## **STATEMENT**

by Assoc. Prof. Miglena Simonska-Tsatsova, PhD,

For a dissertation work for obtaining PhD degree in the area of higher education 1. Pedagogical sciences, professional field 1.2. Pedagogics (Logopedics)

**Dissertation title:** "Influence of phonological processing on spoken and written language in aphasia"

**Author:** Emanuela Hrabar Shtika, full-time doctoral student in professional field 1.2. Pedagogics (Logopedics)

Scientific supervisor: Assoc. Prof. Katerina Shtereva, PhD

# 1. General biographical presentation of candidate (education and qualifications, professional experience, etc.)

Emanuela Hrabur Shtika obtained a bachelor degree in Logopedics" in 2017 and a Master's in "Logopedics – Developmental Communication Disorders" in 2019 at Sofia University "St. Kliment Ohridski". From 2014 to 2016, she performed volunteer work at the "St. Vrach" for support and assistance to children with special educational needs and to the Speech Therapy Center "ElBo" for performing group speech therapy and support in the conditions of a summer workshop. The voluntary work during her education is a certificate of her aspiration to improve and apply the knowledge and skills gained from her studies. From 2019 to the present, she works as a speech therapist at the "Govori s men/Talk to Me" Speech Therapy Center. From 2017 until now, she has participations in 10 trainings, which is proof of consistency and diligence in her professional development.

# 2. Actuality of the dissertation work

Aphasia is defined as a disorder that affects the quality of life and well-being of the individual as a result of impaired language ability in oral and written communication. In Bulgaria, the disorder has not yet been sufficiently studied in relation to the specifics of the Bulgarian language, despite the annually increasing number of cases of aphasia. Scientific research covers a very small part of the manifestations and possibilities of impact. A thorough study of all the features of the language is needed with a view to clarifying the symptomatology,

determining a reliable toolkit for diagnosis and evidence of effective methods and programs of therapy. Phonological processing is part of the specific manifestations of the disorder. We lack in-depth studies of this language ability. Establishing the relationship of phonological processing in the manipulation of phonemes and phonological structures with the state of the oral and written language, and with the degree of severity of the manifestation of the disorder in the direction of preparing therapeutic strategies can be defined as significant and relevant for speech therapy theory and practice.

### 3. Structure and content of the dissertation work

## 3.1. Content of the dissertation

Structurally, the dissertation has a volume of 231 pages and contains an Introduction, three chapters, conclusions, recommendations, limitations, conclusion, contributions, 78 appendixes and a bibliography of 116 sources, of which 26 are in Cyrillic and 90 are in Latin. It is illustrated with 16 tables, 2 diagrams and 26 graphs.

In the introduction, the prerequisites for the development of the dissertation are indicated in an argumentative manner from the point of view of relevance, scientific significance and applicability of the obtained results.

# 3.2. Content and qualities of the theoretical part

In the theoretical part, basic aspects of aphasia are considered regarding predictors, classifications, symptomatology, relationship definition. phonology and aphasia, and diagnosis of phonological processing in aphasia. Current understanding of the classification of aphasias in relation to the International Classification of Diseases (ICD-11), the International Classification of Functioning, Disability and Health (ICF) and the American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is presented. The symptoms are described according to the Boston classification, which is used for the internal differential diagnostic classification. Regarding the consideration of the acquired forms of written communication disorders, I would recommend that they be considered in the context of the symptomatology of individual forms of aphasia. The predictors of the occurrence of the violation are presented precisely, with the doctoral student summarizing the research of a number of modern authors. Discussions about phonological processing in the norm are voluminous. Given the subject of the dissertation, the focus should be on theories of phonological processes in aphasia. As a contributing element of the present work, I define the part related to the debates over the relationship of phonological processing with oral and written language in aphasia, where E. Shtika refers to the most modern researches and theories on the subject. The special section devoted to data from Bulgarian scientists deserves admiration. Scientifically proven approaches, tests and methods for diagnosing aphasia and phonology in aphasia are skilfully summarized.

Although the first chapter is rather large for a dissertation work, PhD student Emanuela Shtika demonstrates skills in scientific interpretation of research achievements, skill in summarizing them through a clear author position and correct citation. They are also the basis for the conclusions drawn, as a justified premise for the development of the experimental instrumentation in the next chapter.

