



REVIEW

of the dissertation entitled

"Development of empathy in primary school age through design thinking"

Doctoral Candidate: *Avi Abner*

Form of Study: *Independent preparation*

For the award of the educational and scientific degree **Doctor, Ph.D.** in
Education

Field of Higher Education: 1. Pedagogical Sciences

Professional Field: 1.2. Pedagogy / Education

Specialty: *Preschool and Primary School Pedagogy*

Reviewer: *Prof. Dr. Marina Koleva Nikolova*

(Technical University -Sofia; Faculty of Engineering and Pedagogy-Sliven)

(Order No. 176 of 15.04.2014 of the Rector of the University "Prof. Dr. Asen
Zlatarov" and Order No. UD-201 of 28.05.2024)

1. Biographical Data of the Candidate

Upon reviewing Avi Abner's CV, I was impressed by the wide range of specializations he has completed. His education can be divided into two phases—acquired in London, United Kingdom, and in Bulgaria. At the age of 24, in 2015, he completed his studies in "Business Management." A year later, in 2016, he earned a Bachelor's degree in "International Business Management." By 2019, he had qualified as a lecturer in higher education institutions, and in 2020, he obtained a Master's degree in "Global Business Management."

In the following three consecutive years, from 2020 to 2022, Avi Abner pursued postgraduate qualifications at the University "Prof. Dr. Asen Zlatarov" at Burgas city, becoming a teacher in economics, geography, and history. Since 2023, he has been studying for a Master's degree in "Economist-Marketer" at University of Veliko Tarnovo "St. St. Cyril and Methodius," where he is also acquiring a qualification in "Psychology." Since 2023, he has been a doctoral, Ph.d student in the independent form at the Department of "Pedagogy and Methodology of Education" at the University "Prof. Dr. Asen Zlatarov" at Burgas city.

Avi Abner's interests span economics, business, and marketing on one hand, and pedagogy and psychology on the other. Within this intriguing combination, the candidate's primary interest lies in the field of pedagogical science, as evidenced by his enrollment in the Ph.D program in "Preschool and

Primary School Pedagogy" at the University "Prof. Dr. Asen Zlatarov" at Burgas city.

Avi Abner's professional path is equally interesting and diverse. Over the years, he has worked as a risk and planning manager, operational manager, lecturer in pedagogy and economics, academic assessor, manager of accounting services, economic planning manager, and customer relations manager for Eastern Europe. These positions were held from 2016 to 2022-23 in London, United Kingdom, with the latter two roles performed remotely from Bulgaria.

His pedagogical career began in Burgas in the 2022/23 academic year. He has worked as a geography teacher at "Peyo Yavorov" Primary School; a teacher of geography and natural science at "Vasil Aprilov" Primary School; and a teacher of geography and biology at "Knyaz Boris I" Primary School. Since June 2023, he has been a librarian fund officer of scientific literature at the Regional Library "Peyo Yavorov" in Burgas city. Since September 2023, Avi Abner has been lecturer at the University "Prof. Dr. Asen Zlatarov" at Burgas city.

The candidate is proficient in English.

2.Characteristics of the Dissertation

The dissertation entitled "Development of empathy in primary school age through design thinking" is structured into an introduction, three chapters, conclusions, seven appendices, a declaration of originality, and references.

The dissertation spans 219 pages, with 159 pages of main text and the remaining pages dedicated to appendices and references.

A list of 422 bibliographic sources is presented, of which 12 are in Bulgarian and 410 in English. The cited works include scientific studies by Bulgarian and foreign scholars, monographs, and articles in both Bulgarian and international journals and scientific forums. The Bulgarian sources are from the period 2000 to 2022, while the English sources range from 1959 to 2023, with 75 predating 2000 and 335 postdating 2000. In my opinion, this extensive bibliography provides a solid foundation for an in-depth theoretical analysis of the problem, tracing the development of the idea from its inception to its current application. The structure of the presented dissertation research fully complies with the requirements for this type of academic work.

