

REVIEW

**By assoc. prof. Margarita Stankova, MD, PhD
New Bulgarian University
PN 7.4 Public health**

at

**DISSERTATION ON: Validation and digitization of a scale for the
assessment of learning skills through play PTESS in 0 to 4 years of age**

**For the award of the educational and scientific degree "Doctor" in the
professional field 7.4 Public Health**

PhD student: Nina Yordanova F107741

**Scientific supervisors: assoc. prof. Polina Mihova, PhD, assoc. prof. Deyan
Palezhev, PhD**

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

The topic of the dissertation is extremely topical and significant. The attempts of professionals to make services for children with developmental disabilities more accessible and to guide parents in their search for assessment and therapy are immense. In this sense, the need for new methods that are easy to use and at the same time have scientifically proven effectiveness are of great importance to the practice of developmental disabilities.

It should also be noted that the presented methodology is the fruit of many years of work of the doctoral student and the result of her practical observations and experience, which crystallized into a product that can be used by parents and professionals to facilitate the work on the assessment and categorization of developmental disorders, which makes the presented methodology even more valuable and significant for practice.

2. Accurately stated aims and objectives of the dissertation.

The aims of the different parts of the dissertation are clearly formulated, the tasks are coherent and correctly describe the steps to be followed in order to implement the research.

Despite the seemingly different directions of the presented material, the study follows the natural logic of developing a new methodology, proving its effectiveness by comparing it with another established methodology, digitizing it for easier and more pleasant use and testing its application in a therapeutic process when working with parents of children with developmental disorders. This closes the whole cycle of introducing a research method and introduces the use of scientific methods in its application.

3. Evidence that the dissertation was developed independently

The research methodology and the work of doctoral student Nina Yordanova are the result of her long years of work and her practical work as a speech therapist. Her efforts to bring science closer to practice and to create and use scientifically proven methods should also be noted as a serious contribution to practical speech therapy in Bulgaria, which is often focused on eclectic methods. Nina Yordanova not only creates methods for research, but strives to prove them with scientific methods and bring them as close as possible to world standards.

4. Degree of knowledge of the state of the problem and consistency of the literature used.

In chapter one of the presented dissertation is presented Theoretical framework of the problem of child development assessment and parents' involvement in the process of learning skills formation, Play as the main tool for child development assessment in the age up to 4 years, Description of the understanding of play. Rules of play with young children, Types of play in early childhood, Development of learning skills through play, Development of communication skills, Formation of communicative parenting behavior. Also included are Theoretical framework of training, Nature of monitoring for parents, Structure of training, Nature of training for parents,

Types of training for parents, Forms and systems of training for parents, and Theoretical framework of verification process and Theoretical framework of digitalization process.

Chapter Two includes: the PTES Game-Based Learning Program and the PTESS Game-Based Learning Skills Assessment Scales.

Chapter three includes Methodology, stages, procedure of conducting and results of the study.

As the thesis presents a developed methodology of its own, it should be noted that all necessary steps have been implemented to correlate this methodology and validate it through another validated methodology. All the statistical data necessary to introduce the methodology as an assessment tool in practice, to digitize it so that it can be easily used by professionals and parents, to introduce it in several languages and to test it, through a program for working with parents, which was also developed by the author of the dissertation.

I think we can safely say that the PhD student knows the subject well and manages to work with it in a focused and thorough way. The literature sources used to support the research and the own methods developed are appropriate and used correctly.

5. Correctness in citing a representative number of authors.

251 sources in Bulgarian and English have been used in the development, which are quite sufficient for a dissertation. In the use of literature and citation, the doctoral student shows exceptional skills in preparing a theoretical review, selecting sources and using them, as well as citing them correctly. The most relevant sources on the three essential theoretical lines followed in the dissertation are underlined.

I think that Nina Yodranova has managed to introduce the readers very well into the topic of her research and to argue it correctly through a large number of literary sources.

6. Availability of a substantiated and developed theoretical model of the study.

Overall, the dissertation notes preferred and justified theoretical models related to the research, and perhaps due to the more diverse directions of the doctoral student's work, no single chosen

model emerges.

As a serious criticism of the author, I would note the use of some terms, e.g., "conscious parents" and "old parents," and some generalizations for which no evidence is presented. The use of such designations as well as conclusions should be avoided in order to respect scientific ethics and the proper application of scientific concepts in generalizations and conclusions.

7. Compatibility of the chosen methodology and research methodology with the stated aim and objectives of the dissertation.

Aims and objectives of the research are formulated, which have practical and applied aspects. The methods used to introduce PTESS and verify the scales, comparison with an established methodology and analysis of the results of the PTESS scale verification process are well presented. In the methodology presented, Nina Yordanova demonstrates exceptional knowledge in several areas - child development and some of its specific aspects /including in-depth knowledge in the treatment of play as an essential element of development/, knowledge regarding the preparation of research methods, their validation and demonstration of their effectiveness. In addition, the PhD student also demonstrates exceptional skills in therapy program preparation, structuring and implementation, and use of methods to demonstrate effectiveness.

