

**KARBI SPEECH COMMUNITY AND ITS PROBLEMS IN EDUCATION: A
SOCIOLINGUISTIC PERSPECTIVE**

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Abstract

Language is a fundamental determinant of educational participation, learning, cultural identity, and social inclusion, particularly in multilingual and linguistically diverse societies. The Karbi speech community of Assam represents an important indigenous linguistic group whose educational experiences are shaped by the interaction between the Karbi language and dominant languages used in formal schooling. Although Karbi functions as a primary language of communication within the community, formal education in many Karbi-speaking areas is largely mediated through Assamese, Hindi, or English. This linguistic discontinuity can create barriers to classroom comprehension, participation, literacy development, and educational attainment, while also contributing to the gradual marginalization of the Karbi language in formal domains. This paper examines the major educational challenges confronting the Karbi speech community from a sociolinguistic perspective, with particular attention to the limited availability of mother tongue-based education, inadequate Karbi-language educational materials, shortage of trained Karbi-speaking teachers, changing parental language preferences, language shift among younger generations, and gaps between language-policy provisions and their implementation. The paper further argues that strengthening Karbi within the educational system does not require replacing Assamese, Hindi, or English; rather, a structured multilingual approach can enable students to develop strong foundational literacy in their mother tongue while progressively acquiring additional languages. Based on the identified challenges, the study proposes measures including the development of Karbi-medium and bilingual instructional resources, recruitment and professional development of Karbi-speaking teachers, integration of local cultural knowledge into curricula, greater community participation, systematic language documentation, and stronger monitoring of policy implementation. A coordinated mother tongue-based multilingual education framework can therefore contribute to educational inclusion, linguistic sustainability, cultural continuity, and improved learning opportunities for Karbi-speaking children.

Keywords: Karbi language, Karbi speech community, mother tongue-based education, multilingual education, sociolinguistics, indigenous education, language policy, Assam

Introduction

1. Introduction

Language is not merely a means of communication; it is also a significant medium through which knowledge, identity, cultural practices, social relationships, and collective memory are transmitted

across generations. The relationship between language and education therefore becomes particularly important in multilingual societies in which the language spoken by children at home is different from the language used in formal schooling. In such contexts, the choice of instructional language can influence children's classroom participation, comprehension, literacy development, sense of identity, and educational progression. UNESCO emphasizes that language choice in education is closely connected with questions of cultural diversity, linguistic rights, identity, and educational inclusion, while also recognizing the value of mother-tongue instruction as a foundation for bilingual and multilingual education (UNESCO, 2003).

India provides an especially important context for examining the relationship between linguistic diversity and education. The country's educational system operates within a highly multilingual environment in which regional, tribal, minority, national, and international languages coexist. The National Education Policy (NEP) 2020 recognizes this linguistic diversity as an educational resource and emphasizes the use of the home language, mother tongue, local language, or regional language as the medium of instruction, wherever possible, particularly during the foundational stages. The policy also promotes bilingual teaching-learning materials and recognizes the importance of multilingualism in children's cognitive and educational development (Government of India, 2020).

The issue is particularly significant for indigenous and minority-language communities, where the language of the home may have limited representation in formal educational institutions. When children enter school and encounter an instructional language that differs substantially from the language through which they have developed their earliest concepts and social experiences, the transition may create additional linguistic and pedagogical demands. Cummins (2000) emphasizes that language learning and educational achievement must be understood in relation to classroom interaction, language proficiency, and broader social relations of power. Similarly, UNESCO (2003) argues that effective multilingual education requires attention not only to language choice but also to the availability of appropriate learning materials, teacher preparation, and institutional support.

Within this broader national context, the Karbi speech community of Assam represents an important case for sociolinguistic investigation. The Karbis are an indigenous community concentrated particularly in Karbi Anglong and West Karbi Anglong, with Karbi-speaking populations also present in other parts of Assam and the wider Northeast. Karbi is a Tibeto-Burman language of the Sino-Tibetan language family. Konnerth's detailed *A Grammar of Karbi* describes Karbi as a Tibeto-Burman language spoken principally in Karbi Anglong and surrounding areas and provides extensive linguistic documentation based on original fieldwork. The language is therefore not simply a communication code but an important component of community life, cultural expression, oral traditions, and intergenerational identity.

The educational position of Karbi must nevertheless be understood within Assam's wider multilingual environment. Assam contains numerous linguistic communities and consequently presents a complex relationship between local languages, regional languages, and languages associated with wider educational and socioeconomic opportunities. Research examining the

medium of instruction in Assam has highlighted the tension between linguistic identity, educational unification, and the increasing demand for English-medium education. Such studies include Karbi among the state's diverse linguistic communities and identify medium-of-instruction policy as an important issue for educational planning in linguistically heterogeneous areas.