The introduction of the dissertation outlines two main focal points of the author's pedagogical interest. The first is the orientation of education towards the development of key competencies. This largely determines the relevance of the problem, as it is also influenced by the EU and EC prescriptions for quality

education and the cultivation of key competencies among young people. The second focal point of the author's pedagogical interest is the exploration of alternative pedagogical approaches to diversify the educational environment with a view to their development. The enormous flow of information and the lack of skills and practical abilities to utilise it necessitate the integration of new strategies, approaches, and methods in education that place the young student in an active cognitive position. All this serves as the basis for placing at the centre of the author's subsequent reflections on the research thesis—the importance of empathy as a crucial element for the holistic development of personality.

Childhood is replete with the most emotions, which are expressed spontaneously and sincerely. On the other hand, the emotional state of children and learners is one of the primary determinants of their attitude towards any activity, including learning. Therefore, I consider the choice of the research topic to be very important, significant, relevant, and fundamentally essential for the realisation of a quality educational process.

The introduction also presents part of the design of the dissertation research, hinting at an interesting and well-structured implementation of the research thesis. Each chapter of the work is succinctly presented, and the introduction concludes with a summary.

The first chapter, "Theoretical foundations of the dissertation," spans 52 pages and provides an in-depth analysis of the scientific literature reviewed by the author from established Bulgarian and foreign scholars on the topic. The doctoral candidate has thoroughly, analytically, and professionally presented the basic categories and concepts related to the research problem. All main concepts pertinent to the topic are examined: the essence, types, and significance of empathy, with a special focus on empathy during middle childhood (7-11 years). The bibliographic review includes "Empathy and socio-emotional competences" and its connection with "Design thinking as an educational perspective." Avi Abner has presented the latter in several aspects: the essence, emergence, and development of the idea of design thinking, its pedagogical aspects, and models in the educational systems of various countries. The author has constructed the entire theoretical analysis in a logical sequence, which is highly commendable. It is evident that the doctoral candidate demonstrates a comprehensive understanding of the problem and skilfully applies an analytic-synthetic approach in the exposition. Cited literary sources from both Bulgarian and foreign authors are combined with an analysis that clearly delineates the author's own perspectives.

The first chapter concludes with summaries based on correctly formulated partial conclusions. On this basis, Avi Abner delineates the scope of his scientific inquiries and defines the specifics of the dissertation research itself. The design of the experimental research is elaborated in the second chapter. Building upon the author's accepted definitions of the concepts of "empathy" and "design thinking," the individual components are accurately and precisely formulated. The nature of the research is theoretical-applied, focusing on the contemporary issue of developing empathy in primary school age through design thinking. The methodological foundation of the research is well-defined. In my opinion, the object, subject, aim, and hypothesis of the research are formulated very clearly and precisely. Additionally, the utilised didactic tools are summarised, including various approaches, methods, criteria, and indicators. In the field of pedagogy, the author selects the empathy of students in the learning process at the primary stage of basic education as the object of the research, as a prerequisite for the development of their social, emotional, and cultural competence. Based on the research object, its subject is formulated - design thinking as a methodological approach for developing empathy in primary school age. The doctoral candidate aims to create and test a didactic model for the introduction of design thinking in the primary stage (3rd – 4th grade) of basic education with a view to developing empathy among students. Five specific research tasks are formulated to achieve this goal. The selected research methods are appropriate and applied in a specified sequence: assessment scale for expert evaluation, projective methods, modelling, observation with expert evaluation.

The author presents both theoretical and experimental research aimed at examining essential questions related to the application of his own model. This model is premised on the assumption that design thinking is a methodological approach aligned with contemporary educational paradigms and is effective in developing students' empathy within the educational process.

The established conceptual basis of the research addresses the issue of design thinking. It implies that the research results and conclusions should be considered in the context of developing an effective didactic model for fostering empathy in primary school students, which serves as a prerequisite for the formation and development of social and emotional competencies. The research on this topic significantly contributes to the enrichment of knowledge in the field of pedagogy.

