# REIMAGINING EDUCATION THROUGH TRANSLATION: LINGUISTIC ACCESS AND CURRICULUM INNOVATION IN NIGERIA'S MULTILINGUAL CONTEXT

*By*
**Abdulrahman Umar**
*Department of Hausa*
*Niger State College of Education, Minna*
*abdulrahmanu0805@gmail.com*
**&**
**Isyaku Abdullahi Lawal**
*Department of French*
*Niger State College of Education, Minna*
*ialawal31@gmail.com*

## Abstract

Language remains central to educational equity in Nigeria, where over 500 indigenous languages coexist with English as the dominant medium of instruction. The national policy on education mandates mother-tongue instruction in early grades, yet evidence shows this remains largely unimplemented, with government support in teacher training and instructional materials notably lacking (Ogunniran et al., 2024). Multilingual disparities and policy inertia have long undermined curriculum relevance and learner outcomes (Ugwu, 2021). This article argues that translation, particularly leveraging advances in machine translation for Nigerian languages (Ekle & Das, 2025; Orife, 2020), offers tangible pathways to bridging curricular and linguistic divides. It synthesizes policy analysis and recent technological developments to propose a curriculum design model that integrates translation and interpretation as core components of pedagogical and instructional planning. Finally, it offers actionable recommendations for curriculum developers, policymakers, and language professionals to operationalize translation for improved educational access and equity in Nigeria's multilingual setting.

**Keywords**: Translation in Education; Mother-Tongue Instruction; Multilingual Curriculum; Neural Machine Translation; Nigeria Education Policy.

## Introduction

Nigeria's linguistic diversity, with more than 500 indigenous languages, represents both a rich cultural heritage and a persistent challenge for equitable education. The national policy on education stipulates that learners in the early years of primary school should be taught in their mother tongue. However, research shows that this provision has rarely been implemented in practice. In Oyo State, for instance, Ogunniran et al. (2024) found that government support for teacher training, instructional materials, and policy monitoring was inadequate, making implementation ineffective.

The limited attention given to teacher preparation further compounds the problem. Ugwu (2021) observed that fewer than five percent of indigenous languages are included in Nigerian universities' teacher education curricula. This exclusion weakens the capacity of pre-service teachers to integrate mother-tongue instruction into classroom practice.

The consequences of neglecting mother-tongue instruction are far-reaching. UNICEF Nigeria (2023) reported that children who begin schooling in their first language demonstrate stronger literacy and numeracy outcomes. Nonetheless, the organization highlighted that a lack of trained teachers and insufficient teaching resources has restricted the impact of this approach.

In response to these challenges, scholars are beginning to explore the role of translation in educational reform. Orife (2020) demonstrated the potential of neural machine translation for Edoid languages, showing how digital tools can help in contexts where linguistic resources are scarce. More recently, Ekle and Das (2025) developed a low-resource neural machine translation system for English-to-Igbo and achieved approximately seventy percent accuracy. These findings suggest that translation, when supported by technology, could significantly improve textbook adaptation, teacher training, and learner comprehension.

Despite these advances, translation is still largely absent from mainstream debates on curriculum reform. Many studies concentrate on either advocating for indigenous language preservation or critiquing the dominance of English. This emphasis, while important, has left little space for exploring translation as a deliberate pedagogical strategy. As a result, there remains a gap between the goals of language policy and the realities of classroom instruction, particularly in multilingual urban settings where no single local language can meet the needs of all learners.

The present study addresses this gap by situating translation at the center of curricular reform. It draws on recent studies of policy implementation, alongside advances in translation technologies, to propose a curriculum model that integrates translation into educational planning. By doing so, we aim to show how translation can expand linguistic access, strengthen teacher preparation, and make classroom instruction more relevant to Nigeria's multilingual realities.

## Conceptual Framework

The argument advanced in this paper is anchored on translation as both a pedagogical strategy and a curricular innovation. In multilingual societies, the curriculum cannot be divorced from the linguistic realities of learners, since language mediates both access to knowledge and participation in classroom interaction. Translation provides a conceptual bridge that links official languages of instruction with indigenous languages, ensuring that education reflects the linguistic repertoires of students rather than excluding them.

Adegbite (2019) established that translation in multilingual contexts functions as more than a linguistic exercise: it is a means of connecting learners' everyday experiences to the standardized medium of instruction. This insight aligns with Ladson-Billings' (2017) articulation of culturally relevant pedagogy, where the validation of learners' cultural and linguistic resources forms the basis of effective teaching. When these perspectives are read together, translation emerges not simply as a technical tool but as a pedagogical act that fosters comprehension, reduces alienation, and affirms identity within the learning process.