As a criticism of the layout of the thesis, one may note the fact that a good connection is not made between Part III. Methods and Instrumentation of the PTESS digitization and the Munich Functional Diagnosis of Development (MFED) scales and research through monitoring and social psychological training to support the use of the PTESS digitization for parents and professionals. Although the digitization is described in great detail, this part remains insufficiently related to the other two parts of the study and thus, the three parts stand somewhat as self-represented. Despite the strong applied contribution of the third part of the study presented, the focus on using PTESS to monitor the effect of therapy is lost in much of this text.

8. Contributions.

The following contributions can be noted in the dissertation of PhD student Nina Yordanova:

Theoretical:

- Developing a theoretical model of play as a tool for learning. This dissertation proposes a detailed theoretical model that considers play as a primary means of developing cognitive, social, and motor skills in children 0 to 4 years of age. This model provides the basis for the development and verification of the PTESS (Pumpelina Therapy and Education System Scales), which is original and unique to Bulgarian speech therapy practice.
- Statistical processing of the results of the application of the methodology and, in practical terms, identification of the factors that influence child development through play - sensory integration, motor planning, and social skills that are critical for successful learning and socialization of the child.
- The author's methodology and a validated method - comparison of PTESS with Munich Functional Diagnosis of Development (MFED) are compared. The scientific validity and validity of the PTESS is demonstrated.

Practical:

- The PTESS has been validated as a reliable tool for assessing child development. This contribution is of critical importance to speech therapy practice in Bulgaria as it provides a focused and scientifically valid method for assessing child development.
- The PTESS scale has been digitised, making it easier for both professionals and parents to use. The developed digital platform provides the possibility of online self-assessment of parents, which significantly increases the accessibility and practical use of the scale.
- Social - psychological training for parents has been developed. The training aims to assist parents in developing communication and social skills necessary to support their children's development.
- The application of PTESS to evaluate the effectiveness of a therapeutic intervention was investigated.
- The applicability of PTESS in different socio-economic contexts, in a wide range of social and cultural settings is measured. This is particularly important for the future expansion of PTESS use in other countries.
- The application of PTESS in speech therapy has been implemented - the scale can be used for early detection of potential developmental problems and for planning adequate interventions. This significantly improves the quality of speech therapy care provided to children.

- A method has been introduced that facilitates the process of diagnosis and therapy. PTESS facilitates the diagnostic process and provides analysis and monitoring tools that are easily accessible to both professionals and parents. This improves the possibilities of timely initiation of the necessary therapeutic procedures.

Impacts of the thesis on the external environment.

- This dissertation examines significant theoretical concepts about the role of play in early childhood development, as well as the benefits of digitalization as an approach to contemporary assessment and therapy. The data collected and analyses provide the opportunity to develop practical training programs for families to support the successful socialization and integration of the child into society.
- Not only does the work look at play as an essential developmental tool, but it also explores how early parental involvement in this process affects children's ability to learn, communicate and socialise. Parents play an important role in the early years when children are learning basic skills and forming their first social relationships. Through the use of the PTESS scale and the implemented digital platform, parents can get detailed and systematic feedback on their children's development, which creates a basis for more effective and targeted parenting support. In this sense, the digitalization of PTESS facilitates access to assessment tools and supports not only professional diagnosis, but also family engagement in the process of child learning and development.
- The present work aims not only to validate the PTESS methodology, but also to integrate it into the digital sphere, which enables an increase in the effectiveness of work with families and professionals. The development seeks to show how digitalization can play a crucial role in increasing the quality and accessibility of early diagnosis and intervention, bringing together the efforts of professionals and parents in the care of children's development.
- A platform has been developed to support the work of speech therapists in the field of early childhood diagnosis.

- The developed platform is translated into three languages - Bulgarian, English and Greek, which increases the possibility of its application.

Personal qualities of the author.

My personal impressions of PhD student Nina Yordanova are that she is an outstanding professional with knowledge across the whole spectrum of speech therapy disorders. She is empathetic, understanding, and supportive of children with developmental disorders and their parents.

Nina Yordanova has enthusiasm and desire for development, scientific curiosity and interest in contributing to patients, the scientific community and the practice of speech therapy.

Conclusion

In conclusion, I believe that the presented dissertation on Verification and Digitization of a Scale for Assessment of Learning Skills through Play PTESS at the age of 0 to 4 years of PhD student Nina Yordanova F107741 with scientific supervisors assoc. prof. Polina Mihova, PhD and assoc. prof. Deyan Palezhev, PhD fully meets the requirements and I recommend the esteemed committee to award Nina Yordanova the degree of “Doctor” in the professional field 7.4 Public Health.

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Signed: