



LEXICAL DEVELOPMENT IN UZBEK–ENGLISH BILINGUALISM: NEUROPSYCHOLINGUISTIC AND SOCIAL FACTORS

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Abstract

This article examines the characteristics of Uzbek–English bilingualism in contemporary Uzbek families, with particular attention to lexical development in children acquiring two languages from neuropsycholinguistic and sociolinguistic perspectives. Special attention is given to the mechanisms through which lexical units in two languages are perceived, processed semantically, stored in memory, and activated during speech production. The study also considers the influence of the family language environment, education, digital media resources, parental attitudes toward language learning, and social communication on the development of bilingual lexical competence. Phenomena such as code-switching, lexical interference, and cross-linguistic interaction are analyzed as natural features of bilingual language development. The analysis suggests that a bilingual environment may create favorable conditions for the development of children's metalinguistic awareness, communicative flexibility, and lexical competence. At the same time, the outcomes of bilingual development may vary depending on the child's age, the quantity and quality of language exposure, the intensity of interaction in each language, the characteristics of the linguistic environment, and individual cognitive factors.

Keywords

bilingualism, Uzbek–English bilingualism, neuropsycholinguistics, lexical development, lexical competence, language acquisition, code-switching, interference, cognitive processes, family language environment.



Introduction. Globalization, the expansion of international educational relations, and the rapid development of the digital information environment have contributed to the growing role of English as a means of international communication. This process has also increased the demand for and interest in early foreign-language education in Uzbekistan. As a result, some Uzbek families are increasingly creating bilingual environments in which children acquire English alongside their native Uzbek language.

The acquisition of two languages, whether simultaneously or sequentially, should not be regarded exclusively as a linguistic phenomenon. Rather, it represents a complex process shaped by the interaction of psychological, cognitive, social, and neurophysiological factors. From this perspective, investigating Uzbek–English bilingualism through a neuropsycholinguistic framework provides an opportunity to gain a deeper understanding of the mechanisms involved in language perception, processing, memory storage, and speech production in bilingual children.

Depending on the conditions under which languages are acquired and used, bilingualism may take several forms. **Early bilingualism** develops when a child has regular exposure to two languages from the early stages of life, whereas **late bilingualism** refers to the acquisition of a second language at a later stage of development. **Natural bilingualism** emerges through regular exposure to two languages in everyday communicative contexts, while **educational or instructed bilingualism** develops primarily through organized language instruction.

Neuropsycholinguistic Characteristics of Bilingualism

Neuropsycholinguistics is an interdisciplinary field concerned with the psychological and neurophysiological mechanisms underlying language and speech activity. It integrates theoretical and methodological approaches from psycholinguistics, neurolinguistics, and cognitive science. Within this framework, language is viewed not merely as a means of communication but as a complex functional system involving multiple cognitive processes, including perception, memory, attention, thinking, and



speech planning. During speech perception, acoustic information is initially processed through the auditory system. At subsequent stages, sound units are identified and compared with existing phonological and lexical representations before being associated with semantic meaning. During speech production, a concept corresponding to the communicative intention is selected, an appropriate lexical unit is activated, its grammatical and phonological form is determined, and the resulting linguistic representation is articulated.

These processes are more complex in bilingual individuals because lexical units associated with both languages may become activated during communication. Consequently, bilingual speech processing involves not only retrieving an appropriate lexical item but also selecting the language appropriate to the communicative context and regulating competing representations from the other language.

Therefore, the analysis of bilingual speech processes should also take into account cognitive mechanisms such as language control, selective attention, working memory, and executive control. However, the effects of bilingualism on cognitive processes are not necessarily identical across all individuals. Outcomes may vary depending on age, amount and quality of language exposure, intensity of interaction in each language, social environment, and individual characteristics.

Lexical Development in Bilingual Children

The lexical system may be understood as a dynamic system comprising words, their meanings, grammatical properties, phonological forms, and semantic relationships stored within an individual's linguistic knowledge. During language acquisition, a child does not simply memorize a new lexical item. Instead, the child associates the linguistic form with a particular object, action, quality, situation, or concept. The development of lexical knowledge may be viewed as a process involving several interconnected stages. Initially, children learn to distinguish sounds and sound sequences within the speech stream. Subsequently, frequently occurring phonological forms become associated with



particular meanings. Through repeated exposure and use, these lexical units become consolidated in long-term memory and gradually enter the child's active or receptive vocabulary. Newly acquired lexical units are not stored in isolation. Rather, they become semantically connected with previously acquired knowledge. For example, the lexical items *cat*, *dog*, and *bird* may be organized within a general semantic field associated with animals, while *mother*, *father*, and *sister* may become connected within the conceptual domain of family. Such semantic relationships facilitate the retrieval and contextual use of lexical items during communication.