In terms of content, the current research encompasses a wide range of activities related to addressing questions such as:

- What are the main prerequisites for developing empathy in primary school students during the learning process?
- What are the characteristics and specifics of the empathetic abilities of primary school students?
- What are the opportunities and prospects of design thinking for effectively and purposefully developing students' empathy at the primary stage?

Avi Abner's approach once again demonstrates his ambition to seek cause-and-effect relationships in the sequence of solving specific research tasks, leading to indisputable evidence that becomes solid arguments in proving the research hypothesis.

The author has chosen to structure his dissertation research in its classical form, comprising three stages: diagnostic, formative, and control. Specific elements of the research work are presented for each stage. In the first stage, the levels and specifics of cognitive, emotional, and cultural empathy among students are established. For the second stage, the author has planned the development and testing of a didactic model for introducing design thinking in the primary stage of basic education with the aim of developing students' empathy. In the third stage, the degree of development of cognitive, emotional, and cultural empathy among the participants is assessed. At the beginning of the didactic experiment, the author has effectively presented a plan in tabular form for its implementation, including control and experimental groups of students and specific activities for each stage. The research was organised and conducted from January to November 2023. The research sample is quite large, which ensures a high degree of objectivity in the results obtained from the experiment. It consists of 353 students—188 from the 3rd grade and 165 from the 4th grade, from three schools in the city of Burgas. Initially, the sample is divided into two control groups participating in the diagnostic part of the study for initial assessment. Within the same sample, experimental groups are formed under two conditions: the respondent participates in the entire experimental cycle, and both experimental groups are equal in size. Thus, the formative and control parts of the experiment are carried out in two experimental groups by transforming the control groups. This extensive research conducted across several schools required significant preparation for its implementation and responsible handling of the data analysis and presentation of the obtained results.

In the third chapter, "Results of the experimental research," a multifaceted and thorough analysis of each stage is conducted, culminating in conclusions that

summarise the results obtained. When analysing the results from the formative experiment, the doctoral candidate presents his developed didactic model for design thinking. In creating this model, Avi Abner uses as a foundation the model of N. Kaloyanova, his scientific supervisor. This is noted as a particularly valuable aspect, both in the selection of the topic and in its development, as it signifies the doctoral candidate's acknowledgment and acceptance of his supervisor's scientific achievements, while also advancing and seeking new applications for them. This model comprises four main phases: research (understanding the problem and empathy); definition (redefining the problem from the perspective of stakeholders); development (idea and prototype); and evaluation (testing prototypes with stakeholders to gather data and refine the prototype).

Through an explanatory scheme of the model, Avi Abner clearly and accurately reflects the differences between N. Kaloyanova's model, upon which the new experimental model is built. The overall model is presented in Figure 4.3. The individual components and the connections between them are sequentially and correctly described. The algorithm for its application is explained. Through a brief description of the main goals, phases, and sub-phases, with examples from the methodology of experimentally implemented projects, the author illustrates the approach for adapting the model for introducing design thinking in primary school age. Additionally, 17 methodological cards have been developed for the research phase of the projects from the experimental design thinking model. The author's didactic model was tested within the formative experiment with 300 students from the 3rd and 4th grades during self-study hours and extracurricular activities. Parts of various activities were carried out by students at home under the guidance of their parents and the supervision of their teacher.

I particularly appreciated the application of a SWOT analysis of the experimental model, which includes identifying its strengths and weaknesses. The doctoral candidate does not shy away from pointing out that his model has weaknesses, which is entirely appropriate and is noted as a positive aspect of his work. In analysing the results from the final control stage, the author included an exit diagnosis by pairs of independent experts, conducted through an expert evaluation scale and testing the participants in the experimental work with an original projective test. The objectivity of the obtained results is supported by a correctly performed statistical analysis. A correct comparison of the results obtained in the diagnostic and control experiments during the entry and exit diagnostics is made. In the conclusion, the doctoral candidate presents the achieved results, the contributions of the dissertation, a list of his publications and

presented papers on the topic, as well as a declaration of originality and participation in scientific projects. A positive impression is made by the clarity provided regarding the future development perspective of the established methodological model.

