

Scientific Supervisor's Review

of the dissertation submitted by Karlygash Zhaksylykkyzy entitled «Neurolinguistics of Trilingualism: Markers of Lexico-Semantic Processing in Cross-Language Interaction», for the degree of Doctor of Philosophy (PhD) under the educational programme «“8D02303 – Linguistics»

The author of the dissertation, K. Zhaksylykkyzy, was admitted to the doctoral programme in 2019. Throughout the entire period of study, she conscientiously fulfilled all required academic obligations, fully completed the doctoral curriculum of the “Linguistics” programme, and successfully undertook both pedagogical and research internships.

The dissertation by Karlygash Zhaksylykkyzy, entitled «Neurolinguistics of Trilingualism: Markers of Lexico-Semantic Processing in Cross-Language Interaction» is devoted to a comprehensive investigation of trilingual speakers whose first and second languages are Kazakh and/or Russian, while English functions as the third language. The study examines how the brain processes words in a third (foreign) language, taking into account previously acquired L1 and L2.

Karlygash Zhaksylykkyzy conducted a substantial empirical study and analysed a comprehensive set of data. The doctoral candidate employed a comprehensive set of methods appropriate to the stated research objectives. The procedures for data collection and processing are described consistently and in detail, ensuring the reliability and reproducibility of the results. The dissertation's findings are well-substantiated and convincing.

In the course of the dissertation research, K. Zhaksylykkyzy demonstrated her ability to conduct independent research, displaying a mastery of contemporary theoretical and methodological frameworks in the fields of linguistics and neuroscience. She displayed strong academic integrity, the ability to work effectively with scholarly sources, and a rigorous approach to constructing arguments.

It is imperative to underscore Karlygash Zhaksylykkyzy's outstanding determination and diligence. During her doctoral studies, she mastered materials in linguistics, psycholinguistics, and neurolinguistics. In addition, she expanded her knowledge by studying fields that were entirely new to her, including cognitive neuroscience and computer science. At the same time, I wish to highlight the candidate's courage in selecting a complex and relatively underexplored research object. She was required to acquire proficiency in a variety of software tools and analytical procedures, necessitating a thorough learning process. Specifically, she has completed training in E-Prime for experimental design, EEGLAB for EEG recording, BrainVision Analyzer for EEG data processing (Salzburg), and R-Studio for statistical analysis.

Special recognition is due to K. Zhaksylykkyzy's high level of language proficiency: she is fluent in Kazakh, Russian, and English, and has A1-level proficiency in German and Turkish. Such linguistic sensitivity and the ability to switch freely between languages enabled her to conduct experiments confidently, present at international conferences and seminars, participate in consultations with an international co-supervisor, and collaborate with professors and specialists of the

Paris Lodron University Salzburg, Department of Linguistics (Laboratory of Psycho- and Neurolinguistics). Most importantly, this competence allowed her to apply introspection to the experimental procedures and to interpret the results with a deep understanding of the multilingual experience.

Importantly, this dissertation is the first linguistic study at al-Farabi Kazakh National University conducted at the intersection of linguistics and neuroscience, implemented through collaboration between two departments – the Department of Turkology and Language Theory and the Department of Biophysics, Biomedicine and Neuroscience, in addition to the Brain Institute. The work, therefore, constitutes a meaningful contribution to neuroscience, neurolinguistics, and psycholinguistics. It offers strong prospects for the development of Kazakhstani science and will support further high-quality integrative research based on data from different languages.

The dissertation is entirely consistent with the standards expected of a doctoral dissertation and is distinguished by its high scholarly standard and robust empirical validity.

I consider that the dissertation by Karlygash Zhaksylykkyzy entitled «Neurolinguistics of Trilingualism: Markers of Lexico-Semantic Processing in Cross-Language Interaction» submitted under the educational programme «8D02303 – Linguistics» may be recommended for public defence.

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