

OPINION

by competition for the academic position of "Associate Professor" in professional field 1.3. Pedagogy of training in ..., scientific specialty "Teaching methodology in mathematics and informatics", announced in the State Gazette issue 38/28/04/2023 with candidate Elena Koleva Kovacheva, Ph.D.
Member of the scientific jury: Assoc. Prof. Valentina Markova Petrova, Ph.D.

1. General characteristics of the research and the scientific- applied activity of the candidate.

Scientific publications: The list of publications contains 1 independent monograph, 2 articles in scientific publications, referenced and indexed in reputable international databases with scientific information (Web of Science); 32 articles and 14 studies published in non-refereed peer-reviewed journals.

Participation in scientific research projects: Project Erasmus + KA220-VET - Cooperation partnerships in vocational education and training, "The Classes on The Moon" (participant in a team as a partner on the part of SMB - Varna); Project of SMB - Varna "Mathematics in Electronic environment with Geogebra Activity (Mathematics in Electronic environment with Geogebra Activity - MCGA)", "America for Bulgaria" Foundation; National Program "Qualification", MES for 2019, 2020, 2021; Project BG05M2OP001-2.010-0001 "Qualification for professional development of pedagogical specialists", MES 2018, 2019, 2020, 2021; Project BG05M2OP001-2.011-0001 "Support for success" - phase 1 and 2; 2018 - International European project under the Erasmus program "+" 2014 - 2017 on the topic of "Schools: Future Labs" - VG-SPS-BY-14/001559-3); Project of DIKPO No. RD - 08-84/04.02. 2016 on the topic: "Cloud technologies in the work of the teacher" (head).

Quotes are: 2 in monographs and 12 in non-refereed peer-reviewed journals.

2. Estimation of the pedagogical preparation and activity of the candidate

The curricula and lecture courses developed by Dr. Elena Koleva are as follows:

- Methodology of training in informatics;
- Methodology of training in computer modeling;
- School course in computer modeling;
- Visual programming in a block environment;
- Fundamentals of algorithms;
- Innovative approaches in computer modeling training;
- Information and communication technologies in learning and working in a digital environment;
- Project-based approach in learning;
- The student portfolio in education;
- Cloud technologies (master's degree);
- Social pedagogy (Bachelor's degree)
- General pedagogy;
- General and social pedagogy;
- Cloud technologies for an effective communication at school;
- Cloud technologies - a means of implementing modern management models of educational institutions;
 - The interactive whiteboard as a mean of implementing innovative approaches in education;

- Basic digital competences for implementing innovative approaches in education;
- Application of a tool kit for early identification of students at risk of prematurely skipping school system and for a differentiated approach in determining their needs for providing individual support;
- Methodological guidelines for managing a modern educational process;
- Problem-oriented training for the formation of key competences;
- The process of information technology education in the 7th and 9th grades;
- Importance of STEAM training for the development of scientific and computational thinking in students;
- Innovative approaches to organizing STEM training;
- Multimedia didactic tools in kindergarten.

She is the co-author of a set of textbooks, study notebooks, teaching aids and collections approved by the Ministry of Education and Culture on computer modeling for 3rd and 4th grade, information technology and computer modeling from 5th to 7th grade and information technology from 8th to 10th grade for general education preparation.

3. Basic scientific and scientific-applied contributions

Scientific contributions:

- An overall theoretical concept and rationale for implementing the new subject "Computer Modeling" in the general education school preparation is described. It is contained in the monograph. This is a learning model developed from the issues of the scientific field "Methodology of learning in informatics".
- A detailed and justified model is proposed for teachers training in Computer modeling. It is contained in the monograph.
- Analyzed and adapted to school conditions are the main characteristics of information technology as a tool in the learning process - interactive whiteboard, multi-mouse technologies, cloud technologies, etc. It is contained in the articles and studies.

Scientific and applied contributions:

- A model for teachers training in Computer modeling has been tested. It is contained in the monograph.
- Presented are applicable concepts for forming and improving teachers' digital skills for using interactive whiteboards, cloud technologies, etc. It is contained in the articles and studies.
- Methodological models have been developed for the use of Information technologies in the learning process of various subjects. It is contained in the articles and studies.
- The functions of the Information technologies in the lesson and in the preparation process are substantiated. It is contained in the articles and studies.

4. The significance of the contributions for the science and the practice

Fundamentally important for school practice are:

- The theoretical justification of the need to implement the new school subject "Computer Modeling".
- The Computer Modeling Model of Teacher Education applicable to both qualification courses and specializations for pedagogic specialists and students preparing to become teachers.
- The classification of various information technologies as a didactic tool in view of their functionality and applicability in the educational process.
- Systematization of the digital skills that teachers must possess for successful pedagogical practice.

Dr. Elena Koleva made a detailed assessment according to the national requirements for holding the position of "Associate Professor" as follows:: dissertation work for awarding the educational and scientific degree "doctor" - 50 points, for habilitation work (monograph) - 100 points, articles and reports published in scientific publications, referenced and indexed in international databases with scientific information - 22.5 points, articles and reports, published in non-refereed journals with scientific review or published in edited collective volumes - 186, 65 items, studies published in non-refereed journals with scientific review or published in edited collective volumes - 73.5 items, cited in monographs - 20 items, cited in non-refereed journals with scientific review - 60 items. This quantitative assessment is a total of 512.65 points and exceeds the minimum requirements for holding the academic position " Associate Professor " of 400 points.

The quotes presented by the candidate are 14: 2 in monographs and 12 in non-refereed peer-reviewed journals which proves that pedagogical specialists know and use the works of the candidate in their publications known among specialized audience and supporting the methodological and pedagogical research of teachers.

5. Critical notes and recommendations

The following recommendation can be made to Dr. Elena Koleva's scientific production:

- increasing publication activity in journals with an impact factor.

CONCLUSION

On the basis of the scientific works, their importance, the scientific and scientific-applied contributions contained in them, I find it reasonable to propose the candidate, Dr. Elena Koleva Kovacheva, to occupy the academic position of "Associate Professor" in the scientific field 1. Pedagogical sciences, professional direction 1.3. Pedagogy of training in... (Mathematics and Informatics).

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Member of tl
Assoc. Prof.

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