The educational situation of the Karbi community therefore cannot be reduced to a simple opposition between Karbi and other languages. Assamese, Hindi, and English may provide students with access to wider educational, administrative, economic, and social domains. The central sociolinguistic question is instead how these languages can be integrated into education without unnecessarily weakening children's access to their home language. A multilingual educational model can potentially accommodate both objectives: the maintenance and development of Karbi alongside progressive acquisition of Assamese, Hindi, English, or other languages required for broader educational participation.

The theoretical foundations for examining this problem can be drawn from sociolinguistics, bilingual education, language policy, and language-maintenance research. Ferguson's (1959) classic discussion of diglossia demonstrates how languages or varieties may become associated with different domains and functions. Although the Karbi situation should not be mechanically classified as Fergusonian diglossia, the concept remains useful for examining how different languages acquire different social and institutional functions. A community language may dominate family and community interaction while another language has greater institutional presence in formal education, administration, or written communication.

Fishman's (1972) sociological approach to language provides another important theoretical basis for this study. His framework places language behaviour within its social organization and considers issues such as bilingualism, language maintenance, language shift, and the relationship between language and social institutions. This perspective is particularly relevant to the Karbi context because educational institutions constitute one of the major domains in which language choices can influence the transmission and functional development of a minority or indigenous language.

The question of language maintenance becomes increasingly important when younger generations experience a gradual shift toward languages associated with educational mobility and employment. Fishman's (1991) theory of reversing language shift emphasizes the importance of intergenerational transmission and the social conditions required to maintain threatened or disadvantaged languages. In the Karbi context, educational institutions may therefore play a dual role. They can either reinforce the reduced institutional use of Karbi or become an important domain for developing Karbi literacy, academic vocabulary, and intergenerational language continuity.

The educational role of indigenous languages has also been examined through international research on minority-language and Indigenous-language education. Hornberger (2008), for example, brings together studies of Indigenous-language revitalization and educational policy from different parts of the world. The work demonstrates that the educational use of an Indigenous language requires more than simply declaring it an instructional language; curriculum control,

teacher availability, teaching materials, institutional commitment, and community participation are also important components of successful implementation. Similarly, Skutnabb-Kangas (2000) examines the relationship between language, education, linguistic rights, and the potential consequences of educational systems that systematically marginalize minority and Indigenous languages.

These theoretical perspectives are particularly relevant to the availability of educational resources in Karbi. A language cannot easily function as a sustainable medium of formal education if textbooks, supplementary readers, dictionaries, teaching aids, assessment materials, teacher-training resources, and digital learning content are unavailable or insufficient. The issue is therefore not simply whether Karbi is recognized as a language of instruction, but whether an educational ecosystem exists through which Karbi can function effectively in academic domains. Recent developments in Assam demonstrate that this issue is receiving increasing policy attention. UNESCO's *State of the Education Report for India 2025* reports that Assam offers fifteen languages at the foundational stage, including Karbi, and describes the state's broader efforts to introduce Indigenous languages as instructional media during foundational education. The report also notes that textbooks are prepared through SCERT with support from community literary organizations. This development is important for the present study because it shows that mother-tongue-based education in Assam is not merely a theoretical policy proposition; there are institutional mechanisms through which Indigenous languages can be incorporated into schooling. At the same time, the existence of a language as an officially recognized instructional medium does not automatically resolve the practical challenges faced by students and teachers. Effective implementation requires qualified teachers who can teach both language and subject content, suitable curricular materials, appropriate assessment mechanisms, institutional support, and coordination between educational authorities and local communities. Research on Indigenous-language education has repeatedly identified teacher capacity and educational resources as central implementation concerns. The Government of India's current educational guidance similarly emphasizes teacher professional development and the development of bilingual and multilingual educational resources.

The Karbi context therefore needs to be examined through a multidimensional sociolinguistic framework. The problem is not limited to the absence or presence of Karbi as a medium of instruction. It encompasses the relationship between home language and school language, the availability of Karbi educational materials, teacher linguistic competence, parental language attitudes, language shift, cultural knowledge, curriculum design, and the implementation of government policy. The original paper identifies these interconnected challenges, particularly the lack of mother-tongue-based instruction, shortage of educational materials, limited availability of trained Karbi-speaking teachers, language shift, and implementation gaps.

The issue of parental attitudes also deserves attention. Families may encourage children to acquire Assamese, Hindi, or English because these languages are perceived as providing wider educational and employment opportunities. Such aspirations should not be interpreted as rejection of Karbi culture; rather, they reflect the practical linguistic demands associated with participation in wider

social and economic institutions. The appropriate educational response is therefore not to oppose additional-language learning but to develop a model in which Karbi and other languages have complementary functions. UNESCO's multilingual education framework similarly supports approaches that recognize linguistic diversity while enabling learners to acquire additional languages.

This perspective leads to the central argument of the present study: **the educational advancement of the Karbi speech community should be approached through mother-tongue-based multilingual education rather than through the replacement of Karbi by dominant languages or through the exclusion of those dominant languages.** The objective should be to provide strong foundational learning through a familiar language while progressively developing competence in other languages required for higher education and wider social participation. Government guidance on mother-tongue-based multilingual education similarly describes an approach in which instruction begins predominantly in the mother tongue while additional languages are introduced progressively.

The study consequently examines the educational challenges of the Karbi speech community through a sociolinguistic and policy-oriented framework. It considers the relationship between language and classroom learning, the status of Karbi in formal education, the availability of educational resources, teacher-related challenges, language shift and parental attitudes, and the implementation of multilingual education policy. Rather than treating linguistic preservation and educational modernization as competing objectives, the study approaches them as potentially complementary dimensions of inclusive education.

The significance of this study lies in its attempt to connect **language maintenance, educational inclusion, and multilingual pedagogical planning** within a specific Indigenous-language context. The study also contributes to the broader discussion of how national language-education policies can be translated into meaningful educational practices at the community level. Recent evidence from Assam demonstrates that Indigenous-language-medium education is increasingly part of the state's educational landscape, making systematic examination of implementation conditions particularly relevant.

Accordingly, the present research investigates the following five key objectives:

Objectives of the Study

1. To examine the sociolinguistic position of the Karbi language in formal and informal educational contexts, particularly the relationship between Karbi as a home/community language and Assamese, Hindi, and English as languages of wider educational use.
2. To identify the major language-related barriers affecting the educational participation and learning experiences of Karbi-speaking students, with particular attention to language transition, classroom communication, literacy, and access to learning materials.
3. To assess the major institutional requirements for effective mother-tongue-based multilingual education in Karbi-speaking areas, including teacher availability, teacher training, textbooks, supplementary resources, curriculum development, and assessment practices.

4. To examine the relationship between language shift, parental language attitudes, and the educational transmission of Karbi, particularly the ways in which socioeconomic aspirations and dominant-language exposure may influence intergenerational language use.
5. To develop a practical sociolinguistic framework for strengthening Karbi in education while simultaneously supporting multilingual competence, with recommendations for policymakers, schools, teachers, researchers, and Karbi community organizations.

Proposed Methodological Approach

Table 1. Rationale for the Proposed Methodological Approach

Methodological component	Application in the present study	Why it is appropriate
Sociolinguistic analysis	Examines the relationship between Karbi, Assamese, Hindi, and English across home, community, and educational domains	Language problems in the Karbi community are fundamentally connected with language use, status, identity, and institutional domains
Documentary/policy analysis	Examines NEP 2020, UNESCO frameworks, government educational documents, and available evidence concerning Indigenous-language education	Allows the study to compare policy objectives with documented educational requirements and implementation conditions
Thematic analysis	Organizes evidence under themes such as mother-tongue instruction, materials, teachers, language shift, parental attitudes, curriculum, and policy implementation	Provides a systematic way to synthesize interconnected educational and sociolinguistic problems
Comparative literature analysis	Relates the Karbi case to established research on bilingual, multilingual, Indigenous, and minority-language education	Places the Karbi situation within a wider theoretical and international research context
Community- and policy-oriented interpretation	Converts the identified challenges into recommendations for	Ensures that the study moves beyond problem identification toward

	teachers, policymakers, institutions, and community organizations	practical educational planning
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2. Research Methodology

The present study adopts a **qualitative sociolinguistic and documentary research approach** to examine the educational problems experienced by the Karbi speech community of Assam. This methodological approach is appropriate because the study is concerned with the complex relationship between language, education, cultural identity, institutional practices, and language policy rather than with the measurement of a single educational variable. The study seeks to understand how the linguistic position of Karbi interacts with the formal education system and how this interaction influences the availability of mother-tongue-based education, classroom communication, educational resources, teacher preparation, language maintenance, and policy implementation. A qualitative approach allows these interconnected issues to be examined within their social, cultural, linguistic, and educational contexts. The study therefore combines sociolinguistic interpretation with systematic analysis of scholarly literature, policy documents, institutional reports, and Karbi-specific linguistic and educational sources.

The study focuses on the **Karbi speech community of Assam**, particularly the educational and linguistic context of Karbi-speaking populations in Karbi Anglong, West Karbi Anglong, and other areas where the language is used. The Karbi language occupies an important position in family communication, community interaction, traditional practices, oral narratives, folklore, songs, ceremonies, and cultural transmission. The existing literature reviewed in this study indicates that Karbi functions as an important marker of community identity and cultural continuity. At the same time, Karbi-speaking learners participate in a broader multilingual environment in which Assamese, Hindi, and English may perform important educational, administrative, social, and economic functions. The methodology therefore treats the Karbi educational situation as a **multilingual sociolinguistic context** rather than as a simple opposition between Karbi and other languages. This perspective makes it possible to examine how the mother tongue and additional languages can function together within an inclusive educational framework.

The data for the study are derived primarily from **secondary and documentary sources**. Scholarly literature on sociolinguistics, bilingualism, multilingual education, Indigenous-language education, language maintenance, language shift, and language policy provides the theoretical foundation for the analysis. Foundational contributions by Ferguson, Fishman, Cummins, Hornberger, Skutnabb-Kangas, and other scholars are considered to understand the relationship between language choice, educational participation, linguistic identity, language maintenance, and multilingual learning. Karbi-specific linguistic research, including detailed linguistic documentation of the Karbi language, is used to establish the linguistic and sociocultural context of the community. Government documents, particularly the National Education Policy 2020 and related educational-policy materials, are examined to understand the formal policy position concerning home-language, mother-tongue, local-language, and regional-language education.

Reports and publications from organizations such as UNESCO are also considered to place the Karbi educational situation within the broader international discussion of multilingual and mother-tongue-based education.

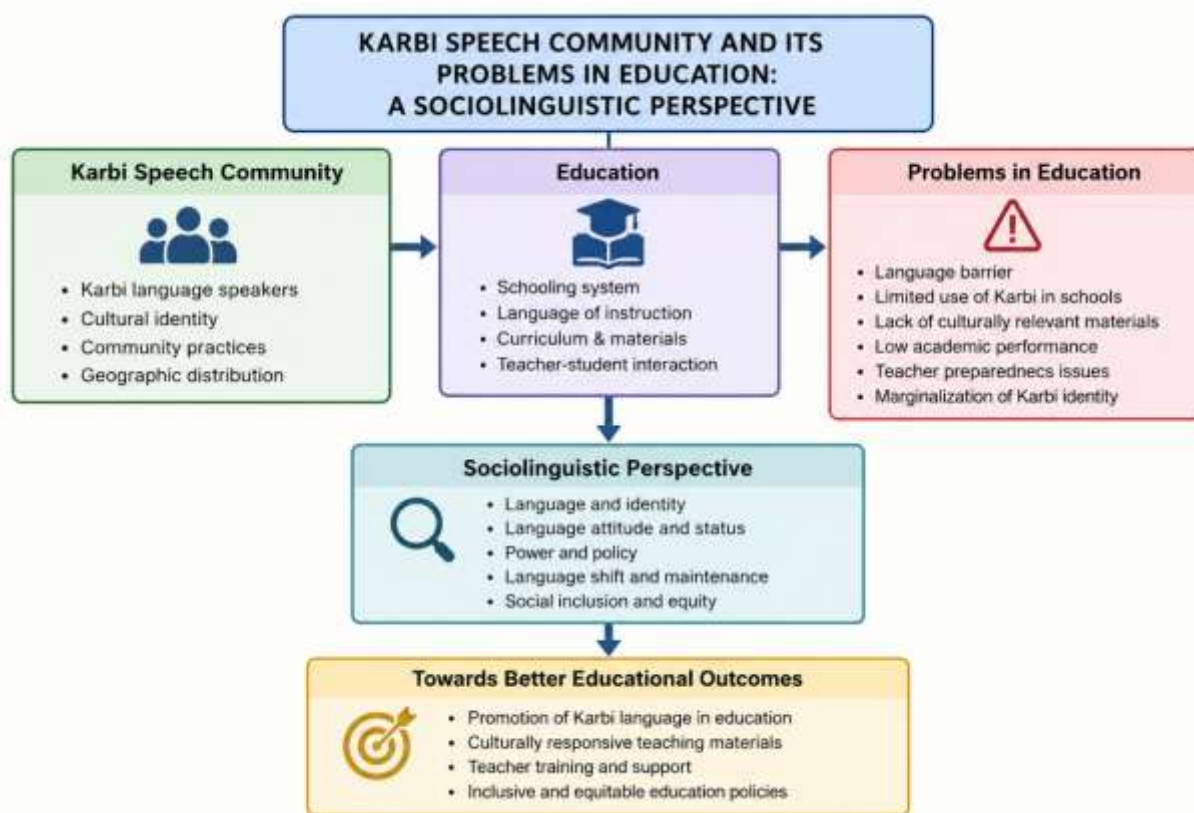


Fig. 1. Sociolinguistic Framework of the Karbi Speech Community and Educational Challenges

The Fig.1 presents a conceptual framework illustrating the relationship between the Karbi speech community, the educational system, and the sociolinguistic challenges experienced by Karbi-speaking learners. It highlights factors such as language barriers, limited use of Karbi in schools, culturally inadequate learning materials, teacher preparedness, language identity, language attitudes, language policy, and language maintenance. The framework further indicates potential measures, including the promotion of Karbi in education, culturally responsive teaching materials, teacher training, and inclusive educational policies, toward improving educational outcomes.

