

The Interplay of Cognitive, Social, and Neurological Factors in Language Learning

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Abstract: Learning a new language is a complex process influenced by both linguistic structures and sociological factors. This paper explores the interplay between these elements, emphasizing that language acquisition involves not only the memorization of rules but also deep engagement with the social contexts in which language is used. Theoretical frameworks, such as Chomsky's universal grammar, provide the cognitive foundations for language learning, while Vygotsky's sociocultural theory and Bourdieu's concept of linguistic capital highlight the significance of social interactions and cultural practices in shaping language proficiency. By integrating these perspectives, the paper advocates for a holistic approach to language pedagogy that fosters both cognitive strategies and social participation. As digital platforms continue to transform language learning, it is essential for educators to adapt their teaching methods to create meaningful engagement with languages, ultimately supporting learners in becoming proficient communicators and active members of language communities.

Keywords: Language Learning, Linguistic Structures, Sociological Factors.

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Introduction

Learning a new language is often perceived as a daunting task, fraught with challenges that can seem insurmountable. This perception is supported by various studies that highlight the cognitive, emotional, and social factors influencing language acquisition. The complexity of mastering a new language involves not only the memorization of vocabulary and grammar rules but also the development of listening, speaking, reading, and writing skills. Research indicates that age, motivation, and exposure play significant roles in the language learning process (Ellis, 2008; Krashen, 1982). Furthermore, the phenomenon of language interference, where the learner's native language affects their ability to acquire a new one, adds another layer of difficulty (Odlin, 1989). Despite these challenges, many individuals successfully learn new languages, suggesting that while the process may be difficult, it is certainly achievable with the right strategies and support. Adults have the ability to learn new languages due to neuroplasticity, which allows the brain to form new connections. While it may be easier for children to learn languages, adults can

still achieve fluency with practice. Neuroplasticity allows the brain to adapt to new experiences, including language learning. When you learn a new language, your brain creates and strengthens connections between neurons, particularly in areas associated with language processing.

1. Linguistic and Sociological Factors in Language Learning

As a process, the ability to learn a language often stems from linguistic and sociological factors that enable the process. While scholars have independently argued that language itself operates on innate linguistic mechanisms on the one hand and on dynamic sociocultural interactions on the other (see Chomsky, 1957, 1965; Vygotsky, 1978), we argue in this section that language learning transcends the mere acquisition of rules to a process underpinned by internal cognitive predispositions and external sociological forces. As such, we argue on how linguistic structures form the basis for language learning, the roles of social context of language in its learning, the connection between the former and the latter as well as their theoretical and pedagogical implications.

1.1 Linguistic Structures as the Foundation of Language Learning

At the heart of language learning lies the intrinsic structure of language itself (Umoh, 2023). Chomsky (1957, 1965) has established that language is underpinned by an innate grammatical framework—often referred to as universal grammar—which predisposes humans to acquire language. According to him, this internal linguistic competence enables learners to navigate and assimilate complex syntactic patterns with relative ease (Chomsky, 1965). This perspective is not merely theoretical but has practical implications on, for instance, the idea that the regularity or irregularity in morphological patterns directly impacts the rate and success of language acquisition (Sweller, 1988). In his argument, Sweller suggests that learners' processing capacity is finite, and as such the structural complexity of language influences how efficiently linguistic information is internalised (Sweller, 1988).

Notably, the structural properties of language also play a critical role in determining how effectively learners can extract and apply linguistic rules (Nyah, Dickson & Umoh, 2024). Research in cognitive linguistics underscores the importance of formal linguistic properties in language learning, where phonology, morphology, syntax, and semantics form an interrelated system that guides language acquisition (Langacker, 1987). Thus, a firm grasp of these structures provides a scaffold for learners, thereby enabling them to process input and develop interlanguage systems that approximate native proficiency (Ellis, 2016).

1.2 Sociological Factors: The Social Context of Language

While we have argued that linguistic structures provide the necessary cognitive framework, the sociological factors that envelop language learning are equally indispensable. Language, as argued by Wittgenstein in *Philosophical Investigations* (Wittgenstein, 1953), gains meaning through its use within what he describes as specific “forms of life.” This assertion places social context at the centre of language meaning and, consequently, language learning. This sociocultural perspective, as further argued in the work of Vygotsky (1978), posits that language acquisition is deeply embedded in social interaction, cultural practices, and community participation (Vygotsky, 1978). Particularly, Vygotsky's concept of the Zone of Proximal Development illustrates how learners benefit from guided interactions with more knowledgeable others (usually parents, and sometimes peers and experienced users), thereby internalising language through mediated social experience (Vygotsky, 1978).