In an Uzbek–English bilingual child's lexical system, a single concept may be represented by different linguistic forms in the two languages. Thus, a particular concept may be associated with both an Uzbek lexical item and its English counterpart. As linguistic experience increases, the semantic, phonological, and grammatical properties of these lexical representations become increasingly differentiated. From this perspective, the bilingual child's lexical system should not be viewed simply as the sum of two completely independent vocabularies. Instead, it may be conceptualized as a dynamic lexical-semantic system in which representations from both languages interact and become differentially activated depending on the communicative context.

Factors Influencing the Development of a Bilingual Environment in Contemporary Uzbek Families

The increasing presence of Uzbek–English bilingual environments in Uzbek families is closely associated with educational, social, economic, and cultural transformations. The expanding role of English in education, science, information technology, international communication, and professional activities has encouraged many parents to expose their children to English at an increasingly early age.

Educational policies and the growing emphasis on foreign-language instruction represent important factors contributing to the development of bilingual environments. In addition, the increasing availability of English-language Internet resources, children's



multimedia materials, mobile applications, animated content, and other digital resources may increase children's exposure to English.

Parental attitudes toward language learning also play an important role. In families where English is perceived as an important competence for children's future educational and professional development, parents may actively provide access to English-language books, audio materials, videos, games, and other resources. Some families may also enroll their children in English-medium preschools, schools, or private language centers.

Consequently, the development of bilingual environments in contemporary Uzbek families may be associated with several major factors: the increasing role of English in education; the widespread availability of digital and media resources; parental attitudes toward foreign-language education; the expansion of international communication; the development of English-language educational services; and children's regular exposure to English-language content. However, exposure to English-language media alone does not automatically result in full bilingual proficiency. Active language development requires meaningful interaction, repeated linguistic experience, contextualized input, communicative needs, and opportunities to use the language in authentic or functionally meaningful situations.

Code-Switching and Lexical Interference

Within Uzbek–English bilingual environments, children's speech may involve the alternating or simultaneous use of elements from both languages within a single communicative context. In linguistic research, such phenomena are commonly described using the concepts of **code-switching** and, in certain contexts, **code-mixing**. For example, a child may use English lexical items such as *phone*, *game*, or *teacher* within an otherwise Uzbek utterance. Such instances should not automatically be interpreted as evidence that the child's two languages are becoming "confused." Code-switching is a natural feature of bilingual communication and may be influenced by the speaker's lexical resources, interlocutor, communicative situation, topic, and language



environment. During bilingual development, features of one language may also influence the production or interpretation of the other language. This phenomenon is generally referred to as **cross-linguistic interference**. In Uzbek–English bilingualism, interference may occur at the phonological, lexical, grammatical, or semantic levels.

The extent to which cross-linguistic influence occurs depends on factors such as the frequency of exposure to each language, the functional distribution of languages across contexts, and the individual's communicative experience. As bilingual competence develops, children increasingly differentiate the phonological, grammatical, semantic, and pragmatic patterns associated with each language.

Pedagogical Conditions for Developing Uzbek–English Bilingualism

For bilingualism to develop effectively in family and educational settings, children need access to meaningful and high-quality linguistic experiences in both languages. Second-language instruction should not be limited to memorizing isolated words but should instead be integrated into meaningful communicative situations.

Dialogic interaction, picture books, storytelling, role-play activities, songs, interactive learning tasks, and age-appropriate multimedia resources can facilitate the acquisition of lexical units within meaningful contexts. Regular repetition and the use of newly learned words across different communicative situations can further contribute to their consolidation in long-term memory. At the same time, the development of the child's native language should not be neglected. A stable and supportive Uzbek-language environment plays an important role in developing the child's broader communicative, semantic, and conceptual knowledge. Therefore, English-language education should not be viewed as competing with Uzbek but rather as a process that can enrich the child's overall linguistic repertoire when appropriately organized.

Conclusion

The development of Uzbek–English bilingualism in contemporary Uzbek families represents a complex sociolinguistic process associated with globalization, increasing



demand for foreign-language competence, transformations in education, and the expansion of the digital information environment. The acquisition of two languages is not simply a matter of accumulating linguistic knowledge; it is a multidimensional psycholinguistic process involving perception, memory, attention, semantic processing, and speech control.

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