Review

of the dissertation work

PSYCHOLINGUISTIC ASPECTS IN THE ACQUISITION OF SIGN SYSTEMS

for acquiring

the educational and scientific degree "doctor" in

the professional field: 2.1 Philology (Bulgarian language – semiotics)

PhD candidate: Nikolay Mihaylov Shindarov

Reviewer: Prof. Dr. Juliana Stoyanova

About the PhD student:

Nikolay Shindarov is a graduate of the Faculty of Slavic Philology at the Sofia University "St. Kliment Ohridski". Here he graduated with a master's degree in "Slavic languages and literatures" with a profile in Serbian and Croatian, a second major in the Slovenian language, and from 2020 to 2023 he followed the regular doctoral program in "Bulgarian language - semiotics" at the Department of Bulgarian Language. He is one of the few who managed to prepare his dissertation work within the three years allotted for a full-time doctorate, although most of the time of his studies was spent under the sign of the pandemic, limiting not only contacts between people, but also access to libraries and institutions.

The topic of the dissertation, developed by Nikolay Shindarov, is quite unusual - not so much because of the connection between semiotics and psycholinguistics implied in the title, but above all because the sign systems analyzed in the text include nor only with language, but also musical and visual elements in the background of which the interaction between the human and the computing machine takes place.

This interaction takes place through video games, which are designed to stimulate the process of semiosis in the mastery of foreign languages in a method that increases the motivation to learn, as it relies on the so-called implicit learning.

Therefore, the interdisciplinary key to the topic of the dissertation proposed for defense requires knowledge in several interrelated areas: semiotics, psychology and psycholinguistics, contrastive linguistics, linguodidactics and methodology of foreign language learning.

The work of Nikolay Shindarov convinces us that the doctoral student possesses this interdisciplinary key. The knowledge of the many language systems described and used in the different versions of the games is accumulated by the doctoral student both during his studies (Serbian, Croatian, Slovenian) and as a personal initiative (English, Russian, Spanish).

The deepening of his erudition in the field of the theory and methodology of linguistics and semiotics is carried out under the skillful guidance of his scientific supervisor Prof. Dr. Gergana Dacheva, and his excellent orientation in psycholinguistics, contrastive linguistics and linguodidactics was achieved with the support of colleagues from the Department in Bulgarian at the Faculty of Slavic Philology.

In order to acquire theoretical knowledge in the field of programming, Nikolay Shindarov attended one semester of the Maribor University's three-year bachelor's program in computer science. The doctoral student developed the practical skills for preparing computer programs during 10 years of work as a programmer in Bulgarian and international teams, dealing with programming and software engineering. He is a team leader for the development of different versions of a mobile game for teaching foreign languages and translating educational texts.

On the dissertation:

The dissertation work "Psycholinguistic aspects in the acquisition of sign systems" in the volume of 259 pages is structured according to the requirements of the genre: an introduction, five chapters, conclusions and a bibliography, including 176 quoted sources in Bulgarian and English, Russian, French, and Spanish.

The introduction motivates the choice of the topic and sets the goals and objectives of the research.

The first chapter with the title "Semiotics and sign systems. The semiotic approach to foreign language teaching" is dedicated to the theoretical and methodological foundations of semiotics. The most important theoretical positions of the classics of this scientific direction - Peirce, Morris, Saussure - have been examined, along with some more modern concepts, in order to proceed to presenting the advantages that the so-called semiotic approach to foreign language learning and teaching. In this approach, the emphasis is on live interaction, as close as possible to the natural conditions of communication, so that, along with the verbal, non-verbal semiotic systems are also activated: body language, gestures and facial expressions, visual images, music, etc.

The semiotic approach in foreign language teaching finds its logical application in video games, the structure of which could be considered as a complex sign system of a multimedia nature, made up of various components.

The author's conclusion is that the composite acoustic and visual sign systems in an educational game for teaching foreign languages "could work in symbiosis, generating a common effect that is expected to contribute to the rapid and easy acquisition of another sign system, namely – the foreign language that is learned through play" (p. 34).

The second chapter is devoted to the theoretical-methodological problems underlying the creation of an educational game for teaching foreign languages (this is exactly how its title is formulated). The author quite rightly applies the term "acquisition" in relation to the processes that are spontaneously activated when using educational video games. Nikolay Shindarov bases his vision on the experience of Georgi Lozanov, the creator of suggestopedia. Relying on the so-called implicit learning, which takes place unconsciously for the learner, Lozanov achieves the memorization of several thousand words in extremely short periods of time.

Therefore, the educational video game should rely on implicit learning to ensure the rapid acquisition of a significant amount of foreign language vocabulary. At the same time, since vocabulary is taught in context, implicit learning of grammatical forms and constructions is also expected through the video game. When planning the game, a number of psychological and psycholinguistic features are taken into account, which positively affect the effectiveness of memorizing words: engaging as many senses as possible; arousing emotions, especially negative ones, controlling anxiety, incorporating the new vocabulary into stories, adding background music,

pronouncing the words with a natural, non-monotonous intonation. The issue of the relationship between memorization and material repetition intervals is discussed in detail.

The last part of this chapter examines the ways of selecting the vocabulary taught, using corpus linguistics to take into account the frequency of the selected words and their level of acquisition.

The two theoretical chapters reveal an excellent knowledge of the discussed theoretical-methodological problems, the ability to lead a scientific discussion, a critical attitude to literary sources while asserting one's own opinion.

The remaining three chapters present the work of creating an educational game for learning foreign language material.

Chapter Three ("Process of the prototype development and preparation for an experiment researching its effectiveness ") describes the process of preparing the game prototype as well as planning an experiment design testing its performance. The development of the prototype requires extensive linguistic work to account for the specifics of each of the 16 languages that are intended to be studied. A serious challenge turns out to be the division of educational texts into minimal fragments, for which the working term „least common translemma" has been introduced, so that they can be accurately translated from any language to all others. The difficulties arising from the different grammatical and semantic structure of languages seem at times insurmountable. However, the third version of the first level of the game turns out to be applicable enough to be tested in real conditions.

In Chapter Four ("Experiment Establishing the Effectiveness of the Prototype"), an experiment is presented that involves learning Slovenian and French through the video game. The experiment was conducted correctly with students from the fifth grade of a metropolitan school. The analyzes of the results are detailed and precise, accounting for the expected high memory storage efficiency, but also the unexpectedly large differences between the best and worst results. Particularly interesting are the experimental data with grammatical and semantic errors created by the so-called "false friends of the translator".

The fifth chapter, "Conclusions from the prototype experiment. practical research on the concept of a full version of the game, is dedicated to evaluating the results of the experiment

conducted. The conclusions of the experiment give impetus to the development of a new concept for a full version of the educational game, which is yet to be implemented: a vocabulary is again selected for a database in which words are classified not only by their frequency and level, but also by thematic categories, forming ten basic lexical topics for beginners. A serious contribution is the prepared 40 teaching texts, through which the relevant vocabulary can be taught. The texts are original and entertaining - they really meet the intention of keeping the interest of the learners through the unexpected ending of each story, motivating the learner to continue using the learning game the next day, driven by the curiosity of how it will develop next the story.

The conclusion of the dissertation reports on what has been achieved and marks directions for future research.

The dissertation abstract in a volume of 47 pages is formatted according to the requirements and accurately reflects the content of the dissertation work. It is probably a misunderstanding or mechanical error that the pagination in the table of contents of the abstract reflects the pagination of the dissertation itself. It would also be good if, before the titles of the individual chapters presented in the abstract, their sequential number was given.

The contributions noted by Nikolay Shindarov are correctly and objectively formulated. First of all, the theoretical description of video games as complex semiotic systems has a contributing character. The innovativeness of the video game, the prototype of which is developed in the dissertation, is undeniable and therefore entirely contributory. The practical application in language didactics of Nikolay Shindarov's database of 1898 lexical items, distributed by their teaching levels according to Cambridge, looks promising as well. The author himself gives an example of such an application in the sample teaching texts of the last chapter: their strange, contradictory and at times absurdist content is theoretically justified from the point of view of the characteristics of human memory. The possible use of such texts would certainly be an interesting addition to traditional language didactic aids. I hope that the expected result of the application of the video game - to stimulate the rapid and practically unconscious acquisition of sign systems, and in particular foreign languages, potentially solving problems with the motivation of learners - would be an incentive for further developments in this direction .

On the topic of the dissertation, Nikolay Shindarov has presented three published articles: "Comparing the vocabulary from EWL and NGSL-S 1.2 and its distribution according to the

English lexical profile" in the journal "Contrastive Linguistics" (2021); "Characteristics of Effective Algorithms for Long-Term Retention through Interval Negotiation" in The Journal of Contemporary Linguistics (2021) and "Associating EWL and NGSL-S 1.2 Lexical Items with Their CEFR Levels: An Important Factor in Creating English Curriculum language" in the paper collection "Problems of Sociolinguistics" (2021). The article "To what extent and in what way do the 'false friends of the translator' create difficulty in learning a foreign language" is included in No. 1 of 2022 of the journal The Journal Contemporary Linguistics, which is due to be published by the end of the month. Nikolay Shindarov has participated with reports in three international conferences. The published articles and conference papers reflect essential aspects of the issues developed in the dissertation work, and declare the presence of Nikolay Shindarov in the field of modern science, uniting humanitarian studies with new technologies.

Finally, I would like to state that the research "PSYCHOLINGUISTIC ASPECTS IN THE ACQUISITION OF SIGN SYSTEMS" in terms of its structure and content meets all the requirements for a dissertation work. Therefore, I vote positively for Nikolay Shindarov to be awarded the educational and scientific degree "doctor" in the professional field: 2.1 Philology (Bulgarian language - semiotics).

Sofia, 30.03.2023

/Prof. Dr. Juliana Stoyanova/