This sociological dimensions, it should be noted, extend beyond interpersonal interactions to encompass broader cultural and institutional influences. Bourdieu's notion of linguistic capital has established the idea that language proficiency is a resource that confers social power and prestige (Bourdieu, 1991). This concept is further supported by empirical evidence showing that learners' social backgrounds and their access to language-rich environments substantially affect language proficiency outcomes (see, for example, Norton & Toohey, 2011). That might have motivated Norton's (2000) argument that in diverse learning contexts, the interplay between social identity and language use becomes particularly significant, as learners negotiate their roles and identities within target language communities.

Additionally, the emergence of digital platforms has redefined the sociological landscape of language learning. As Blake (2020)

claims, online communities and social media networks now provide learners with authentic opportunities for interaction as a good way of facilitating exposure to varied linguistic registers and cultural norms. These digital environments underscore the argument that sociological factors are not peripheral but central to the process of language learning, thereby reinforcing that authentic language use in social contexts accelerates learning and enhances communicative competence (Godwin-Jones, 2018).

1.3 Interweaving Linguistic and Sociological Factors

Abdullahi (2020) asserts that communicative competence is the ability of individuals to communicate with one another under situationl and normatively defined conditions (linguistic, psychological, social and pragmatic in nature). The integration of linguistic and sociological factors in language learning forms a comprehensive framework that addresses both the cognitive mechanisms and the social realities of language use. Ortega (2014) has indeed claimed that language learning is best understood as an emergent phenomenon arising from the continuous interaction between cognitive structures and social engagement. This integrative model challenges the reductionist view that separates internal language competence from external social practices. Instead, it emphasises that linguistic input, when encountered within meaningful sociocultural contexts, is more readily processed, internalised, and ultimately applied by learners (Ortega, 2014).

Similarly, Task-based Language Teaching (TBLT) provides a practical illustration of this integrated approach. In TBLT, learners are engaged in real-world tasks that require authentic communication, thereby necessitating the simultaneous use of linguistic knowledge and sociocultural awareness (Ellis, 2016). Studies (e.g., Willis & Willis, 2007) have of course demonstrated that such tasks not only improve grammatical accuracy but also enhance pragmatic competence, which is fundamentally social in nature. This dual focus on form and function underscores that language learning is not a solitary cognitive exercise but a dynamic, socially mediated process.

Moreover, the concept of “communities of practice,” as proposed by Lave and Wenger (1991), further illustrates how learners become adept at language use by gradually moving from peripheral participation to full membership within a community. This process of socialisation is critical, especially in facilitating the internalisation of both linguistic forms and the cultural practices that imbue them with meaning (Lave & Wenger, 1991). This whole emphasis on participation and identity formation highlights that language learning is as much about becoming a member of a community as it is about acquiring a set of abstract linguistic rules.

1.4 Theoretical and Pedagogical Implications

Following our argument above, it is clear that the synthesis of linguistic and sociological factors has profound implications for both theoretical models and practical pedagogy. Theoretically, it challenges educators and researchers to reconceptualise language learning as an integrated phenomenon that transcends the binary of nature versus nurture. This might have inspired Habermas (1984) contention that communicative competence is central to social integration and human emancipation, suggesting that language learning should be viewed as a process of active social participation rather than mere cognitive assimilation (Habermas, 1984). This view is bolstered by contemporary research in

cognitive neuroscience, which, for example, indicates that neural networks involved in social cognition are activated during language processing, thereby providing a biological basis for the sociocultural dimensions of language learning (Hagoort, 2017).

In practical terms, these theoretical insights necessitate pedagogical models that foster both cognitive and social engagement. Educators are encouraged to create learning environments that not only focus on the systematic teaching of linguistic structures but also immerse learners in authentic communicative practices. For instance, culturally responsive teaching strategies, as Gay (2018) argues, which incorporate learners' diverse cultural backgrounds into the curriculum, have been shown to enhance both linguistic proficiency and social awareness. Such strategies align with Norton and Toohey's (2011) call for an integrative pedagogy that acknowledges the dual nature of language learning.

