

Interactions Between English and Bambara in the Learning Process: Towards Didactics of Complexity

Interactions entre l'anglais et le bambara dans le processus d'apprentissage : vers une didactique de la complexité.

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Résumé

L'interaction entre les langues dans le processus d'apprentissage est un phénomène complexe influencé par des facteurs linguistiques, cognitifs et socioculturels. Cet article examine la relation dynamique entre l'anglais et le bambara en tant que médium d'apprentissage dans un cadre éducatif africain. S'appuyant sur une analyse documentaire approfondie, ainsi que sur les concepts du translanguaging, de la cognition distribuée et de la didactique de la complexité, l'étude explore le rôle du bambara en tant que langue médiatrice dans l'acquisition de l'anglais. Elle suggère également que l'utilisation stratégique des ressources linguistiques locales peut faciliter la compréhension des concepts abstraits, renforcer la compétence communicative et favoriser la pensée critique. Les résultats indiquent que les environnements d'apprentissage multilingues, lorsqu'ils sont efficacement structurés, favorisent un engagement cognitif plus profond et une acquisition plus significative des langues. Ils démontrent ainsi que l'intégration des langues locales dans l'enseignement de l'anglais demeure un défi en raison des politiques linguistiques restrictives en Afrique francophone, qui privilégient souvent des approches monolingues et négligent les avantages potentiels de la diversité linguistique. Cet article plaide en faveur d'une approche pédagogique systémique et intégrative, qui considère le bambara non comme un obstacle, mais comme un atout précieux pour l'apprentissage de l'anglais. En prônant des réformes curriculaires qui reconnaissent les avantages cognitifs et socioculturels de l'éducation multilingue, cette étude souligne l'importance de repenser les politiques linguistiques afin de les aligner avec les réalités des apprenants africains. En définitive, cette recherche contribue au débat plus large sur l'éducation linguistique en proposant un cadre plus inclusif et contextuellement pertinent, qui mobilise les langues locales pour soutenir l'acquisition de l'anglais dans des environnements multilingues.

Mots-clés : cognition, complexité, didactique, multilinguisme, translanguaging.

Abstract:

The interaction between languages in the learning process is a complex phenomenon influenced by linguistic, cognitive, and sociocultural factors. This article investigates the dynamic relationship between English and Bambara as a medium of learning within an African educational framework. Relying on a comprehensive documentary analysis, translanguaging, distributed cognition, and the didactics of complexity, the study examines the role of Bambara as a mediating language in the acquisition of English. It also suggests that the strategic use of local linguistic resources can facilitate the comprehension of abstract concepts, enhance communicative competence, and promote critical

thinking. The findings indicate that multilingual learning environments, when effectively structured, contribute to deeper cognitive engagement and more meaningful language acquisition. They thereby show that the integration of local languages into English language instruction remains a challenge due to restrictive linguistic policies in Francophone Africa, which often favor monolingual approaches and neglect the potential benefits of linguistic diversity. This article argues for a systemic and integrative pedagogical approach that positions Bambara not as a hindrance but as a valuable asset in English learning. By advocating for curriculum reforms that acknowledge the cognitive and sociocultural advantages of multilingual education, the study underscores the importance of rethinking language policies to align with the realities of African learners. Ultimately, this research contributes to the broader discourse on language education by proposing a more inclusive and contextually relevant framework that leverages local languages to support English acquisition in multilingual settings.

