

SOUTH-WEST UNIVERSITY "NEOFIT RILSKI"  
FACULTY OF PUBLIC HEALTH, HEALTH CARE AND SPORT  
Logopedics Department

**STATEMENT  
OF  
DISSERTATION THESIS**

of Assoc. Prof. Elka Georgieva Goranova, PhD

for awarding the PhD Degree in the scientific field of 7. "Health and sport", professional area of 7.4. "Public Health", PhD program on the topic: **"Verification and digitalization of a scale for the assessment of play-based learning skills (PTESS) in 0-4 year olds"**

**by Nina Petrova Yordanova F107741**

**Research supervisors:** Assoc. Prof. Dr. Polina Mihova, Assoc. Prof. Dr. Deyan Palezhev, New Bulgarian University, Department of Health Care and Social Work

**1. Significance of the research problem in scientific and applied terms.**

It is indisputable that the number of children with communication disorders has increased dramatically nowadays. This trend is observed at all levels of our educational system: nursery schools, kindergartens, and schools. Dysontogenetic mechanisms prevail in the child population, creating new variants of individual differences and communication norms. Only their immediate, timely, and competent assessment can lead to the most appropriate and individualized way to overcome the existing deficits in each particular child. Any research that approves adapts, and verifies scales for assessing children's development in the earliest years of childhood (specifically 0-4 years in this thesis) is relevant and scientifically significant, given the impact of increasingly rapidly changing environmental factors.

In this context, the dissertation submitted for peer review is not only timely, but I would argue that it is a long overdue opportunity to introduce such assessment and its digitization into speech and language therapy practice for use by both professionals and parents of children with communication disorders. A good example is the National Register for Persons with Craniofacial Anomalies. It is now in its 10th year of collecting data on patients with congenital facial anomalies and has created a standard for speech therapy diagnosis and complex treatment applicable throughout Bulgaria.

## 2. Substantiation of the aims and objectives of the dissertation.

PhD student Nina Yordanova has summarised her 14 years of research experience in 288 pages (168 pages of text and 120 pages of appendices). The structure of this dissertation logically follows the stages she went through to create, verify, and digitize her PTESS methodology, the PTES Play Learning Programme, and the PTESS Play Learning Skills Assessment Scales.

Both the Play Learning Programme and the Play Skills Assessment Scales have separate aims, objectives, and methodologies used to create them. They are described in detail, with all the criteria broken down by age with the appropriate enthymemes—a total of 4 scales, 33 categories, and 158 enthymemes for children aged 3 to 48/54 months. All categories are related to tracking the level of development of social behavior through play in various forms for a given age.

Looking at this information globally, we can summarise that it has three main objectives: to validate the PTESS methodology, digitize it in the online space, and prove its reliability as a tool for tracking child development. In this way, the specialized PTESS tool, which uses play as the main method for monitoring and developing cognitive, social, and motor skills, supports early identification of developmental deviations and provides structured support for parents and professionals in planning therapeutic programs.

As a child's earliest communication skills and strategies are developed through parent-led play, Yordanova involved parents in developing the tool. In this context, I believe that the digitization of PTESS is a necessary final step in facilitating parental access to the assessment tool. By receiving detailed and systematic feedback on their children's development, parental involvement in the child's learning and development process is, in many ways, more effective and efficient. As an added value to the dissertation, I consider the attached social-psychological training for parents, developed by the author specifically for the dissertation.

The eight tasks are logically derived from the study's objectives and accompany the practical application of the PTESS game-based learning skills assessment scale through its stages.

The number of subjects was sufficient to test the PTESS scales - 461 children, of whom 31 were boys, and 150 were girls (31 boys is probably a clerical error), ranging in age from 5 months to 54 years. There is also a discrepancy in the months in the same description of the contingent, but in another part of the text - "*For the dissertation, 461 individuals aged 6 months to 58 months were studied. The parents of all the children studied reported (to their understanding) no disturbing observations in the development of their children*". Here, I would recommend presenting the surveyed children by gender, age, and number from the start of the survey in 2010 to 2023 in tabular form to get a clearer visual idea of how many

children were surveyed and at what stage. Such individual tables are available, but they are not aggregated.