## 3.3. Content and qualities of the experimental procedure

The concept of the study in the second chapter is based on the main conclusions of the research of the scientific literature. Structurally, this chapter contains the aim, tasks, hypotheses, object, subject, contingent and procedure of the scientific research. The tasks are subordinated to the main goal of the research, divided into 7 stages for their achievement. Two main hypotheses are put forward, through which an interaction between phonological processing and language function in persons with aphasia is sought. The contingent of 60 researched persons, divided into two groups (EG and CG) is presented graphically, selected correctly and meets the requirements for the objectivity of statistical data processing. The methods for statistical processing and analysis of the research data have been chosen correctly with a view to proving the hypotheses and sub-hypotheses. I highly appreciate the setting of criteria for inclusion and exclusion of certain individuals in the study. For example, excluding individuals with severe sensory aphasia due to inability to understand instructions.

Research design is subordinate to the concept and purpose of the study. It includes two tests adapted to the Bulgarian language: Boston Diagnostic Aphasia Examination-BDAE (Goodglass, Kaplan, 1983) and Standardized Assessment of Phonology in Aphasia - SAPA) (Kendall et al., 2010). They are described in detail. The translation and adaptation of SAPA by the doctoral student is tailored to the peculiarities of the Bulgarian language.

My questions to the doctoral student in this part are aimed at the speech therapy diagnoses of the persons from the experimental group:

- 1. Referring to the Boston classification already in the first chapter of aphasias, why did the diagnoses of the subjects not follow this classification?
  - 2. What criteria are used to determine which aphasias are partial?

# 3.4. Content and qualities of the presentation of the results and their analysis

The third chapter presents the results and their analysis in the form of tables and graphs. Emanuela Shtika demonstrates a high level of proficiency in statistical processing tests in the interpretation of research data. It is also supported by her ability to compare the obtained results with the scientific achievements of other scientists. It establishes a number of dependencies in order to prove or disprove the hypotheses. The correlation between the influence of oral language and phonological processing over written language can be highlighted as essential, i.e. impaired phonological input to orthography impairs reading and writing abilities in aphasia, and on the relationship between phonological processing status and predictive value for spoken language status in aphasia. One of the merits of the dissertation work is to direct these interactions to the structuring of therapeutic strategies in aphasia. An important element of the research is the evidence that demographic factors such as gender, age of duration of aphasia, place of residence and origin do not have a significant influence on the state of phonological processing, oral and written language, which rejects part of the sub-hypotheses of Hypothesis 1. The established statement categorically directs attention to the influence of phonological processing as a key factor in the recovery of language skills in aphasia, thereby confirming the established hypotheses. The empirical data presented by the doctoral student raise the following question: are there differences in phonological processing depending on the type of aphasia?

Regardless of the fact that various empirical data are available, the doctoral student summarizes conclusions and recommendations that are essential for speech therapy theory and practice, such as the applicability of the Diagnostic Tool "Standardized Assessment of Phonology in Aphasia - SAPA", which can be used to identify difficulties in phonological processing in persons with aphasia with a view to using effective therapeutic methods to restore language function. The adaptation of the mentioned tool can be confirmed as contributing. Another valuable element in the dissertation is the direction of the conclusions to future scientific research in aphasia, aimed at interaction of phonological processes, cognitive processes and language functions, influence of drug therapy on phonological processes, impact of therapeutic strategies on phonological processes.

### 4. Dissertation abstract

The abstract correctly and accurately reflects the content of the dissertation work, with the emphasis being on the results obtained from the scientific research. A total of four scientific publications in specialized publications are presented, which fully covers the minimum scientometric indicators for acquiring the educational and scientific degree "Doctor" in area 1. Pedagogical sciences.

### Conclusion

The dissertation on the topic "Influence of phonological processing on spoken and written language in aphasia" presents an up-to-date scientific study. The doctoral student demonstrates in-depth knowledge of scientific issues and the necessary scientific and research skills. Required publications are available. The dissertation work and the submitted documents meet the basic technical and regulatory requirements for the acquisition of the educational and scientific degree "Doctor" in accordance with the Law on the Development of the Academic Staff of the Republic of Bulgaria and Regulations for its implementation and the Iinternal regulations for development of the academic staff of Sofia University "St. Kliment Ohridski". I recommend to the respected Specialized Scientific Jury to award the scientific and educational degree "Doctor" to Emanuela Hrabar Shtika in professional field 1.2. Pedagogy (Logopedics).

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