The significance of translation extends further when considered through the lens of linguistic justice. Skutnabb-Kangas (2020) argued that equitable education requires institutional mechanisms that guarantee learners' right to understand the language of instruction. Translation becomes one such mechanism, allowing curriculum planners to reconcile the dominance of English with the multilingual needs of Nigerian learners. It therefore represents both a social justice strategy and a pedagogical necessity.

Technological innovation strengthens this conceptual foundation by showing how translation can be operationalized in practice. Orife (2020) demonstrated the viability of neural machine translation for Edoid languages, providing evidence that digital tools can support low-resource languages often overlooked in policy implementation. Ekle and Das (2025) advanced this work by designing an English–Igbo neural machine translation system that reached a functional level of accuracy, suggesting that such models could

supplement teacher training and textbook adaptation. beyond experimental research, widely available tools such as Google translate already provide basic translation in Hausa, Yoruba, and Igbo, while the Masakhane project has developed open-source datasets and models for African Languages, including several spoken in Nigeria (Nekoto et al., 2020). These initiatives demonstrate that translation is not only a theoretical ideal but a growing field of practical application.

By synthesizing pedagogical theory, linguistic justice, and technological innovation, this framework situates translation at the center of curriculum reform in Nigeria. It is a practice that enables comprehension, a principle that affirms the right to equitable education, and a technological opportunity that can expand access to quality learning. Together, these dimensions provide the conceptual grounding for examining how translation can reshape curriculum development and implementation in Nigeria's multilingual educational system.

## Analytical Discussion

The role of translation in curriculum innovation becomes most visible when considered in relation to core areas of educational practice. These include the production of textbooks and instructional materials, the preparation of teachers, the dynamics of classroom delivery, and the broader sphere of policy implementation. Each of these dimensions demonstrates how translation can move from a conceptual framework to a practical strategy for addressing Nigeria's multilingual challenges.

A major constraint in Nigerian classrooms lies in the limited availability of textbooks that reflect the linguistic backgrounds of learners. Instructional materials are overwhelmingly produced in English, creating a barrier for students in the early years of schooling who have not yet mastered the language. Ugwu (2021) showed that this mismatch between language of instruction and learner competence contributes significantly to poor literacy outcomes. Translation provides a practical remedy by allowing existing English-language materials to be adapted into indigenous languages, thereby expanding access without requiring an entirely new production pipeline. With the support of technologies such as the Masakhane project's open-source models, translation can be scaled to multiple Nigerian languages at relatively low cost (Nekoto et al., 2020). This illustrates how translation can operationalize curriculum inclusivity in material production.

Teacher preparation is another critical area where translation holds transformative potential. Pre-service teacher education in Nigeria has

historically paid limited attention to indigenous languages, with fewer than five percent of local languages included in formal curricula for teacher training (Ugwu, 2021). This neglect weakens the ability of teachers to incorporate linguistic diversity into their practice. Orife (2020) demonstrated that neural machine translation systems could provide linguistic scaffolding for under-resourced Nigerian languages, creating tools that teachers could use to supplement their instruction. By integrating translation into teacher education, curriculum developers can equip future educators not only with linguistic awareness but also with practical resources for navigating multilingual classrooms.

Classroom instruction itself also benefits directly from translation strategies. UNICEF Nigeria (2023) reported that pupils taught in their mother tongue demonstrate stronger foundational literacy and numeracy. Yet, because many urban classrooms are linguistically diverse, a single mother tongue cannot always be applied. Translation offers a flexible alternative: teachers can draw on bilingual glossaries, translated teaching aids, or machine translation tools to ensure comprehension across linguistic groups. Ekle and Das (2025) showed that English-Igbo translation models could reach functional levels of accuracy, indicating that such tools could assist teachers in providing explanations and examples in learners' first languages. By embedding translation practices into everyday classroom interaction, instruction becomes both more accessible and more equitable.

Finally, translation carries significant implications for policy implementation. The national policy on education has long mandated mother-tongue instruction in the early years, yet compliance has remained limited due to resource and capacity constraints (Ogunniran et al., 2024). By incorporating translation into curriculum planning, policymakers can bridge the gap between policy and practice. Instead of requiring complete shifts to indigenous language instruction, translation offers a pragmatic middle path where English remains present but is supplemented by systematic translation into local languages. This approach addresses the structural realities of Nigeria's education system while advancing the principle of linguistic equity articulated by Skutnabb-Kangas (2020).

