

OPINION

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RE.: Dissertation entitled "Innovative Educational Technologies for Preparing Children for School" for the award of the educational and scientific degree "Doctor" in the scientific specialty "Preschool pedagogy", Professional Field: 1.2 Pedagogy, Field of Higher Education 1. Pedagogical Sciences, to the PhD candidate Marinka Chaneva Ivanova.

Academic Supervisor: Prof. Violeta Ivanova Kyurkchiyska, PhD

In terms of structure and scope, the dissertation submitted to me for an opinion fully complies with the criteria for a comprehensive and complete academic study. The graphic design also meets the requirements and contributes to the interpretive analysis of the dissertation. The cited literature and electronic sources provide evidence of a profound study of the scientific issues selected by the candidate.

In the introductory part, the relevance of the topic, related to the implementation and, partially to the development of innovative educational practices in preparing children for school, is substantiated. An attempt has been made to bring out significant arguments for selecting this particular topic. Nevertheless, stronger arguments and better scientific justification in this regard would result in a higher scientific value of the dissertation. The object, subject, aim, tasks and hypothesis of the scientific research have been correctly formulated.

Chapter One contains a theoretical analysis of the problem. The accent is placed on the legal framework regulating the pre-school education in our country from the perspective of the transition to primary school and the creation of conditions for the implementation of this transition as smoothly as possible. In the theoretical analysis of school readiness, a particular attention is drawn to the social skills and competences which should be acquired by the child as a future pupil, as well as to school readiness seen as a complex construct encompassing a particular predisposition to engagement into the learning activities. In this connection, in the same chapter, an analysis of the most common innovative educational technologies used in the pedagogical practice in kindergartens promoting the process of competence formation has been carried out. A more in-depth analysis is applied to the Envision multiple-mouse system, the Bee-bot robotic toy technology and the STE(A)M technology. Presented are their characteristics, facilitating children's development and in particular their preparation for school.

Chapter Two contains the design of the study. The sample comprises of a group of 123 children from Age Group 4, corresponding to the objectives set by the dissertation research. The

defined criteria and indicators correlate with the types of school readiness in children and with the key competences which they should acquire.

It may be considered that the “electronic book” diagnostic toolkit referred to in this chapter is one of the contributions of this dissertation. Correctly formulated are the tasks included for the purpose of determining the expected outcomes in the relevant educational areas. During the formative pedagogical experiment, an innovative pedagogical technology has been tested, at the basis of which lies the implementation of activities associated with the above innovative educational technologies. Of interest is the attempt for integrating the mastery of the curriculum content in different educational areas with the help of the Envision multiple-mouse system, the Bee-bot robotic toy technology and the STE(A)M technology. The proposed ideas take into consideration the preferences and interests of the contemporary child and their wider application is yet to come. The matters elaborated in details and presented in this chapter could also be set out in an appendix.

In Chapter Three the analysis of the results of the conducted pedagogical experiment has found place. The results of the initial and final diagnostic assessment are illustrated by suitable tables and diagrams, including data from these two stages of the experiment. A positive impression is created by the skillful use of the applied statistical methods used to demonstrate the validity of the obtained results. On the basis of these results, formulated is the conclusion that at the final stage of the experiment there are statistically significant differences in the achievements of the experimental and control groups across all examined criteria. As a recommendation regarding this comprehensive analysis from the perspective of the statistical interpretation, I would suggest the following: “To deepen the author’s interpretation of the data obtained in the course of the pedagogical experiment by incorporating a more extensive explanatory analysis”. This would strengthen the justification of the contributions and inferences formulated on the basis of the conducted pedagogical experiment.

On the basis of the data obtained, the author draws the conclusion that the clearest and most conclusive indicator for the effectiveness of the experiment is Criterion 5 “Digital Skills”, which appears to be completely relevant to the activities incorporated into the innovative pedagogical technology. However, needed is a more precise analysis of the effect onto the other skills assessed, with a view to its broader functionality.

The overall analysis of the data obtained from the conducted pedagogical experiment give grounds to the author to confirm the proposed hypothesis regarding the effectiveness of the innovative educational technologies on the process of developing children’s key competences as part of their school preparation.

The inferences set out have predominantly practical application in terms of the pedagogical practice in kindergartens and fully comply with the candidate’s scientific research work presented in the dissertation.

The conclusion summarizes the results and the inferences drawn from them based on the conducted research within the research study. Its partial enrichment with the author’s interpretations would give this part of the dissertation a more complete form.

Formulated are three theoretical and three practical contributions. Some precisings are needed with regards to the first two theoretical contributions specifying to a bigger extent how exactly they enrich the pedagogical practice on the matters related to the children's school preparation. The practical contributions fully correspond to the demonstrably achieved results.

With regard to the dissertation, the candidate has submitted three **publications**, which have been published in peer-reviewed scientific journals. All of them are sole-authored and comply with the criteria for the award of the educational and scientific degree "doctor". Most of them have a research nature and address scientific issues related to introducing innovative educational technologies into the educational process in kindergartens that support children's preparation for school in terms of its most important psychological and social components.

The **dissertation abstract** (autoreferat) consists of 55 pages and correctly presents the contents and the highlights of the dissertation.

Recommendations:

1. To investigate in greater depth the effects of implementing the Envision multiple-mouse system, the Bee-bot robotic toy technology and the STE(A)M technology in the pedagogical practice of kindergartens on general and specific school readiness
2. The author's diagnostic toolkit "Electronic book" to be more actively promoted among the pedagogical community of pre-school educational institutions through a dedicated scientific publication in the form of a monograph or a study.

Conclusion: After thoroughly examining the dissertation and the materials submitted with regard to the procedure, I reckon that they comply with the requirements stipulated in the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Development of the Academic Staff at Konstantin Preslavsky University of Shumen for the award of the educational and scientific degree "doctor". Notwithstanding my recommendations and remarks, I give my positive evaluation of the conducted scientific research and the contributions formulated on its basis. This gives me grounds to vote "In favour" of awarding the educational and scientific degree "doctor" in the scientific specialty "Preschool pedagogy", Professional Field: 1.2 Pedagogy, Field of Higher Education 1. Pedagogical Sciences, to the PhD candidate Marinka Chaneva Ivanova.

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Stara Zagora

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