Keywords: cognition, complexity, didactics, multilingualism, translanguaging

Introduction

English has emerged as a dominant global language, serving as a key vehicle for international communication, access to global knowledge, and participation in the global economy (Crystal, 2003, p. 21). In Africa, this global status translates into a growing demand for English proficiency across various sectors, including education, business, diplomacy, and technology. A central problem in Francophone West African English language education is the persistent monolingual approach that marginalizes both local and global languages in favor of colonial French. Despite this demand, the teaching of English in Francophone West African countries remains fraught with obstacles. One of the most pressing challenges is the entrenched dominance of French, a colonial legacy that continues to shape the educational landscape and serves as the medium of instruction from early schooling onward. This hegemony often sidelines other languages and creates an environment where English is introduced late and treated as a foreign rather than an additional language. Moreover, English language instruction frequently fails to consider the multilingual reality of learners, who often speak African languages at home and in their communities. Traditional didactic approaches tend to adopt a monolingual framework that does not leverage the rich linguistic repertoires of learners, thereby hindering effective language acquisition and limiting the relevance of instruction to learners' lived experiences.

Bambara, spoken by millions across Mali and neighboring countries, functions not only as a mother tongue for many but also as a regional lingua franca that facilitates communication across diverse ethnic groups. Despite its widespread use and cultural significance, Bambara is rarely integrated into formal educational settings, particularly in the teaching of foreign languages such as English. This underutilization represents a missed opportunity, as research



in multilingual education has consistently highlighted the pedagogical benefits of incorporating learners' first or familiar languages into the learning process.

In response to the limitations of traditional language teaching methods, this study seeks to explore the framework of the didactics of complexity as articulated by E. Morin (2005, p. 12). This approach challenges the conventional, linear view of learning as a step-by-step accumulation of knowledge. Instead, it emphasizes the importance of embracing complexity and interdependence in the learning process. Within multilingual contexts such as those found in Francophone West Africa, language learning is not a straightforward progression from one linguistic code to another. Rather, it is a dynamic, non-linear process shaped by the interplay of various factors—including the learners' linguistic repertoires, cultural identities, cognitive strategies, and the broader socio-political environment. The didactics of complexity calls for an educational paradigm that recognizes these interactions and adapts teaching strategies accordingly. This framework is further informed by the theory of translanguaging (O. García and L. Wei, 2014, p. 20), which posits that multilingual individuals fluidly draw upon their entire linguistic repertoire, and the theory of distributed cognition (E. Hutchins, 1995, p. 264), which views learning as a socially situated process distributed across people and cultural tools. By accounting for the multiplicity of influences on language learning, this framework opens the door to more inclusive, context-sensitive, and cognitively engaging pedagogies that can bridge the gap between learners' lived realities and institutional expectations.

This study is guided by the central hypothesis that the strategic use of local linguistic resources like Bambara can facilitate the comprehension of abstract concepts in English, enhance communicative competence, and promote critical thinking. Studies by scholars such as A. B. Bodo (1996, p. 34) and A. Ouane and C. Glanz (2010, p. 27) provide compelling evidence that African languages like Bambara serve as powerful scaffolds for learning additional languages. Because they align closely with learners' cognitive and sociolinguistic frameworks, these local languages can facilitate a deeper understanding of abstract linguistic concepts, enhance cognitive engagement, and support more meaningful connections between new and prior knowledge. By ignoring these resources, current educational practices not only limit learners' potential but also reinforce linguistic hierarchies that privilege colonial languages over indigenous ones. The primary objective of this article is to investigate the dynamic relationship between English and Bambara as a medium of learning. Relying on a comprehensive documentary analysis, the study examines the role of Bambara as a mediating

language in the acquisition of English. It aims to demonstrate that multilingual learning environments, when effectively structured, contribute to deeper cognitive engagement and more meaningful language acquisition. Ultimately, this research argues for a systemic and integrative pedagogical approach that positions Bambara not as a hindrance but as a valuable asset in English learning.

To give operational substance to this hypothesis, the present study positions it as the central organizing principle that structures both the theoretical and analytical components of the work. Rather than functioning merely as a declarative statement, the hypothesis informs the selection of theoretical models that explicitly explain how multilingual learners mobilize familiar linguistic systems to acquire new ones. It also guides the comparative examination of English and Bambara by orienting the analysis toward the identification of linguistic features through which Bambara may serve as a cognitive scaffold. Furthermore, the hypothesis shapes the pedagogical discussion by determining the types of strategies and instructional practices that are highlighted—namely, those that leverage learners’ pre-existing linguistic repertoires to enhance comprehension, communicative competence, and critical reasoning. In this way, the hypothesis provides coherence to the study by linking the documentary analysis, contrastive exploration, and pedagogical implications into a single, unified line of inquiry.

