Music and aspects of language acquisition

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Annotation. *There are significant links between language and music, according to cognitive science research: Similar to language, music consists of perceptually distinct components arranged in hierarchically ordered sequences, making it a universal human experience. Thus, in the study of the brain processes underlying complex sound processing, language and music can act as foils for one another. Comparative research can offer fresh perspectives on the neurological and functional architecture of both domains. However, the literature discussing how that happens points out an intriguing contrast. Thus, the article shows the role of music in acquisition of language.*

Keywords*: "parallel architecture" approach, intonation pattern, symbiotic relationship, vocabulary acquisition*

Музыка и аспекты овладения языком

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Аннотация. *Согласно исследованиям когнитивной науки, между языком и музыкой существует значительная связь: подобно языку, музыка состоит из воспринимаемых различных компонентов, расположенных в иерархически упорядоченных последовательностях, что делает ее универсальным человеческим опытом. Таким образом, при изучении мозговых процессов, лежащих в основе сложной обработки звука, язык и музыка могут служить фоном друг для друга. Сравнительные исследования могут предложить свежий взгляд на неврологическую и функциональную архитектуру обеих областей. Однако литература, обсуждающая, как это происходит, указывает на интригующий контраст. Таким образом, в статье показана роль музыки в овладении языком.*

Ключевые слова*: подход «параллельной архитектуры», интонационный рисунок, симбиотические отношения, приобретение словарного запаса*

Musiqa va tilni o‘zlashtirish jihatlari

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Annotatsiya. *Kognitiv fan tadqiqotlariga ko‘ra, til va musiqa o‘rtasida sezilarli aloqalar mavjud: Tilga o‘xshab, musiqa ham ierarxik tartibli ketma-ketlikda joylashgan, uni universal inson tajribasiga aylantirgan idrok etish jihatidan farq qiluvchi tarkibiy qismlardan iborat. Shunday qilib, murakkab tovushni qayta ishlash asosida yotgan miya jarayonlarini o‘rganishda til va musiqa bir-biri uchun ozuqa bo‘lishi mumkin. Qiyosiy tadqiqotlar ikkala sohaning nevrologik va funktsional arxitekturasi bo‘yicha yangi istiqbollarni taklif qilishi mumkin. Biroq, bu qanday sodir bo‘lishini*

muhokama qiladigan adabiyotlar qiziqarli kontrastni ko‘rsatadi. Shunday qilib, maqolada musiqaning tilni o‘zlashtirishdagi o‘rni ko‘rsatilgan.

***Kalit so‘zlar**: “parallel arxitektura” yondashuvi, intonatsiya naqshlari, simbiotik munosabatlar, lug‘atni o‘zlashtirish*

Neuropsychological data suggests that verbal and musical components can be separated and hence function as separate domains. While Jackendoff (2006) explains how music parallels the perception of language and proposes a "parallel architecture," Borchgrevink (1982) proposed that language and musical elements are processed in different hemispheres of the brain, meaning that using them simultaneously provides an effective pedagogical methodology to increase learning.

While speaking and language were only developed 200,000 years ago, humans began making music 500,000 years ago. According to evolutionary research, our initial development and use of music led to the evolution of voice as communication tool. This explains the strong overlap between our language and music neural networks and how learning music helps kids acquire any language’s vocabulary, grammar, and pronunciation. Children that begin learning music before the age of seven grow larger vocabulary sizes, improve their grammar, and have higher verbal IQs. These benefits extend to learning foreign languages as well as the growth of their own tongue.