Additionally, the incorporation of digital tools in language instruction represents a significant advancement in aligning theory with practice. As Blake (2020) and Godwin-Jones (2018) have demonstrated, the use of technology in language education can bridge the gap between linguistic knowledge and sociocultural engagement, enabling learners to access authentic language use beyond the confines of the traditional classroom. These innovations underscore the importance of adapting pedagogical approaches to meet the evolving demands of language learners in a globalised, digitally connected world.

Conclusions

In conclusion, learning a new language is a multifaceted process influenced by both linguistic structures and sociological factors. The interplay between these elements highlights that language acquisition is not merely about memorizing rules but involves a deep engagement with the social contexts in which language is used. Linguistic frameworks, as established by theorists like Chomsky, provide the cognitive foundations essential for language learning. However, the social dynamics, emphasized by the works of Vygotsky and Bourdieu, underscore the importance of cultural and community interactions in shaping language proficiency.

The integration of these factors offers a holistic understanding of language learning, suggesting that effective pedagogy should not only focus on cognitive strategies but also foster social participation and authentic communication. By embracing this comprehensive approach, educators can create environments that support learners in becoming proficient communicators and active members of language communities. As digital platforms continue to reshape the landscape of language learning, it is crucial to adapt teaching methods to leverage these tools, ensuring that learners can engage with languages in meaningful ways.

References

1. Abdullahi, B. S. (2020) The Cross-Linguistic Influence of English and Hausa on Learning French by Hausa Native Speakers in *Kakaki A Journal of English and Literary Studies* (II), 116-129
2. Abdullahi, B. S. & Umoh, D. E. (2024) Code Switching in Kannywood film: Linguistic Empowerment or Disenfranchment in *Bilingualism: French and English A festschrift for Professor Bashir Muhammad Sambo* (ed.) Abdullahi B.S. First Rate Graphic Solution.
3. Blake, R. (2020). *Technology and Language Learning: Harnessing Digital Media*. Routledge.
4. Bourdieu, P. (1991). *Language and Symbolic Power*. Harvard University Press.
5. Chomsky, N. (1957). *Syntactic Structures*. Mouton.
6. Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press.
7. Ellis, R. (2016). Focus on form: A critical review. *Language Teaching Research*, 20(3), 405-428.
8. Formisano, M. A. (2019). Osservazione e guida all'apprendimento tra psicoeducazione e neuroscienze. Cava De'Tirreni, Italia: Area Blu Edizioni.
9. Formisano, M. A. (2021). Psychoeducational aspects in distance learning. *International Journal of Research in Education and Psychology (IJREP)*, 9(1), 15-25. <https://doi.org/10.1234/ijrep.2021.01.001>
10. Gay, G. (2018). *Culturally Responsive Teaching: Theory, Research, and Practice*. Teachers College Press.
11. Habermas, J. (1984). *The Theory of Communicative Action*. Beacon Press.
12. Hagoort, P. (2017). The core and beyond in the language-ready brain. *Neuroscience & Biobehavioral Reviews*, 81, 194–204.
13. Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.
14. Langacker, R. W. (1987). *Foundations of Cognitive Grammar: Volume 1*. Stanford University Press.
15. Norton, B. (2000). *Identity and Language Learning: Gender, Ethnicity and Educational Change*. Longman.
16. Norton, B., & Toohey, K. (2011). Identity, language learning, and social change. *Language Teaching*, 44(4), 412–446.
17. Nyah, P; Dickson, A. A. & Umoh, D. E. La langue comme véhicule culturel et identitaire: Une réflexion sur la langue ibibio. *Revue d'Etudes Francaises des Enseignants et Chercheurs du Village (REFECV)*, 1(4), 206-219, <https://www.refecv.com>
18. Ortega, L. (2014). *Understanding Second Language Acquisition*. Routledge.
19. Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285.
20. Umoh, D. E. (2023). A Critical Discourse Analysis of Former Governor Udom Gabriel Emmanuel's Selected Speeches. *International Journal of Multilingualism and Languages for Specific Purposes (IJMLSP)*, 5(1), 56-66, <https://revue.univ-oran2.dz/Revue/IJMLSP/index.php/IJMLSP>
21. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.
22. Wittgenstein, L. (1953). *Philosophical Investigations*. Blackwell.
23. Willis, D., & Willis, J. (2007). *Doing Task-Based Teaching*. Oxford University Press.