To address these points, the article will first elaborate on the key concepts before presenting a comparative analysis of the linguistic structures of English and Bambara and explore the cognitive dynamics of learning both languages. This will be followed by a discussion that builds a case for didactics of complexity, proposing concrete methods for integrating Bambara into English learning, including the development of multilingual materials and metalinguistic activities, while also addressing the significant challenges to implementation. The manuscript will conclude by synthesizing the transformative potential of this approach and outlining perspectives for future research and practical application.

1. Theoretical foundations for multilingual didactics of complexity

1.1. The conceptual pillars: didactics, complexity, and language learning

The analysis is guided by five principal concepts: didactics, complexity, language learning, translanguaging, and distributed cognition. Didactics, as the theoretical and practical foundation of teaching and learning, involves the deliberate planning, execution, and evaluation of educational processes. It explores not just what content should be taught, but how it should be

delivered and adapted to suit learners' needs, interests, and developmental stages. Didactics integrates pedagogical and andragogical principles, curriculum design, instructional strategies, and assessment practices to facilitate effective learning. It also addresses the relationships between teachers, students, and content, promoting reflective and adaptive teaching methods. In contemporary education, didactics is increasingly informed by learner-centered and evidence-based approaches that prioritize active engagement and contextual relevance (S. Hopmann, 2007, p. 112). Furthermore, digital didactics has emerged as a key area in response to technological shifts, emphasizing how digital tools reshape pedagogy (S. Blömeke, 2017, p. 555; M. Ghomi & C. Redecker, 2019, p. 542).

Complexity refers to systems characterized by numerous interdependent elements, non-linear relationships, and emergent behaviors that cannot be predicted by examining individual components in isolation. In educational contexts, complexity theory challenges reductionist views of teaching and learning, proposing instead that classrooms are dynamic, adaptive systems shaped by interactions between learners, educators, content, and the broader social environment (D. Brent & D. Sumara, 2006, p. 5). This perspective emphasizes that learning does not follow a fixed path but emerges through engagement, adaptation, and feedback. Complexity thinking encourages teachers to embrace uncertainty and diversity, recognizing that meaningful learning often arises from unexpected or emergent outcomes rather than predetermined instruction (M. Mason, 2008, p. xii). Morin's theory of complex thinking in his *Introduction to Complex Thinking* challenges traditional, linear conceptions of learning by proposing that it is not merely a straightforward transmission of information from teacher to student (Morin, 2005). Instead, learning should be understood as a dynamic, multifaceted process shaped by a variety of interrelated, and paradoxical factors, including emotional, cultural, social, and cognitive dimensions. This perspective emphasizes the importance of acknowledging the inherent unpredictability and interconnectedness of the learning experience, where outcomes cannot always be precisely measured or anticipated.

Language learning is a dynamic, interactive process that involves the acquisition of linguistic structures, vocabulary, and communicative strategies. It is influenced by cognitive, affective, social, and cultural variables, and is shaped by both formal instruction and authentic communicative experiences. Modern approaches to language learning, such as communicative language teaching (CLT) and task-based language teaching (TBLT), emphasize the importance of meaningful interaction and real-world language use over rote memorization of grammatical

rules (J. C. Richards & T. S. Rodgers, 2014, p. 4). Moreover, sociocultural theories highlight the role of social context and collaborative dialogue in second language acquisition, positing that language learning is deeply rooted in social interaction (L. S. Vygotsky, 1978, p. 30; J. P. Lantolf & S. L. Thorne, 2006, p. 31). These perspectives have reshaped language education, placing greater value on learner agency, motivation, and intercultural competence.

The didactics of complexity is a pedagogical approach that integrates complexity theory into instructional design and teaching practices. It recognizes that education takes place within dynamic systems influenced by multiple interacting factors, such as cultural context, learner diversity, and technological change. This approach moves beyond linear, step-by-step instruction and instead fosters environments where knowledge emerges through interaction, exploration, and reflection. Teachers adopting this perspective must be flexible and responsive, facilitating interdisciplinary learning and encouraging students to engage with real-world problems that do not have clear-cut solutions (E. Morin, 2008, p. 104). Additionally, the didactics of complexity supports personalized learning paths and values the co-construction of knowledge, where learners are seen as active participants rather than passive recipients (G. Biesta, 2010, p. 17). In the context of language didactics, adopting this complex view necessitates moving beyond rigid, monolingual models of instruction. It calls for recognizing the learner as a plurilingual individual—someone who draws upon a diverse and fluid set of linguistic resources acquired through formal education, social interaction, and personal experience. As J. Cenoz and D. Gorter (2014, p. 245) argue, learners do not compartmentalize their languages but instead mobilize their entire linguistic repertoire in flexible and strategic ways to make meaning, communicate effectively, and solve problems.

This has profound implications for teaching, as it highlights the need to create pedagogical environments that value linguistic diversity, promote translanguaging practices, and encourage learners to draw connections across languages. Ultimately, embracing complexity in language learning enables educators to better support learners' development as competent, adaptive communicators in a multilingual world. The theory of translanguaging, as developed by O. García and L. Wei (2014, p. 20), challenges traditional notions of bilingualism that treat languages as separate and bounded systems. Instead, it posits that multilingual individuals fluidly draw upon their entire linguistic repertoire to make sense of the world, solve problems, and communicate effectively. This perspective recognizes that language use in real-life contexts is dynamic and interwoven, rather than segmented into distinct categories. In educational

settings, translanguaging provides a powerful pedagogical framework that values and legitimizes the linguistic resources students bring to the classroom. Within this framework, Bambara—a widely spoken local language in Mali—can serve as a vital cognitive and conceptual bridge to facilitate the learning of English. Through the process of semantic anchoring, as discussed by C. Baker (2011), learners can connect unfamiliar English vocabulary or grammatical structures to familiar concepts and expressions in Bambara. This not only enhances comprehension and retention but also affirms learners' identities and cultural knowledge, leading to a more inclusive and effective learning experience.

The theory of distributed cognition, articulated by E. Hutchins (1995, p. 264), offers a compelling lens through which to understand human learning and intelligence. According to this approach, cognition is not confined to the mind of the individual learner; rather, it is distributed across people, tools, symbols, and the surrounding environment. Learning is thus a socially situated process that involves collaboration, interaction, and the use of culturally embedded resources. In the context of language education, this means that the classroom is not an isolated site of knowledge transfer but a dynamic space where meaning is co-constructed through linguistic and cultural exchange. Integrating Bambara into the English language classroom aligns with this perspective by recognizing the value of learners' existing cognitive and cultural frameworks. By incorporating Bambara expressions, proverbs, analogies, or even storytelling traditions into English instruction, teachers can tap into familiar cognitive schemas and support learners in navigating new linguistic terrain. This culturally responsive pedagogy not only enhances comprehension but also affirms learners' identities and fosters a deeper, more meaningful engagement with the learning process.

The theoretical frameworks presented above are mobilized intentionally in order to test and illuminate the study's central hypothesis. By combining translanguaging, distributed cognition, additive bilingualism, and the didactics of complexity, the theoretical section establishes the conceptual conditions under which Bambara may operate as a cognitive and pedagogical resource for English learning. These frameworks collectively articulate why multilingual learners draw on their entire linguistic repertoires, how cognitive functions are distributed across languages, and why pedagogical systems should integrate rather than suppress linguistic plurality. This theoretical scaffolding therefore directly supports the hypothesis that Bambara can serve as a mediating linguistic tool in the acquisition of English.

1.2. Linguistic contrasts and cognitive synergies between English and Bambara

From the Greensbergian perspective, English and Bambara originate from entirely different language families, which accounts for many of the structural and phonological contrasts between them. English belongs to the Indo-European family and is characterized by a relatively fixed word order (typically Subject-Verb-Object), a rich use of phrasal verbs, and a reliance on syntactic rather than morphological cues to express grammatical relationships. It has a stress-timed rhythm, with intonation playing a key role in conveying meaning, emotion, and pragmatic nuance. On the other hand, Bambara, a member of the Niger-Congo language family, also follows an SVO word order but differs markedly in other respects. Though it is supposed to be an agglutinative language, meaning that words are formed through the linear addition of affixes, each of which carries specific grammatical or semantic information, it is actually an isolating language, meaning that it conveys grammatical meaning primarily through the use of separate functional words, rather than by altering the structure of individual words (V. Vydrin, 2016).

Furthermore, Bambara is a tonal language, where pitch and tone patterns are essential for distinguishing meaning between otherwise identical lexical items (D. Creissels, 2009). These typological differences present a range of challenges for Bambara speakers learning English. For example, learners may struggle with English's complex vowel system, consonant clusters, and prosodic features, all of which differ significantly from the phonetic and tonal system of Bambara. Additionally, mastering the use of phrasal verbs and articles in English can be particularly difficult for learners whose first language lacks equivalent structures. However, not all aspects are entirely divergent. There are certain similarities, such as the grammatical marking of aspect in both languages, which can serve as useful points of reference. These shared features provide opportunities for contrastive analysis and pedagogical strategies that build on what learners already know, thereby easing the acquisition process despite the overarching typological distance between the two languages.

This contrastive analysis is not undertaken for descriptive purposes alone; it is directly aligned with the study's guiding hypothesis. By identifying the areas in which Bambara and English diverge sharply—such as tonality, phonological structure, and morphological processes—as well as the points at which they overlap or parallel one another, the analysis clarifies the linguistic pathways through which Bambara may assist learners in navigating English structures. These contrasts allow us to determine where conceptual anchoring is

possible, where transfer may occur naturally, and where pedagogical mediation is necessary. In doing so, the contrastive section operationalizes the hypothesis by demonstrating concretely how Bambara can function as a cognitive bridge facilitating the learning of English.

Additive bilingualism, as theorized by J. Cummins (2000), emphasizes that the acquisition of a second language is most successful when the first language, or mother tongue, is already well-developed and actively supported. This theory challenges the misconception that learning a second language requires reducing reliance on the first. Instead, it posits that cognitive and academic proficiency in one language can reinforce and support learning in another. In the context of learners whose first language is Bambara, incorporating this language as a pedagogical foundation can yield significant cognitive benefits. By using Bambara in classroom instruction, teachers can help students better understand linguistic structures, grammatical rules, and vocabulary in a familiar context, which then serves as a springboard for learning English. This approach enhances metalinguistic awareness—the ability to reflect on and manipulate language forms—and allows learners to draw parallels between languages, recognize patterns, and transfer conceptual knowledge across linguistic boundaries. In turn, this strengthens their overall linguistic competence and contributes to more effective and meaningful English language acquisition.

Research in neurocognitive science, particularly the work of E. Bialystok (2009), has demonstrated that bilingual individuals often exhibit enhanced cognitive flexibility, a mental ability that enables them to shift attention between tasks, perspectives, or conceptual frameworks more efficiently than monolinguals. This flexibility is particularly relevant in language learning contexts, as bilingual learners must regularly switch between different linguistic systems, often navigating differing grammatical rules, vocabulary sets, and phonological structures. Such mental switching exercises the brain's executive control functions—those responsible for attention, inhibition, and working memory. As a result, bilingual learners tend to be more adept at multitasking, adapting to new information, and solving complex problems that require divergent thinking. In educational settings, these cognitive advantages translate into improved academic performance across subjects, greater adaptability in learning new languages, and a higher capacity for critical thinking. Thus, encouraging and nurturing bilingualism not only supports language development but also cultivates broader intellectual skills that benefit learners throughout their academic and professional lives.

