

OPINION

By Assoc. Prof. Elena Lazarova Karashtranova, PhD
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On PhD Thesis

For awarding the Educational and Science Degree “**Doctor**”

Scientific field: 1. Pedagogy

Professional field *1.3. Pedagogy of Education in...*

Doctoral programme: *Teaching Methodology: Biology*

Author: *Nikola Stefanov Vakrilov.*

Title: *The Debate As a Method of Biology Teaching in Secondary School*

Academic Advisor: *Assoc. Prof. Delka Karagyozova-Dilkova, PhD*

1. General overview of the procedure and the PhD student

I have been appointed a member of the academic committee for the ensuring of a procedure for a defense of a PhD Thesis entitled: “The Debate As a Method of Biology Teaching in Secondary School” for awarding of the educational and science degree “Doctor” in the scientific field 1. Pedagogy, in the professional field 1.3. Pedagogy of education in..., doctoral programme: Teaching Methodology: Biology, following order № RD -21-1021 from 07.06.2022 of the Rector of Paisii Hiledarski University of Plovdiv. The author of the dissertation is Nikola Stefanov Vakrilov – a PhD student in self-preparation form of study at the Department of Botany and Biological Education with academic advisor Assoc. Prof. Delka Karagyozova-Dilkova, PhD from Paisii Hiledarski University of Plovdiv.

The materials presented both electronically and in paper by the candidate are in compliance with art.36 (1) of the Regulations on Development of the Academic Staff of the University of Plovdiv and include the following:

- Application to the Rector of the University of Plovdiv for starting a procedure of a defense of a PhD thesis;
- A Europass Curriculum Vitae;
- Report of the department meeting, whereby the extent to which the candidate is ready for the opening of a defense procedure and a preliminary discussion of the PhD Thesis have been held;
- PhD Thesis;
- Author’s summary of the dissertation;
- List of publications on the topic of the dissertation;
- Copies of academic publications;

- Declaration for originality and authenticity of the listed documents;

The PhD Thesis entitled *The Debate As a Method of Biology Teaching in Secondary School* consists of an introduction, three chapters, conclusion and appendices. 50 figures, 116 tables, 1 diagram as well as 3 appendices are also included in the dissertation, all comprising 286 pages. The sources referred to are 130, out of which 108 are in Cyrillic and 22 in Latin.

The PhD student has attached seven publications in the field of the dissertation research.

2. Actuality of the topic

Concerning the contemporary stage of development of research in the field of Pedagogy, the problems with the change of organization of the school teaching process is gaining importance, thus leading to the increase in the degree of activity of participants as well as students' motivation. In this sense, the topic of the dissertation, which is devoted to *the debate as a method of teaching* is actual and applicable in teaching Biology in secondary school.

3. Acquaintance with the problem of research

The dissertation presents a coherent analysis of basic terms, models, approaches and theories connected to the capacity of the debate as a teaching method. Educational tendencies have also been reviewed, all in accordance with state documents, education theories, motivation theories and approaches, interactive methods, competence method, key competences, methodological peculiarities of teaching Biology, development of students' competence via interactive teaching methods. The analysis is not for its own sake, yet aimed at the building of a Methodological model for conducting of a debate, which is what the purpose of the dissertation is. The PhD student shows skills for orientation in theories and terminology in the field of Pedagogy as well as assessment of their relevance towards the purpose of analysis.

4. Methodology of research

The dissertation correctly presents the aim, tasks to be fulfilled, the subject, object and hypothesis of the thesis. In relation to the aim and tasks, the PhD student has used an adequate number of research methods – theoretic-methodological analysis, transformational pedagogical experiment, surveying of students, didactic testing, statistical methodology and interpretation of results. The instruments of result reports, the surveys conducted (transformational experiment in two consecutive years), the obtained results as well as their analysis are clearly and properly presented and give grounds for the formulation of reliable conclusions.

5. Characteristics and evaluation of the PhD Thesis and contributions

The PhD Thesis is well-structured and meets the official regulations. It includes a thorough theoretical analysis on the basis of which the Methodological model of summary lessons in Biology and Health Education with the application of the debate as a teaching method has been elicited. A diagnostic instrument methodology for the evaluation of results of debates in Biology teaching has also been constructed.

An experiment has been conducted whereby the proposed model has been tested. The PhD student Nikola Vakrilov demonstrates skills for using various methods of compilation, processing and analysis of data. The anal-

ysis of the results shows the significance of the conducted research as well as the opportunities for the application of the proposed approach in Biology teaching in secondary school.

The contributions of the dissertation are well grounded and can be summarized in a theoretical, theoretical-practical and practical aspects:

- A Methodological model of summary lessons in Biology and Health Education with the application of the debate as a teaching method has been developed and tested;
- An algorithm for the construction and conducting of a debate in summary lessons in Biology for 7th, 8th and 9th grade has been described;
- Diagnostic instruments for the evaluation of results of debates in the education of Biology and Health Education have been constructed;
- The developed model contributes to the formation of communicative skills, natural science competences related to studying skills in addition to support of healthy way of life and sustainable development;
- The developed methodological model of the application of the debate in summary lessons can be used by teachers of Biology and Health Education in practice in 7th, 8th and 9th grade in secondary schools.

6. Evaluation of the publications and personal contribution of the PhD student

The presented seven publications (two are as the participant as the only author, and five are co-authored) are published in referenced journals. They are related to the dissertation and present basic results from it, which is why they fully comply with the regulations towards candidates for awarding the educational and science degree “Doctor”.

7. Author’s summary

The proposed project of author’s summary of the dissertation presents the overall content of the PhD Thesis and gives a clear idea of what the PhD student has accomplished. The summary is developed in accordance with the regulations of the Act on Development of the Academic Staff of the University of Plovdiv

8. Suggestions on the future implementation of the dissertation contributions and results

I believe that it would be useful that the developed debates be distributed among teachers of Biology and their evaluations and recommendations be analyzed.

CONCLUSION

The PhD Thesis presents theoretical, theoretical-practical and practical results which are original contribution in science and meet the regulations of the Act on Development of The Academic Staff in The Republic of Bulgaria, the regulations of application of the Act as well as the regulations of Paisii Hilendarski University of Plovdiv.

The Dissertation shows that the PhD student Nikola Stefanov Vakrilov possesses detailed theoretical knowledge and professional skills in the scientific field of *Teaching Methodology: Biology* by demonstrating very good qualities and skills for conducting an independent scientific research.

All of the above gives me grounds to be fully convinced and assess **positively** the conducted research, presented by the reviewed PhD Thesis, Author’s summary, results and contributions, as well as to recommend that the academic jury award Nikola Stefanov Vakrilov the education and science degree “Doctor” in the Scientific field:

Pedagogy, in the professional field 1.3. Pedagogy of education in..., doctoral programme: Teaching Methodology: Biology.

05.09.2022

Member of the academic jury:

(signature)

Assoc. Prof. Elena Karashtranova, PhD