3. Characteristics of the author's autoreferat doctoral dissertation

Autoreferat doctoral dissertation thesis fully corresponds to the dissertation and succinctly presents its content. It clearly reflects the scientific research and applied activities undertaken by the doctoral candidate. Within the scope of the developed dissertation thesis, six titles are listed. The language and style of exposition in both the dissertation and the publications, in my opinion, meet the didactic-linguistic requirements and are distinguished by their accessibility and integrative nature.

4. Scientific Contributions

I fully support the comprehensively and thoroughly substantiated contributions presented by the candidate, which are divided into two groups—scientific-theoretical and scientific-applied. Regarding the first group:

1. An in-depth study of the scientific literature by both Bulgarian and foreign scholars on the issues of empathy and the emergence of the idea of design thinking has been conducted. This includes its further development in theoretical scientific thought and the analysis of design thinking models in the educational systems of various countries.

2. The idea of the relationship between "design thinking – empathy in primary school age" has been developed, exploring the possibilities for fostering different types of empathy at this age as a prerequisite for the formation of socio-emotional competencies.

3. A comprehensive analysis has been performed on the potential for introducing design thinking as a methodological approach in the primary school educational environment to foster students' cognitive, emotional, and cultural empathy.

The second group, "Scientific-Applied Contributions," is accepted entirely in the form presented by the doctoral candidate:

1. A scale for measuring the empathy of primary school students, which includes three subscales for assessing different types of empathy—cognitive, emotional, and cultural—has been adapted, supplemented, and validated.

2. Janet Strayer's methodology for measuring the empathetic response of children in primary school has been adapted and validated.

3. An original scale for expert evaluation to measure the types of empathy in the context of project activities for design thinking has been developed and validated.

4. An original projective methodology for measuring the types of empathy has been developed and validated.

5. A model, along with accompanying materials and resources, for introducing design thinking in the 3rd and 4th grades of primary education to develop students' empathy has been developed and tested.

I believe that the significance of the dissertation can be appreciated in various aspects, but to me, it is particularly valuable for scientific knowledge in two primary areas. First, the in-depth development of the scientific foundations of the relationship between "design thinking and empathy," and second, the role of design thinking in fostering empathy among primary school students.

5. Publications and Participation in Scientific Forums

On the topic of his dissertation, Avi Abner has presented six (6) articles in scientific journals. These articles are dedicated to specific questions related to the doctoral thesis he has developed. They provide insight into his gradual development as a scholar. All publications are from the years 2023 and 2024.

Avi Abner's scientific output for the attainment of the educational and scientific degree "Doctor" fully satisfies the minimum required points according to the group indicators for the degree "Doctor".

Group of Indicators	Indicator	Points Required	Points Achieved by Avi Abner
A	1. Dissertation for the award of the educational and scientific degree "Doctor"	50	50
C	1-10. Articles and papers published in non-refereed journals with scientific review or published in edited collective volumes	30	45

6. Critical Remarks, Recommendations, Questions

To the doctoral candidate Avi Abner, I have one recommendation (more of a wish):

Continue to explore the possibilities for applying your model in other primary school grades. In my opinion, this will greatly contribute to fostering a

positive attitude and approach to learning among students at this stage of education. It is my hope that this will also influence the development and enhancement of positive motivation for learning, a goal that all teachers strive to achieve.

7. Conclusion

The submitted dissertation titled "Development of empathy in primary school age through design thinking" by Avi Abner fully complies with the requirements of the law on the development of academic staff in the Republic of Bulgaria (RASRB) and the regulations for its implementation.

I recommend that the esteemed members of the Scientific Jury award **Avi Abner** the educational and scientific degree „**Doctor**“, Ph.D. in Education in the field of Higher Education 1. **Pedagogical Sciences**, Professional Field **1.2. Pedagogy**, specialty **Preschool and Primary School Pedagogy**.

Date: 18.06.2024
Sliven city

Member of the Scientific Jury: 

(Prof. Dr. Marina Nikolaeva)

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