The brain is in its most sensitive developmental stage during these critical years, with 95% of itsgrowth taking place at this time. It has been discovered that adults who received musical instruction in childhood continue to have the capacity to acquire foreign languages more quickly and effectively than adults who did not receive early childhood music training, demonstrating that music training during this time also improves the brain’s capacity to process subtle differences between sounds and aid in language pronunciation. This benefit endures throughout life. When it comes to a foreign language’s vocabulary, grammar, and colloquialisms, music instruction is crucial. According to a recent study, children ages nine and under who received music instruction for just one hour per week demonstrated a greater capacity to learn foreign language grammar and pronunciation than their peers who had participated in an alternative extracurricular activity. The basic principles and the meta-level mental processing of language and music appear to have a symbiotic relationship, according to language scholars (Fiske, 1993). Since it has been claimed that children pick up their native language using principles that make sense of auditory input, learning a second language should logically follow suit (Jackendoff, 2006). Musical activities are recommended to support the acquisition of first or second languages since music is also learned through the aural sense.

According to Hungarian research cited by Marquart (1992), children who are regularly sung to and those who are not exhibit notable variations, particularly in the development of speech and language. Marquart described the history of these investigations: The majority of these works are founded on the idea of Kodàly, a Hungarian musician, musicologist, scholar, and philosopher who thought that music was important to human growth. Additionally, he thought it was critical to start music instruction as early as possible.He believed that one of the key subjects in the curriculum should be music. According to his findings, classes that received music instruction every day outperformed classes that received training less frequently academically.

The question that Lowe (1995) sought to answer was whether adding a music curriculum would support learning music and a second language. 53 second-graders enrolled in interdisciplinary music and French classes as part of Canada’s French Immersion program served as the study’s subjects. Eight weekly units of five 15-minute music lessons were assigned to the students, and they were integrated into the usual French second language lectures. Using the same curriculum content and instructional resources, both teachers collaborated to create daily lesson plans for both courses. Even though the primary focus was on musical training, the results demonstrated that the group that received the extra music lessons outperformed the control group in all music exams as well as in the oral grammar and reading comprehension French examinations. Her research leads to the conclusion that learning foreign languages and music has mutual advantages. Since teachers have greater access

to English-language songs, music has been used more frequently in ESL classes. Teenagers in Switzerland listen to English-language music for eight to twelve hours every week, which is double or triple the amount of time they spend in English studies at school (Murphey, 1987; Bolduc, 2007). If, as Lyczak (1979) found, previous exposure to a language does influence subsequent learning, even when this exposure is not linguistically relevant, then such contact may simply be making learning English in school simpler.

Medina (1990) examined how well tale visuals and music helped second-grade limited English competent children learn vocabulary in English. Music/No Music as an instructional medium and Illustrations/No Illustrations as an extra-linguistic support were crossed with the dependent variable of vocabulary acquisition. Following a four-day intervention, the illustration and music treatment groups consistently had higher mean vocabulary increase scores. The group that employed both music and visuals had the greatest vocabulary acquisition gain ratings. Mean increase ratings for the combined impacts of music and images were still consistently higher, according to data collected 1.5 weeks following treatment. The study offered empirical evidence that music might be a helpful tool for learning a second language. It has been stressed or suggested in traditional pronunciation texts that students should aim for near-native or flawless pronunciation. This would be an unachievable objective, and there has been a significant change in language training that favors a "communicative" focus:"One that considers the appropriate role of pronunciation in the L2 curriculum as an essential component of communication, rather than a distinct drill-based element isolated from the main body of spoken discourse" (Morely, 1996)

Karimer (1994) designed a study with ESL students to determine whether nursery rhymes, chants, and songs would speed up the acquisition of native-like fluency. Adult Southeastern Asians who belonged to various ethnic groups made up the student body. This distinction was formed because the Lao Hmong group's culture involved a wooing rite in which a man was required to search for two traits in a wife: singing and sewing. The man's intended responded by precisely mirroring his intonation patterns after he sung an original love song to them. Since just three patients from this group were included in the final results, no difference was observed with regard to nationality. The aim for the subjects was to differentiate between minimum pairings, which are two words that differ only in one phoneme, such as "fill/pill, buzz/bus."After completing a pre-test that differentiated between phoneme sounds, both groups received a therapy that included 20 minutes of training twice a week for two weeks. The experimental group was asked to listen to different songs and rhythmic chants that contextually presented the same sounds, whereas the control group was asked to listen to a word list of ten minimal pairings. Following the two-week interval, the students received a post-test that was comparable to the pre-test. The experimental group showed an edge in test scores. The improvement scores were utilized to compare the groups because the control group had performed better on the pre-test. The experimental, songs, and chant group improved by 10 points, whereas the control group's improvement score was 3.9. After just two weeks of treatment, these findings showed a clear benefit for the experimental group. Contextual learning, or understanding how a language is used in everyday situations, may have played a significant role in this instance in addition to the language's rhythm.