The comparability of PTESS with the results of the Munich Functional Diagnosis of Development (MFED) proves the validity of the results. Despite small differences in months between the age groups, it adds positive value to the thesis.

### **3. Relevance between the chosen methodology and research approach and the stated aims and objectives of the dissertation.**

The models of the Munich Functional Diagnostic Scale for Development (MFED) and Penelope Leach's game theory rationale have been used to construct the PTES program and scales for assessing playful learning skills, which are the basis for developing these scales. The design of the methodology includes two stages: in the first stage of the analysis, the parents' requests in the speech therapist's interview are taken into account, and then they are divided into five groups according to the deficit observed. At the time of the analysis, there was "an exciting change in the type of parent requests for speech and language therapy consultations in the years 2020, 2021 and 2022, which is detailed in an article published before 2023 by doctoral student Iordanova (Iordanova, 2023). The developmental level of all children was assessed using the existing PTESS Play-Based Learning Opportunity Rating Scale. A controlled assessment of all children's development was made using the MFED (Munich Functional Developmental Diagnostic). In the second stage, the age of the children for whom the reported requests for speech and language therapy consultations were made, the developmental level of the children, and the time from the request to the start of speech and language therapy were analyzed. Due to the change in the COVID pandemic, only the results of the last three years, 2020, 2021, and 2022, were considered. The results presented for all 277 children studied, divided into relevant age groups, have also been published in a peer-reviewed database (Iordanova, 2022; Iordanova, 2023), which provides practical evidence of the correspondence between the research methodology and the aims and objectives set out in the thesis.

### **4. Scientific and applied contributions of the thesis (description and evaluation), including the existence of original scientific contributions.**

The results of the comparative analysis between the subjects with PTESS and the Munich Functional Diagnostic of Development were highly similar (99 percentile similar scores between the two scales), with which the verification of PTESS was considered

successful. The described model of children's play development can be accepted as a scientific theoretical contribution of the doctoral candidate, and the applied PTESS methods and scales as a practical contribution to the development of speech therapy theory and practice in Bulgaria.

The WordPress digital platform developed by the PhD student for the technical implementation and hosting of PTESS was discussed and approved for one calendar year. The listed positive aspects of the particular platform make it a user-friendly interface, which allows its seamless use by users, especially its high flexibility and scalability, making it a practical contribution to the dissertation.

## **5. Review of the publications on the dissertation: number, nature of the publications in which they have been published**

The PhD student has participated in five (5) publications related to the dissertation topic in Bulgarian, four of them in English, and three of them indexed in SCOPUS. The titles, contents, and methodologies of the publications show very good skills in presenting scientific theses and active participation in scientific forums related to the studied issues. Two citations in English indexed in SCOPUS are also indicated.

This publishing activity fully satisfies the need for research publications and even exceeds the requirements for doctoral training.

## **6. Opinions, recommendations, and comments.**

In conclusion, this dissertation demonstrates how digitization can play a crucial role in improving the quality and accessibility of early diagnosis and intervention by uniting the efforts of professionals and parents in caring for children's development. The digitization of the PTESS scale increases the accessibility and efficiency of the assessment process while offering opportunities for better monitoring and adaptation of therapeutic strategies. This platform (developed in 3 languages) makes monitoring results in real-time possible and offers automated recommendations for interventions.

**Question:** I don't find the game related to rhythm skill development. In your opinion, what is the earliest age to introduce games that develop rhythm skills?

## **7. Conclusion with a formulated positive or negative evaluation of the dissertation.**

Nina Iordanova's dissertation is a logically coherent, properly structured, and effectively implemented work of scientific and practical significance. The above-mentioned

positive qualities of the dissertation prove that the doctoral candidate has mastered the methodology of scientific research and can carry it out independently, interpret it, and implement it practically. Based on my overall positive evaluation, I recommend to the esteemed panel of experts that Nina Petrova Iordanova be awarded the educational and scientific Doctor in the 7.4. Public Health.

Date 10 December 2024

Signature: .....

Assoc.Prof. Elka Goranova, PhD