1.3. Methodology

This study is based on a qualitative and documentary research design whose purpose is to analyse how existing theoretical, pedagogical, and linguistic scholarship can illuminate the potential mediating role of Bambara in the acquisition of English. The methodological approach unfolded through three systematic stages.

1.3.1. Corpus identification and selection:

The source corpus was constructed by identifying academic publications that address multilingual education, African languages in schooling, translanguaging practices, distributed cognition, additive bilingualism, and the didactics of complexity. Priority was given to peer-reviewed journal articles, monographs, UNESCO policy documents, and linguistic descriptions of Bambara and English. These works were selected not only for their scientific relevance but also because they offer complementary insights into cognitive, pedagogical, and sociolinguistic dimensions of language learning.

1.3.2. Analytical and interpretive procedure:

The analysis followed a thematic, contrastive, and theory-driven approach. Each source was examined to extract key conceptual relationships relevant to multilingual learning. Particular attention was given to (a) mechanisms through which familiar linguistic resources facilitate the acquisition of new languages; (b) cognitive processes involved in the coordination of multiple languages; and (c) the structural contrasts between English and Bambara that may influence learning trajectories. These thematic categories were then compared, cross-referenced, and synthesized to illuminate how Bambara can act as a mediating tool in English acquisition. This method ensured analytical coherence and allowed recurring patterns to emerge, thereby strengthening the study's interpretive validity.

1.3.3. Theoretical integration guided by the hypothesis:

The central hypothesis played an instrumental role in shaping how the findings from the documentary analysis were interpreted. Rather than simply juxtaposing isolated theoretical contributions, the study integrated them through the lens of the guiding hypothesis, ensuring that each interpretation responded to the question of whether—and how—Bambara could facilitate English learning. This hypothesis-driven integration allowed the study to move beyond a descriptive literature review toward a conceptual model that addresses cognitive

scaffolding, linguistic transfer, and pedagogical innovation in multilingual environments. This methodological process provides transparency regarding the construction of the argument and clarifies the analytical steps through which the study develops its claims.

2. Towards didactics of complexity: integrating Bambara in English learning

Studies have consistently demonstrated that integrating local languages into the educational system not only enhances academic performance but also fosters greater learner engagement and motivation. When students are taught in a language they understand well—often their mother tongue—they are more likely to grasp complex concepts, participate actively in class, and develop critical thinking skills. Research by A. Ouane and C. Glanz (2010, p. 27) supports this view, showing that mother-tongue instruction improves literacy, numeracy, and overall educational outcomes, particularly in the early years of schooling. Additionally, using familiar languages affirms learners' cultural identity and promotes a sense of inclusion and self-worth, which are key factors in sustaining motivation and reducing dropout rates. Despite this compelling evidence, many countries in Francophone Africa maintain educational policies that prioritize colonial languages—particularly French—while marginalizing indigenous African languages. This exclusion, as P. G. Djité (2008) argues, creates a significant linguistic and cognitive divide, as learners are often forced to acquire knowledge in a language they do not fully command. This not only hampers comprehension and academic progress but also reinforces social inequalities, as only those with access to French outside of school—typically urban and elite students—are positioned for success. The continued resistance to incorporating African languages in formal education thus represents both a missed opportunity for educational equity and a broader failure to decolonize knowledge systems in the region.

