Although there are efforts to use AI in the translanguaging of Nguni languages, several challenges remain. First, not all of the Nguni languages are fully represented in dictionaries and digital corpora. Even where they are represented, they remain mutable because languages change over time. Eiselen (2016) notes that the data scarcity problem is particularly acute for many indigenous languages in Southern Africa, which lack large corpora of digital text and speech data. This scarcity limits the effectiveness of AI tools such as machine translation and speech-recognition systems because they struggle to process and accurately interpret these languages. However, efforts such as the South African Centre for Digital Language Resources (SADiLaR) are attempting to build datasets for underrepresented languages, thereby improving AI tools' capacity for translanguaging.

Any model used for translanguaging these languages should be versatile enough to accommodate language mutability. The Nguni languages are also agglutinative and may use multiple affixes in one lexical unit, with affixes indicating features such as tense, plurality, and mood. Even though the Nguni languages broadly follow subject-verb-object patterns, they differ significantly in the expression of cultural imperatives. For instance, several words may refer to the same notion, but the appropriate word depends on context, status, and cultural expectations. In English, the word "die" may be used for animals, while for human beings, speakers often prefer "pass away." Similar euphemistic distinctions may exist across Nguni languages and express strong cultural sentiment. Choosing an inappropriate word can disturb the intended meaning or social situation.

Moreover, AI tools often fail to account for the cultural specificity of languages. There is therefore a need for cultural and linguistic sensitivity. AI systems need to reflect the linguistic and cultural realities of multilingual speakers, considering the complexities of translanguaging. Liu and Afzaal (2021) point out that while AI can provide basic translations, it may miss idiomatic expressions, contextual meaning, and cultural references that are integral to language use. This can lead to miscommunication or the perpetuation of inaccurate representations of indigenous linguistic practices. Data scarcity is another challenge; Bantu languages typically suffer from a lack of digitized content, which restricts the development and robustness of AI applications.

These languages may also be sensitive to prosodic and contextual features, and meaning may shift according to pronunciation, context, or cultural use. Any NLP model should accommodate such features. The dominance of one language over others remains a further challenge for AI models. Heugh, Harding-Esch, and Coleman (2021) argue that language hierarchies shape inclusive and sustainable education. This issue is particularly pronounced in places where colonial languages such as English still dominate both technology and education systems. Most AI language models are derived from high-resource languages such as English, which creates a disparity in the quality and availability of AI tools for low-resource languages such as the Nguni languages. AI models should therefore support equitable linguistic practices and avoid marginalising indigenous languages.

Pedagogical and Institutional Implications

For teachers, AI-supported translanguaging should not be treated as a replacement for classroom mediation. Teachers need training to evaluate AI-generated translations, identify culturally inappropriate outputs, and design tasks in which learners compare English and Nguni-language meanings critically. For curriculum designers, translanguaging should be incorporated into lesson planning, assessment design, vocabulary development, and digital literacy activities rather than left only as an informal classroom practice.

Institutions should also consider access, privacy, academic integrity, and distraction. Learners may not have equal access to devices, data, or high-quality AI tools. AI systems may collect sensitive language data, and students may over-rely on machine translation rather than developing communicative competence. A responsible pedagogical model would therefore combine AI use with teacher guidance, critical digital literacy, and explicit attention to cultural meaning in multilingual communication.

CONCLUSION

The use of AI in the translanguaging of Nguni languages presents both opportunities and challenges. While AI technologies hold promises for enhancing multilingual communication and education, significant gaps exist in NLP models and in the development of AI tools appropriate for the translanguaging of Nguni languages. As AI continues to evolve, these technologies must be designed to support linguistic diversity rather than reproduce the dominance of high-resource languages. The intersection of AI and translanguaging of the Nguni languages has the potential to enhance communication, education, and cultural preservation. The paper's central contribution is therefore its insistence that AI-supported translanguaging must be judged not only by technical accuracy but also by cultural adequacy, educational usefulness, and its ability to protect the communicative value of Nguni languages in an English-dominant digital environment.

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