

REVIEW

**Prof. Stanimir Nedyalkov Stoyanov,
Plovdiv University "Paisiy Hilendarski"**

**on a dissertation for the award of the educational and scientific degree of
'doctor'**

professional field: 4.6 Informatics and computer sciences

doctoral program: "Informatics"

Author: Gergana Dimitrova Vasileva

**Topic: "Models and methods for providing personalized services in
e-learning"**

Scientific supervisor: Prof. Vladimir Monov

General description of the submitted materials. By order No. 100/04.05.2026 of the Director of the Institute of Information and Communication Technologies (IICT) - BAS, Corresponding Member Prof. Svetozar Margenov, I am appointed as a member of the scientific jury for conducting the procedure for the defense of a dissertation on the topic "Models and methods for providing personalized services in e-learning" for the acquisition of the educational and scientific degree 'doctor' in the doctoral program "Informatics" with author Gergana Dimitrova Vasileva, doctoral student at IICT, dismissed with the right to defense, with scientific supervisor Prof. Vladimir Monov. The set of materials submitted to me includes the following documents:

- Order No. 100/04.05.2026 of the Director of IICT;
- Order for dismissal with the right to defense;
- Application from the doctoral student;
- Autobiography in European format;

- Abstract in Bulgarian and English;
- Dissertation;
- List of publications on the topic of the dissertation;
- Copies of publications on the topic of the dissertation;
- Certificate of fulfillment of the minimum requirements of the IICT;
- Declaration of originality of the results;
- Certificate of plagiarism;
- Preliminary opinion on the dissertation.

Biographical data. Ralitsa Dimitrova Vasileva received her education in the master's degree "Marketing and Management" at the University of National and World Economy in Sofia. She specialized successively at the University of California, Santa Cruz, USA, and the United Nations Institute for Training and Research in Geneva, Switzerland. From 2019 to 2021 she is a full-time doctoral student at the IICT, enrolled with the right to defend. From 2005 to the present she is a lecturer at the London School of Public Relations representative office for Bulgaria.

Relevance of the topic, knowledge of the problem, appropriateness of the set goals and objectives. The topic of the dissertation is relevant and original. In recent years, the provision of personalized educational services has become the subject of increased theoretical and practical interest. The motivation for conducting such a study is very well presented in the text of the dissertation. The previously unresolved problems on the topic, the weaknesses and shortcomings of existing e-learning systems, as well as modern trends in the provision of digital educational services are clearly and unambiguously formulated.

From the structuring of the dissertation work, the formulation of the problem and the results obtained, I can conclude that the doctoral student has a thorough knowledge of the essence of the research problem. The referenced literature also confirms this statement of mine. The author is well acquainted not only with global, but also with national research in the field of study.

Research methodology. Section 1.6. of the dissertation presents in detail the methodology of the conducted research. I think that the proposed methodology is adequate to the goals and objectives of the dissertation. From the text of the dissertation, the doctoral student's

publications on the topic and the results obtained, I can conclude that the doctoral student consistently and purposefully followed the proposed methodological approach when conducting the research.

Characteristics and evaluation of the dissertation. The dissertation is 174 pages long, consists of an introduction, four chapters, conclusion, contributions, directions for future research and bibliography. The number of referenced literary sources is 130, with all references being in English. The literature used is current and appropriately selected in accordance with the nature of the study.

In my opinion, the dissertation is structured logically and correctly and consistently presents the evolution of the study - after the analysis and critical evaluation of existing systems, relevant conclusions are drawn, on the basis of which a methodology, a conceptual model, its prototype implementation are proposed and it ends with applications and experimentation. At the end of each chapter, main conclusions are summarized.

The brief introduction provides general considerations about the state and shortcomings of e-learning systems and on this basis the general idea of the research presented in the dissertation is formulated. The first chapter provides a detailed overview of the problem area of the dissertation, examining basic concepts, methods and technologies of e-learning. The analysis focuses on competencies and their assessment, personalization of training programs, knowledge management, digitalization of training processes, and learning objects. Based on the conclusions of the analysis, the doctoral student clearly and unambiguously formulates the goal and objectives of the dissertation work. The second chapter develops the main models and methods supporting the implementation of the methodology. A model for building a competency profile is presented; a method for analyzing training needs based on a deficit of competencies; a method for personalizing the training program according to the individual competency profile of the learner. This chapter also proposes a model for competency-based parameterization of training content and a method for developing modular, reusable and customizable electronic content. A model for controlled use of generative artificial intelligence for developing training resources is proposed. The third chapter of the dissertation describes the architecture of a web-based platform for creating an individual competency profile and personalized training programs, which makes it possible to integrate competency management, parameterization of training objects, personalization of the training program and analysis of training results. The functional modules of the platform are presented with their roles,

- Architecture and prototype of a web-based platform for creating personalized training programs based on the learner's competency profile, defining the main functional modules, data flows and interrelationships between the processes of diagnostics, personalization, content provision and analysis of results.
- Implementation and testing in an operational environment of the main functional modules of the prototype.

Assessment of publications related to the dissertation. 8 publications on the topic of the dissertation are presented. Of these:

- Six publications are included in the proceedings of international conferences, referenced in SCOPUS and WoS;
- Two publications are in journals, one publication with SJR.

I am impressed by the high level of the presented publications, which is indisputable evidence of the correspondingly high level of the results obtained.

Personal contribution. The dissertation work, as well as the publications presented, suggest that the results achieved are primarily the personal work of the doctoral student.

Abstract. The abstract summarizes the content and results of the dissertation. Its volume of 49 pages significantly exceeds the usual length.

Critical remarks. I have the following critical remarks related to the design of the dissertation:

- The references are not complete and I do not understand the spelling of the authors in some of the publications. I think that there are articles in Bulgarian that deserve to be known and cited.
- Wrong numbers of figures in the text – e.g. Fig.3,4,5,6, ...
- Confused numbering in Chapter 3.

Recommendations for future research. As one of the merits of the dissertation text, I would point out the relatively detailed outline of the possibilities for continuing the research in the future. The presented directions are mainly related to the use of various forms of artificial intelligence as extensions of the system presented in the dissertation. I think that these are

problems of very significant importance for e-learning, especially in the context of the challenges and contradictions that they cause.

Personal impressions. I don't know the doctoral student personally.

CONCLUSION

The dissertation contains scientific-applied and applied results, representing an original contribution to science and meeting the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADSRB), the Regulations for the Implementation of the ADSRB and the relevant Regulations of the Institute of ICT.

The dissertation shows that the doctoral student Gergana Dimitrova Vasileva possesses in-depth theoretical knowledge and professional skills in the scientific specialty "Informatics" by demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I confidently give my positive assessment of the conducted research, presented by the above-reviewed dissertation, abstract, achieved results and contributions, and I propose to the esteemed scientific jury to award the educational and scientific degree of 'doctor' to Gergana Dimitrova Vasileva in professional field 4.6. Informatics and computer sciences, doctoral program "Informatics".

04. 06. 2026

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