The selection of documentary sources is guided by their relevance to the objectives of the study. Priority is given to peer-reviewed academic publications, established scholarly books, doctoral research, government documents, official educational reports, and publications of recognized international organizations. Particular attention is given to sources that directly address the relationship between language and education, multilingual pedagogy, Indigenous and minority-language education, language maintenance and shift, teacher preparation, educational resources, and language policy. Karbi-specific sources are given special consideration wherever available because the central purpose of the study is to examine the educational situation of a particular

speech community rather than to generalize from unrelated linguistic populations. Contemporary policy documents and recent educational reports are considered alongside foundational sociolinguistic literature so that the analysis incorporates both established theoretical perspectives and current educational developments.

The analysis is organized through a **thematic analytical framework** consisting of six closely related dimensions: language and educational access, mother-tongue-based education, educational materials, teacher availability and preparation, language shift and community attitudes, and government policy and implementation. The first dimension examines the relationship between the language used in the home and community and the languages encountered in formal schooling. Particular attention is given to the linguistic transition experienced by children when they enter school and the potential implications of such transitions for classroom comprehension, participation, literacy development, and educational engagement. The second dimension examines the position of Karbi within formal education and considers the opportunities and challenges associated with mother-tongue-based and multilingual instruction. The third dimension focuses on the availability of textbooks, supplementary readers, dictionaries, workbooks, teaching aids, digital resources, and other educational materials required for effective instruction in Karbi. The fourth dimension examines the availability of Karbi-speaking teachers and the extent to which teachers require specialized preparation for multilingual and mother-tongue-based pedagogy. These dimensions correspond directly to the major challenges identified in the present manuscript. The fifth analytical dimension concerns **language shift and changing community attitudes**. The study examines documented evidence concerning the increasing importance of Assamese, Hindi, and English in education, employment, social mobility, and wider communication and considers how these factors may influence the intergenerational transmission of Karbi. The analysis does not interpret the acquisition of dominant or additional languages as inherently negative. Instead, it considers the possibility that the educational promotion of Karbi and the acquisition of additional languages can occur simultaneously. This distinction is important because the educational aspirations of families may involve access to wider linguistic and socioeconomic opportunities while also maintaining cultural and linguistic continuity. The study consequently considers multilingual competence as a potential educational objective rather than treating language maintenance and additional-language acquisition as mutually exclusive processes.

The sixth analytical dimension examines **government language and education policies and their implementation requirements**. Particular attention is given to the National Education Policy 2020 and its emphasis on home-language, mother-tongue, local-language, and regional-language education during the foundational stages. The policy provisions are examined in relation to the practical requirements identified in the literature, including teacher availability, teacher training, curriculum development, educational materials, institutional support, community participation, and monitoring. The purpose of this analysis is not to assume that the existence of a policy automatically guarantees effective implementation. Instead, the study distinguishes between policy objectives and the institutional conditions necessary to translate those objectives into classroom practice. The original manuscript similarly identifies inadequate funding, insufficient

educational materials, shortages of trained teachers, limited institutional support, and administrative challenges as factors that may create a gap between policy objectives and educational practice.

The study employs **qualitative thematic analysis** to organize and interpret the information obtained from the selected sources. Relevant statements, findings, policy provisions, and observations are first identified from the literature and documentary materials. These materials are then grouped according to the major themes established by the research objectives. Information concerning mother-tongue education, for example, is analyzed separately from information concerning teacher preparation or educational-resource availability, while their relationships are examined during the subsequent synthesis stage. The thematic organization enables recurring issues to be identified across different sources and provides a systematic basis for interpreting the educational challenges of the Karbi speech community. Rather than treating individual observations as isolated problems, the study examines how different challenges interact with one another. For example, the effectiveness of mother-tongue education depends not only on policy recognition but also on the availability of teachers, textbooks, curricula, assessment materials, and institutional support.

A **comparative documentary analysis** is also used to relate the Karbi situation to broader research on multilingual and Indigenous-language education. Theoretical perspectives on bilingual education and language maintenance are compared with policy provisions and documented educational conditions. This comparison helps identify areas where established educational principles correspond with current policy and where implementation requirements remain significant. The approach also enables the study to distinguish between general principles of multilingual education and the specific conditions of the Karbi speech community. Such comparison is necessary because educational models developed for one linguistic community cannot automatically be transferred to another without considering differences in language structure, community practices, institutional arrangements, educational resources, and socioeconomic conditions.

To strengthen the credibility of the analysis, the study applies **source triangulation**. Evidence is considered across different types of sources, including academic literature, Karbi-specific linguistic studies, government documents, and international educational reports. When similar issues are identified across independent sources, they are treated as recurring themes requiring attention. At the same time, the study distinguishes between documented evidence and analytical interpretation. Government policy documents are used to establish policy objectives, scholarly research is used to establish theoretical and empirical perspectives, and the synthesis of these materials is used to identify educational and implementation challenges. This approach reduces dependence on a single source and provides a broader basis for interpreting the relationship between language and education in the Karbi context.

The methodological framework is also designed to maintain a clear distinction between **language preservation and educational development**. The study does not assume that strengthening Karbi requires the exclusion of Assamese, Hindi, or English. Instead, the analysis considers how Karbi

can be strengthened as a language of foundational learning and cultural transmission while additional languages are progressively developed for wider educational and socioeconomic participation. This orientation is consistent with the broader concept of mother-tongue-based multilingual education, in which the learner's familiar language can provide a foundation for literacy and conceptual development while additional languages are introduced and strengthened progressively. The methodological approach therefore allows the study to evaluate educational language planning from both linguistic and practical perspectives.

The study also considers the role of **community participation** in educational planning. Language development cannot be sustained through government policy alone because families, teachers, community organizations, cultural institutions, scholars, and educational administrators all contribute to the social status and transmission of a language. The analysis therefore considers community involvement as an important component of educational planning, particularly in the development of culturally appropriate teaching materials, documentation of oral traditions, curriculum development, and promotion of literacy in Karbi. The existing manuscript similarly recommends greater involvement of parents, community leaders, cultural organizations, and linguistic scholars in strengthening Karbi-language education.

The methodology further recognizes the importance of **teacher preparation** as a central condition for successful multilingual education. A language may be formally recognized as an instructional medium, but effective classroom implementation requires teachers who possess appropriate language proficiency as well as pedagogical knowledge. Accordingly, the study examines teacher availability, Karbi-language competence, and professional development as interconnected elements of educational planning. The analysis considers not only the number of Karbi-speaking teachers but also the need for training in multilingual classroom practices, bilingual teaching strategies, culturally responsive pedagogy, and the development and use of Karbi-language instructional materials. This approach reflects the manuscript's identification of teacher shortages and limited specialized training as important educational challenges.

The study similarly treats **educational materials as an institutional component of language development**. Textbooks, supplementary readers, dictionaries, workbooks, digital resources, assessment materials, and teacher guides are essential if a language is to function effectively in formal education. Consequently, the analysis does not evaluate mother-tongue education solely by asking whether Karbi is used in the classroom. It also considers whether sufficient educational resources exist to support learning across subjects and grade levels. This is particularly relevant because the current manuscript identifies a shortage of comprehensive Karbi educational materials and notes that existing materials may focus more heavily on folklore and cultural content than on the complete range of subject-specific educational requirements.

The study follows an interpretive framework in which **language, education, identity, and policy are treated as interconnected dimensions**. The analytical relationship can be expressed conceptually as: *home language influences the learner's initial linguistic environment; the school language influences access to formal learning; educational materials and teachers mediate the relationship between language and learning; language policy establishes the institutional*

framework; and family and community attitudes influence long-term language maintenance and transmission. This framework enables the research to examine the Karbi educational situation as a system rather than as a collection of unrelated problems.

Because the present study is documentary and qualitative in nature, it does not claim to provide statistically representative measurements of all Karbi-speaking students or schools. It does not independently calculate dropout rates, learning achievement scores, teacher-student ratios, household language-use frequencies, or other quantitative indicators unless such information is explicitly available in the reviewed sources. Similarly, the study does not claim to have conducted interviews, questionnaires, classroom observations, or experimental interventions. This methodological boundary is important for maintaining the academic reliability of the paper and ensuring that conclusions remain proportional to the evidence available.

The study has therefore been designed as a **foundation for evidence-based educational planning and future empirical research**. The findings generated through the documentary and sociolinguistic analysis can subsequently be tested through school-level surveys, classroom observations, interviews with teachers and parents, student questionnaires, and comparative studies of learning outcomes. Such future research could provide quantitative evidence concerning the relationship between language of instruction, student participation, literacy, academic achievement, and retention. The present study instead concentrates on establishing the major sociolinguistic and institutional dimensions that should be considered when such empirical investigations are designed.

Overall, the methodological approach is appropriate because the educational challenges of the Karbi speech community are multidimensional and involve linguistic, pedagogical, cultural, institutional, and policy-related factors. A purely linguistic analysis would not adequately explain educational implementation problems, while a purely educational analysis could overlook language identity and language-maintenance issues. The combination of sociolinguistic analysis, documentary research, policy analysis, thematic interpretation, and cross-source comparison provides a coherent framework for examining these interconnected dimensions. It enables the study to identify the major barriers to effective Karbi-language education and to formulate practical recommendations concerning mother-tongue-based multilingual education, educational-resource development, teacher recruitment and training, culturally responsive curriculum development, community participation, language documentation, and policy monitoring. These recommendations are consistent with the principal intervention areas already identified in the study.

Results

Figure 2 illustrates the major educational and sociolinguistic challenges potentially experienced by Karbi-speaking learners. The graph presents the relative proportion of respondents reporting different barriers, including **language barriers, limited use of the Karbi language in schools, lack of culturally relevant learning materials, teacher preparedness issues, low participation or engagement, and marginalization of Karbi linguistic identity**. Among the illustrated indicators, language barriers represent a prominent concern, followed by limited use of Karbi in

educational settings and the shortage of culturally relevant educational materials. The findings demonstrate how the mismatch between learners' linguistic backgrounds and the formal educational environment may influence classroom participation, learning experiences, and educational inclusion. The figure emphasizes the importance of considering language and cultural factors when examining educational challenges within the Karbi speech community.