Applying the translanguaging approach to the Anglo-Bambara context opens the door to the deliberate creation and use of multilingual teaching materials that actively incorporate both English and Bambara. These materials could take the form of bilingual textbooks, side-by-side vocabulary lists, grammar comparison charts, dual-language storybooks, or interactive digital content that alternates between the two languages. Such resources do more than simply present content in two languages; they are designed to facilitate learners' ability to draw parallels between linguistic structures, vocabulary, and cultural references. By seeing how ideas are expressed differently—or similarly—in both English and Bambara, learners can develop stronger conceptual links that enhance comprehension and retention. This also helps to validate both languages in the classroom setting, reinforcing the idea that multilingualism is a cognitive

asset rather than a barrier to learning. Furthermore, multilingual materials can encourage teachers to adopt a more flexible pedagogical stance, allowing for smoother transitions between languages and more inclusive participation from students of diverse linguistic backgrounds.

Another powerful outcome of implementing a translanguaging approach in the Anglo-Bambara educational context is the opportunity to design and integrate metalinguistic activities that prompt students to think critically about how their languages function. These activities could include exercises that compare sentence structure, verb conjugation, phonological patterns, or the use of tense and aspect in both English and Bambara. Students might also analyze how certain concepts are expressed differently in each language and why those differences exist, linking language to culture and cognition. Through these reflective tasks, learners not only deepen their understanding of each language's grammar and syntax but also develop heightened language awareness, which can improve overall literacy and linguistic agility. Engaging in such comparative analysis helps students to become more conscious of their linguistic choices and more strategic in their language use. In addition, this metalinguistic competence fosters cognitive skills like abstract thinking and analytical reasoning, which are beneficial beyond language learning and applicable across academic disciplines.

While incorporating Bambara into the English language teaching curriculum in Subsaharan African countries (Mali, Burkina Faso, Côte d'Ivoire, etc.) offers numerous pedagogical and cultural benefits—such as improving comprehension, promoting linguistic inclusivity, and fostering a sense of identity among learners—it is not without its obstacles. These challenges are deeply rooted in both structural and ideological dimensions of the educational system. Effective implementation requires not just a theoretical endorsement of multilingual education, but also practical, systemic changes that address resistance, professional preparedness, and resource development. The following paragraphs examine three of the most pressing challenges confronting this initiative.

One of the most significant barriers to integrating Bambara in English teaching stems from institutional and ideological resistance, as noted by K. Heugh (2011). Indeed, this resistance is often linked to longstanding colonial legacies that prioritize foreign languages—such as French and English—over indigenous languages in formal education. As a result, Bambara and other local languages are frequently perceived as less prestigious or less useful in academic and professional settings. This perception is reflected in national education policies, curriculum designs, and assessment structures that continue to favor monolingual models. Additionally,

there is a prevalent belief among some policymakers, educators, and parents that using local languages in the classroom may hinder students' proficiency in global languages. Overcoming these ideological barriers requires a shift in mindset and a strong commitment from stakeholders to recognize the cognitive and cultural value of mother tongue-based multilingual education.

Another major challenge is the insufficient training of teachers in multilingual education approaches. Most teacher training programs in Sub-Saharan African countries (Mali, Burkina Faso, Côte d'Ivoire, etc.) are still largely designed for monolingual instruction, with little emphasis on strategies for teaching in and through multiple languages. As a result, many teachers lack the pedagogical skills, confidence, and theoretical background necessary to effectively incorporate Bambara alongside English in the classroom. This gap not only affects the quality of instruction but also contributes to teachers' own hesitation or resistance toward adopting bilingual methodologies. Addressing this issue requires comprehensive reform in teacher education programs, including modules on language acquisition, code-switching techniques, translanguaging practices, and cultural competency. Continuous professional development and supportive classroom resources are also essential to equip educators for the complex realities of multilingual classrooms.

The success of integrating Bambara into English teaching also hinges on the availability of culturally and linguistically appropriate teaching materials. Currently, most textbooks and learning resources are designed with monolingual, often Western, learners in mind, making them ill-suited for students whose first language is Bambara. These materials often fail to reflect local contexts, examples, and language practices, which can result in a disconnect between the learner and the content. To support bilingual instruction effectively, there is an urgent need for the development of textbooks and educational resources that are specifically adapted to the Sub-Saharan African countries (Mali, Burkina Faso, Côte d'Ivoire, etc.) context. This includes materials that incorporate Bambara-English language comparisons, bilingual glossaries, culturally relevant narratives, and tasks that encourage translanguaging. Collaboration between linguists, educators, curriculum developers, and local communities will be essential in creating high-quality, context-sensitive educational tools that support both language acquisition and cultural affirmation.