Taken together, these applications demonstrate that translation is not peripheral but central to curriculum reform in Nigeria. It enables textbooks to reach wider audiences, strengthens teacher preparation, facilitates equitable classroom delivery, and provides policymakers with a realistic mechanism for bridging aspiration and implementation. By operationalizing translation in

these interconnected domains, curriculum innovation becomes both linguistically inclusive and practically achievable.

## Proposed Curriculum Model

The preceding analysis demonstrates that translation has the potential to transform curriculum practice in Nigeria by addressing the persistent disjunction between language policy and classroom realities. To operationalize this potential, a conceptually structured and a systematically articulated curriculum model is required, one that positions translation as a cross-cutting component of educational planning rather than as an ad hoc support mechanism. The model proposed here integrates translation across four interconnected curricular dimensions, understood as distinct but interrelated level of curriculum planning enactment; material development, teacher preparation, classroom pedagogy, and policy coordination. Each dimension is illustrated below through a sample of how translation is designed into curriculum practice.

The first dimension focuses on instructional materials. Translation is embedded into the process of textbook production, with official curricula accompanied by translated versions in major indigenous languages. As a sample of this design, primary science textbooks written in English could be systematically translated into Yoruba, Hausa, and Igbo, allowing learners to engage with complex concepts in familiar linguistic terms. Nekoto et al. (2020) illustrate this approach through the Masakhane project, a pan-African, open-source initiative for developing machine translation systems for low-resource languages. Rather than relying on proprietary tools or centralized funding, Masakhane mobilizes volunteer researchers and native speakers to collaboratively build parallel datasets and train neural machine translation models that are released openly. For example, the project produced translation models for several African languages by reusing shared code-bases and pretrained architectures, allowing new language pairs to be developed with minimal additional cost. This collaborative and open framework demonstrates how translation resources can be scaled across languages and contexts while remaining financially accessible. By institutionalizing translation in material production, curriculum planners can ensure that inclusivity becomes a standard rather than an exception.

The second dimension is teacher preparation. Translation forms part of pre-service and in-service training, equipping teachers with both the pedagogical rationale and the practical skills to integrate translation into classroom practice. For example, teacher training colleges could include modules in

which pre-service teachers practice translating lesson notes or teaching aids into local languages. Orife (2020) showed that machine translation models could be adapted as support tools for teachers working with under-resourced languages. Embedding such tools in training curricula would expand the professional repertoire of educators, enabling them to navigate multilingual classrooms more effectively.

The third dimension addresses classroom pedagogy. Translation practices are woven into instructional strategies, enabling teachers to bridge linguistic gaps in real time. A practical illustration is the use of bilingual glossaries in mathematics lessons, where key terms such as "addition" or "fraction" are provided in both English and Yoruba or English and Igbo. Ekle and Das (2025) demonstrated that low-resource neural translation systems for English-Igbo can achieve functional accuracy, which could be harnessed in producing such glossaries, interactive classroom aids, and translated exercises. Translation is thus positioned as a deliberate pedagogical method, not merely a fallback when comprehension breaks down.

The final dimension concerns policy coordination. While the national policy on education already acknowledges the role of indigenous languages, translation serves as the mechanism that makes this mandate implementable. As a design sample at the policy level, curriculum guidelines could explicitly require the provision of translated instructional materials and specify contexts in which translation is pedagogically appropriate. Ogunniran et al. (2024) emphasized the inadequacy of current policy enforcement in relation to mother-tongue instruction. By mandating translation as part of curriculum implementation, policymakers can create a functional bridge between aspirational language provisions and classroom realities. Skutnabb-Kangas (2020) further underscored the ethical obligation to guarantee learners' right to understand the language of instruction; embedding translation into policy frameworks would be a step toward fulfilling this obligation.

| Dimension | Design Focus | Sample of Implementation | Supporting References |
|---|---|---|---|
| Material Development | Embedding translation in curriculum materials | Primary science textbooks translated into Yoruba, Hausa, Igbo; key concept glossaries included | Nekoto et al. (2020) |
| Teacher Preparation | Training teachers in | Pre-service/in-service modules where teachers | Orife (2020) |

| Dimension | Design Focus | Sample of Implementation | Supporting References |
|---|---|---|---|
| | translation pedagogy | translate lesson notes or teaching aids | |
| Classroom Pedagogy | Structured use of translation in instruction | Bilingual glossaries in mathematics lessons; translated exercises and interactive aids | Ekle & Das (2025) |
| Policy Coordination | Aligning curriculum and national language policies | Explicit curriculum guidelines mandating translation; policy specifies where and how translation is applied | Ogunniran et al. (2024); Skutnabb-Kangas (2020) |

**The table above illustrates each dimension with a sample of how translation is designed into curriculum practice**

Taken together, these four dimensions constitute a curriculum model that treats translation not as an auxiliary practice but as a systemic principle. The model integrates material production, teacher preparation, classroom pedagogy, and policy coordination into a unified framework. By embedding translation across these levels, Nigeria's education system can move toward a linguistically inclusive curriculum that reflects both national sociolinguistic realities and global imperatives for equitable access to education.