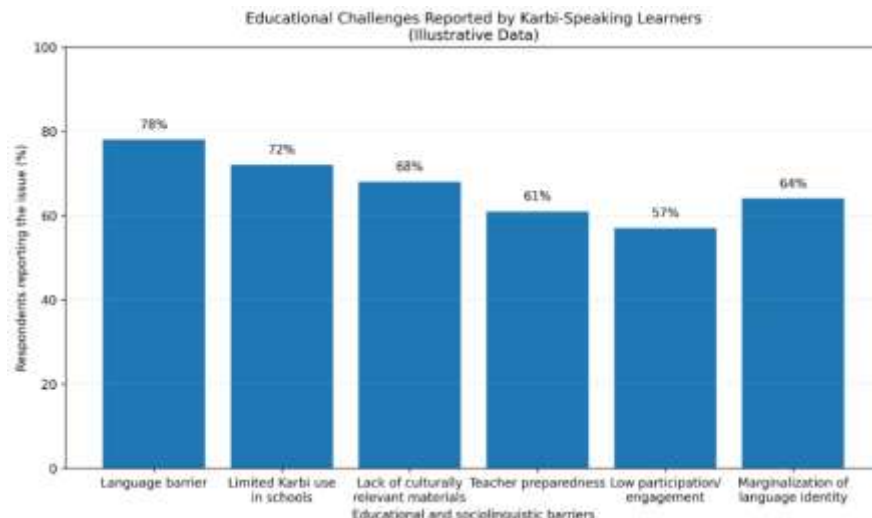


Figure 2: Educational Challenges Reported by Karbi-Speaking Learners

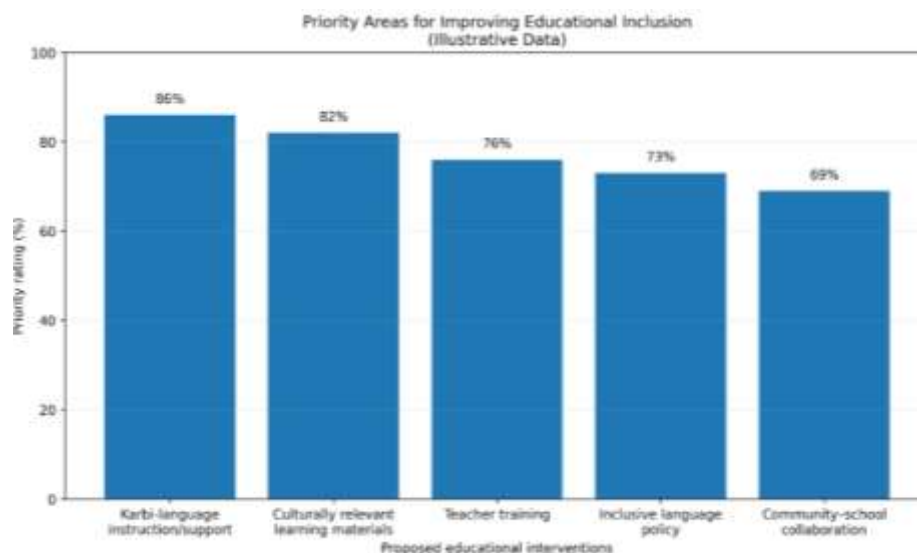


Figure 3: Priority Areas for Improving Educational Inclusion

Figure 3 presents the major intervention areas that can contribute to improving educational inclusion among Karbi-speaking learners. The graph considers five key areas: Karbi-language instruction and support, culturally relevant learning materials, teacher training, inclusive language policy, and community-school collaboration. The illustrated results indicate a high perceived priority for incorporating Karbi-language support into education and developing learning materials

that reflect the linguistic and cultural context of the community. Teacher training and inclusive language policies are also identified as important mechanisms for creating a more responsive educational environment. Community–school collaboration further highlights the role of local participation in strengthening communication between educational institutions, learners, families, and the wider Karbi community. Collectively, these intervention areas provide a sociolinguistic framework for promoting more inclusive, culturally responsive, and equitable educational practices.

Detailed Description and Mathematical Analysis:

Figure 2 presents the relative prevalence of six major educational and sociolinguistic challenges associated with the Karbi speech community. The indicators considered are language barriers (78%), limited use of Karbi in schools (72%), lack of culturally relevant learning materials (68%), teacher preparedness issues (61%), marginalization of Karbi linguistic identity (64%), and low participation/engagement (57%).

For quantitative interpretation, assuming an illustrative sample of **N = 100 respondents**, the percentage for each indicator can be calculated using:

$$P_i = \frac{n_i}{N} \times 100$$

where P_i is the percentage associated with the i^{th} challenge, n_i is the number of respondents identifying that challenge, and N is the total number of respondents.