Conclusion

The study highlights a significant and promising development in the field of language education by demonstrating that the inclusion of Bambara—one of Mali's most widely spoken

indigenous languages—into the process of learning English can yield practical and transformative benefits. This approach moves beyond conventional monolingual teaching methods by adopting a systemic and complex framework that intentionally integrates the learners' first language into the acquisition of a second. Rather than treating English as an isolated and foreign linguistic system, this method positions it within a bilingual or even multilingual educational context, acknowledging the interconnectedness of linguistic competencies. The evidence suggests that this approach not only facilitates more meaningful engagement with English language content but also empowers learners by validating their linguistic identity. By building upon a language that students already understand and use in their daily lives, the process of acquiring English becomes more intuitive and accessible, particularly for learners in rural or under-resourced areas. Thus, incorporating Bambara into English instruction represents not just a pedagogical shift, but also a socio-cultural affirmation that challenges the dominance of foreign languages in education systems and opens pathways for more equitable learning environments.

Integrating Bambara into English language education is not merely a matter of linguistic convenience; it is a recognition of the rich cognitive, cultural, and linguistic assets that learners bring to the classroom. By acknowledging and utilizing these existing resources, educators can craft a language learning experience that is not only more inclusive but also more contextually meaningful. A systemic approach to this integration means that Bambara and English are treated as interrelated parts of a learner's linguistic repertoire rather than as separate entities. This interrelationship allows for the strategic use of code-switching, translation, and contrastive analysis, which can enhance metalinguistic awareness and accelerate language acquisition. Furthermore, this method aligns with key principles from sociolinguistic and educational research, which argue that the use of learners' mother tongues serves as a cognitive scaffold for learning additional languages. Such practices challenge the often implicit deficit view of indigenous languages in formal education, instead reframing them as essential tools for learning and intellectual development. In this light, the incorporation of Bambara becomes a deliberate and empowering educational strategy that respects the learners' identity and linguistic heritage while fostering more effective language learning.

In light of its strong theoretical foundation and promising educational implications, it is essential that future research and practice focus on how this integrative approach can be translated into concrete actions within classroom environments. Operationalizing the Bambara-

English bilingual model involves the development of comprehensive curricula that reflect both linguistic systems and promote cross-linguistic transfer. It also necessitates the creation of teaching strategies that harness the strengths of bilingual instruction, such as using Bambara to explain complex grammatical structures in English or designing classroom activities that encourage students to draw comparisons between the two languages. Additionally, appropriate assessment tools must be developed to evaluate student progress in both languages without penalizing the use of the mother tongue. Equally important is the training of educators, who must be equipped not only with bilingual proficiency but also with pedagogical knowledge to implement this approach effectively. Culturally responsive teacher training programs will be vital to ensure that educators value and utilize students' linguistic backgrounds as assets rather than obstacles. Ultimately, adopting this bilingual approach can help bridge the gap between local linguistic realities and global language demands, resulting in a more inclusive, effective, and empowering language education system that prepares students for both local engagement and global participation.

Although this study is primarily theoretical, it positions itself as a conceptual foundation for future empirical research. The framework developed here opens several avenues for applied investigation, including classroom observations of translanguaging practices, studies on teachers' attitudes and preparedness for bilingual pedagogy, and comparative analyses of learner outcomes in multilingual and monolingual environments. These directions can help operationalize the Bambara–English integrative approach and evaluate its impact in diverse educational contexts. By outlining such possibilities, the study invites further research to test, refine, and extend the conceptual propositions advanced in this work.

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