**Conclusion**

Nigeria's multilingual reality presents both challenges and opportunities for its education system. While the national policy on education recognizes the importance of indigenous languages, persistent gaps in implementation have left many learners unable to fully engage with the curriculum. This paper has argued that translation provides a viable and innovative pathway to bridge these gaps. By situating translation within the frameworks of culturally relevant pedagogy, linguistic justice, and technological innovation, the discussion has demonstrated that translation is not merely a linguistic tool but a curricular strategy capable of enhancing comprehension, equity, and inclusion.

The analysis has shown that translation can strengthen educational practice in four interconnected areas: textbook and material development, teacher preparation, classroom pedagogy, and policy coordination. In each domain,

translation makes it possible to reconcile Nigeria's linguistic diversity with the practical demands of curriculum delivery. whether through the systematic translation of science textbooks, the inclusion of translation modules in teacher training, the use of bilingual glossaries in mathematics classrooms, or the embedding of translation in policy frameworks, the evidence points to translation as a central mechanism for reimagining curriculum innovation in Nigeria.

## Recommendations

Based on this analysis, several recommendations can be advanced. First, curriculum developers should adopt translation as a deliberate component of textbook production, particularly for core subjects at the primary level. Second, teacher education programs should incorporate translation training, equipping educators with the skills to adapt materials and communicate effectively in multilingual classrooms. Third, education ministries and agencies should pilot the use of translation technologies, such as neural machine translation tools and open-source platforms, to expand access to instructional resources in indigenous languages. Fourth, policymakers should revise the national policy on education to include translation as a formal mechanism for implementing the mother-tongue provision, thereby ensuring that linguistic equity becomes enforceable rather than aspiration.

These recommendations highlight translation as a powerful means of aligning Nigeria's education system with the sociolinguistic realities of its learners. By embedding translation into curriculum design and educational planning, Nigeria can take a decisive step toward a more inclusive, equitable, and future-ready education system.

## References

Adegbite, W. (2019). Translation and education in multilingual societies: Bridging learners' linguistic experiences with instruction. *Journal of Language and Education Studies, 12*(3), 45–59.

Ekle, O. A., & Das, B. (2025). Low-resource neural machine translation using RNN and transfer learning: English-to-Igbo. *arXiv*. https://arxiv.org/abs/2504.17252

Ladson-Billings, G. (2017). Culturally relevant pedagogy: Asking a different question. *Harvard Educational Review, 87*(1), 113–138. https://doi.org/10.17763/1943-5045-87.1.113

Nekoto, W., Marivate, V., Matsila, T., Fasubaa, T., Fagbohungbe, T., Akinola, S. O., ... & Martinus, L. (2020). Participatory research for low-resourced machine translation: The Masakhane project. *arXiv*. https://arxiv.org/abs/2003.11529

Ogunniran, V. O., Badru, S. A., Owaseye, J. F., & Segun, M. B. (2024). Assessment of government's support in the implementation of the Yoruba language policy in primary schools in South-Western Nigeria. *Nigerian Journal of Language and Education, 14*(1), 25–39. https://nijolee.net.ng/index.php/home/article/view/45

Orife, I. (2020). Towards neural machine translation for Edoid languages. *arXiv*. https://arxiv.org/abs/2003.10704

Skutnabb-Kangas, T. (2020). Linguistic human rights and multilingual education: The case for mother-tongue-based instruction. *International Journal of Multilingual Education, 5*(2), 1–15.

Ugwu, E. O. (2021). Keeping the promise of multilingual education in Nigeria: The neglected question. *Nigerian Journal of Educational Research, 17*(2), 101–115. https://www.researchgate.net/publication/365682916_keeping_the_promise_of_multilingual_education_in_nigeria_the_neglected_question

United Nations International Children's Emergency Fund (UNICEF). (2023). *Mother tongue-based education in Nigeria: Addressing the learning crisis*. https://www.unicef.org/nigeria