For example, for the language barrier:

$$P_{LB} = \frac{78}{100} \times 100 = 78\%$$

Thus, approximately **78 respondents out of 100** would report language barriers under the illustrative dataset.

Similarly, the values can be represented as:

Educational challenge	Illustrative percentage	Illustrative respondents (N=100)
Language barrier	78%	78
Limited Karbi use in schools	72%	72
Lack of culturally relevant materials	68%	68
Marginalization of Karbi identity	64%	64
Teacher preparedness	61%	61
Low participation/engagement	57%	57

The **mean percentage** across the six indicators is:

$$\bar{P} = \frac{78 + 72 + 68 + 64 + 61 + 57}{6}$$

$$\bar{P} = \frac{400}{6} = 66.67\%$$

Therefore, the average level of reported educational challenges in the illustrative dataset is **66.67%**.

The difference between the highest and lowest reported indicators, or the **range**, is:

$$R = P_{\max} - P_{\min}$$

$$R = 78 - 57 = 21 \text{ percentage points}$$

This indicates a **21-percentage-point difference** between the most frequently identified challenge (language barrier) and the least frequently identified challenge (low participation/engagement).

The relative difference between these two indicators can also be expressed as:

$$\frac{78 - 57}{57} \times 100 = 36.84\%$$

Thus, the illustrative reporting level for language barriers is approximately **36.84% higher** than that for low participation/engagement.

Overall, the graph suggests that **language-related factors constitute a particularly prominent dimension of the educational difficulties**, while the other indicators demonstrate that educational challenges extend beyond language itself to include teaching resources, teacher preparedness, learner engagement, and linguistic identity. From a sociolinguistic perspective, this indicates that educational participation should be examined in relation to the interaction between **language, culture, institutional practices, and learner identity**.

Detailed Description and Mathematical Analysis:

Figure 3 illustrates five proposed intervention areas for strengthening educational inclusion among Karbi-speaking learners. The illustrative priority ratings are **86% for Karbi-language instruction/support**, **82% for culturally relevant learning materials**, **76% for teacher training**, **73% for inclusive language policy**, and **69% for community-school collaboration**.

The percentage can again be calculated using:

$$P_i = \frac{n_i}{N} \times 100$$

For example, assuming **N = 100 respondents**, the illustrative priority for Karbi-language instruction/support is:

$$P_{KLI} = \frac{86}{100} \times 100 = 86\%$$

This corresponds to approximately **86 respondents out of 100** assigning priority to Karbi-language instruction or support.

The illustrative values are:

Intervention area	Priority (%)	Illustrative respondents (N=100)
Karbi-language instruction/support	86%	86

Intervention area	Priority (%)	Illustrative respondents (N=100)
Culturally relevant learning materials	82%	82
Teacher training	76%	76
Inclusive language policy	73%	73
Community–school collaboration	69%	69

The **mean priority rating** is calculated as:

$$\bar{P} = \frac{86 + 82 + 76 + 73 + 69}{5}$$

$$\bar{P} = \frac{386}{5} = 77.2\%$$

Therefore, the average illustrative priority level across the five intervention categories is **77.2%**. The range is:

$$R = 86 - 69 = 17 \text{ percentage points}$$

Thus, there is a **17-percentage-point difference** between the highest-priority intervention and the lowest-priority intervention.

The relative difference between these two indicators is:

$$\frac{86 - 69}{69} \times 100 = \frac{17}{69} \times 100 \approx 24.64\%$$

Hence, the illustrative priority assigned to Karbi-language instruction/support is approximately **24.64% higher** than the priority assigned to community–school collaboration.

Overall quantitative interpretation

The combined mean values from the two figures can also provide a simple descriptive comparison:

Mean challenge level = 66.67%

Mean intervention priority = 77.2%

The difference is:

$$77.2 - 66.67 = 10.53 \text{ percentage points}$$

This descriptive comparison suggests that the illustrative respondents place substantial emphasis on potential interventions to address the identified educational challenges. In particular, **Karbi-language support and culturally relevant educational materials** receive the highest illustrative priority, indicating the central role of language and cultural representation in the proposed sociolinguistic framework.

Conclusion

The Karbi speech community possesses a rich linguistic and cultural heritage that deserves recognition and protection within the educational system. However, several challenges—including

the absence of mother tongue instruction, scarcity of educational materials, shortage of trained teachers, language shift, and inadequate policy implementation—continue to affect the educational development of Karbi-speaking children.

The successful integration of Karbi into the educational system can contribute significantly to improved learning outcomes, greater educational equity, and stronger cultural preservation. Mother tongue-based multilingual education offers a practical pathway for addressing these challenges while enabling students to acquire competence in regional, national, and global languages. A comprehensive and collaborative approach involving policymakers, educators, researchers, and community members is essential to ensure that the educational needs of the Karbi speech community are effectively addressed.

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