In addition, learning a language through music is a far more interesting method of practicing pronunciation than straightforward listen-and-repeat exercises. This implies that just by listening to foreign-language music at home or in the vehicle, you are more likely to unknowingly spend more time practicing your pronunciation. Language learners should turn to songs for assistance when it comes to learning word clusters, such as colors, numbers, body parts, or directions.

The University of Edinburgh's study demonstrates an efficient method for learning phrases, but this singing exercise for new words might also be a wonderful approach to remember groups of related terms. Learners can familiarize themselves with basic forms and practice language in context by listening to song lyrics. They are a simple and approachable method of practicing language structure ideas like conjugation and word order. Despite their somewhat childish appearance, children's songs

are an excellent way to drill vocabulary. They are an excellent resource for beginning language learners since they frequently employ straightforward patterns, common vocabulary, and a lot of repetition. More experienced students who are able to study slang and colloquialisms can find pop or contemporary lyrics helpful. The relationship between linguistic proficiency and musical skill has long been studied by linguists. The results show a constant relationship between phonological and pitch awareness. This implies that learning to play an instrument helps language learners recognize and process various linguistic sounds more effectively. Learning tonal languages like Thai or Cantonese is greatly aided by having a musical ear. Additionally, individuals with rhythmic talents had more consistent brain reactions to speech, according to a study published in the Journal of Neuroscience. This indicates that learning music improves the brain's ability to absorb spoken language.

Murphey (1987) talked about teaching English as a second language through musical activities and two learning experiences. According to Murphey, a key incentive for language learning is an interest in music and related movements. He said that in order to encourage natural communicative engagement, language classes should be taught with a definite goal in mind (and with a defined subject matter). Instead of a music-based language education, he recommended teaching songs in the target language. Students use the language naturally in this fashion, and teachers use the students' interests and surroundings to structure authentic learning.The class was not studying language while music was the subject; instead, they were studying music, which provided a variety of chances for language learning and the development of their language proficiency. As they would in their mother tongue, "they [students] were concentrating on the messages and ideas" (p. 7). According to Murphey (p. 8), "students are doing something with language: they are actively participating in the game called communication" when it comes to song-related activities.

In conclusion, the mentioned linguistic sub-domains of one's first and second languages appear to benefit from musical activities. Herrera et al. (2011) discovered that Tamazight-speaking (L1) children benefited most from phonological training with music, and after training, they performed similarly to Spanish control children in the naming speed task. This means that while native language speakers were generally better at reading readiness measures, the effect was stronger for those children who learned Spanish as a second language. Sadakata and Sekiyama's (2011) study found similar benefits of musicianship on L1 and L2: for instance, Dutch and Japanese musicians outperformed non-musicians in the identification of Japanese stop contrasts, and musicians in L1 and L2 showed shorter reaction times and higher accuracy in discrimination performance. Working memory (WM) is linked to L2 vocabulary, speaking, listening, and reading skills. According to Herrera et al. (2011), naming speed and verbal WM are important early indicators of reading comprehension and are highly predictive of each other. As the meaning and sounding are retrieved from long-term memory, the phonological recoding method is said to develop concurrently. Its goal is to break down the printed word into its constituent sounds and retain it in the working memory. Particularly, musical instruction increased children's L2 naming speed, or their ability to recall labels from long-term memory.

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