R E C E N T I O N S
by Prof. Dr. Milen Zamfirov
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in connection with a competition for the election of a professor

1. Pedagogical Sciences Professional field. 1.3 Pedagogy of Education in ...(Methodology of Mathematics Education in Primary Classes) Education of primary school pupils for the needs of Sofia University "St. Teaching of Mathematics in the School of Education,Faculty of Education Sciences and Arts, announced in the State Gazette - issue 96 of 19.11.2021.

1. General presentation of the procedure
The competition was announced in the Official Gazette No. 96/19.11.2021 for the needs of the Department of Primary School Pedagogy, the only candidate being Assoc. Prof. Dr. Gabriela Nikolova Kirova.
The members of the scientific jury were appointed by the order of the Rector of the Sofia University. Kl. No. RD-38-3/04.01.2022.

At its first meeting on 27.01.2022, the Scientific Jury unanimously decided that the candidate meets the minimum national requirements under Article 25, paragraphs 2 and 3 of the Academic Staff Development Act in the Republic of Bulgaria (ASDA) on the basis of all the documents submitted by the candidate.
There is no evidence of plagiarism in the scientific works.

2. Overall performance of the candidate - professional and career
Assoc. Prof. Dr. Kirova graduated in 1980 from the 118th Secondary School in the town of Kiev. She received a gold medal for excellent grades.
In 1981 - 1986 she was a student at the Faculty of Philosophy, specializ. In 1986 - 1986 in Philosophy and Pedagogy of Sofia University "St. Kl. Ohridski", where she acquired a Master's degree with a specialty in "Pedagogy" and a second specialty in "Philosophy".

From the academic year 1997-1998 until now she has been working as a lecturer at the Sofia University "St. Faculty of Education Sciences and Arts (former names.)

Associate Professor Gabriela Kirova held the following academic positions consecutively: 'Assistant Professor' from November 1987 to April 1991; 'Senior Assistant Professor' from April 1991 to November 1994; 'Senior Assistant Professor' from November 1994 to October 2015; 'Associate Professor' from October 2015 to date.

From 2004 to 2007 she was an independent doctoral student in the didactics of mathematics at the Department of Primary School Pedagogy, and in 2013 she defended her dissertation on "The thematic diversity of text problems in mathematics for the primary grades" and obtained her Phd.
In 2015, after a successful performance in a competition, she was elected "Associate Professor" in the field 1.3. Pedagogy of teaching in ...(Methodology of teaching mathematics in primary grades).

Since 2015 (second term) she has been the Head of the Department of Primary School Pedagogy.
From 2012 to 2019, he was the initiator and organizer of the Faculty's annual Student Research Forum and edited the proceedings of the same forum.

Throughout her teaching career, every year, Gabriela Kirova has realized a teaching workload significantly (in times) exceeding the required by the normative, which is also evident from her employment report issued by the Department of Educational Activities.

3. Participation in projects
As can be seen from the reference in the Authors from 2007 to the present, Assoc. Kirova has participated annually in one and in some years in two research projects.
In the documents for the competition the candidate has indicated her participation in 7 projects:
2015. 15 (2015/2015). Ohridski", FNI
2016. 46. "Project no. 4646", St. Ohridski University
2016: Project No. BG05M2OP001 - 2.002-0001 "Student Practices", funded by the Operational Programme "Science and Education for Intellectual Growth 2014 - 2020", co-financed by the European Social Fund (academic mentor)
2017. 10-10-1040. 8-14-1049", European Research Fund
2018. 10-10-10-06, 04.04.2014, project no. 8-10-10", FNI
2019. 10-10-10-180.04.2014. 80-10-10-180.04.2014, "St. Ohridski", FNI
2020. Theme: Challenges of Competence-Based Education (team member)

4. Scientific supervision of PhD students and graduates
There are two successfully defended PhD students.

G. Kirova is also a scientific supervisor of 31 graduates who have successfully defended diploma theses in the Master's degree, MP Primary School Pedagogy (for graduates of pedagogical specialties and specialties with teaching qualification) and in the SDC Primary School Pedagogy.

5. Presentation of the candidate's scientific production
It is noteworthy that, with the exception of textbooks and primary school textbooks, Gabriela Kirova is the sole author of all the publications listed for the competition.

The reference in the 'Authors' section shows that the candidate has 147 scientific publications, including 3 monographs, 91 articles, 3 studies, 7 textbooks - university and school textbooks and 34 teaching aids for students and pupils at the primary stage of education.

For participation in the competition Gabriela Kirova has submitted one habilitation work - monograph (indicator C. 3), 1 article published in a scientific journal, refereed and indexed in world-known databases of scientific information (indicator D.6), 23 articles and reports published in non-refereed journals with scientific peer review or published in edited collective works, of which 9 articles in an international journal (indicator D.7).), 3 studies published in non-refereed peer-reviewed journals or published in edited collective volumes (indicator D.9), 2 university textbooks and 4 textbooks used in the school network (indicator F.20), 14 teaching aids used in the school network (indicator F.21).

The habilitation thesis "The training of students - future primary teachers to work with text problems" (2021) has a volume of 326 pages and summarizes a study of scientific literature on the problems of mathematical thinking of young students, the importance of text problems for the development of thinking and an author's model for working with students of pedagogical specialties, which was tested with 904 students from different specialties, universities and forms of education. The model includes three components: author's methodology of work in teaching students on the topic of text problems (content of lectures and video-lectures), correct methodological development of all 859 text problems and creative exercises with text problems from the teaching sets in mathematics of IK KLET Bulgaria

Ltd - brand Anubis (in which the candidate is a co-author) and a system of typical graphic models (70 models) to illustrate the text problems from the analyzed textbooks. The experimental training was conducted during the academic years 2019-2020 and 2020-2021 The quantitative indicators of the statistical processing of the results of the training with students prove in a categorical way the hypothesis that the application of the author's model leads to a significant increase in the competence of the trainees to work with text tasks.

It is possible to single out among the candidate's publications mentioned for the competition the two university textbooks: 'Current problems of didactics of mathematics in primary grades' (2021, 536 pages) and 'Project work in teaching mathematics in primary grades' (2020, 119 pages). The first textbook is a fully developed edition on the topics of the compulsory courses "Didactics of Mathematics" and "Didactics of Mathematics - Modern Trends and Approaches", as well as for the elective courses "Creative Work on Text Problems in Mathematics in Grades I - IV" and "Diagnostics and External Evaluation of Learning Results in Primary Grades". It includes a wide range of research issues - comparative studies on individual topics. The second textbook covers the topics of the elective "Project work in mathematics education".

A review of the scientific publications submitted for evaluation in the competition reveals some areas of scientific interest and, consequently, scientific production of the candidate:
- Problems of the methodology of working with text problems in primary grades (Indicator C 3 - 1; Indicator D 7 - 10; D 7 - 12; D 7 - 13; D 7 - 15; D 7 - 20; D 7 - 21; D 7 – 23).
- Opportunities to develop the mathematical competence of primary school pupils through work on individual elements of the curriculum (Indicator D 6 - 1; D 7 - 1; D 7 - 2; D 7 – 9)
- Analysis (including comparative analysis of all textbooks for a given grade approved by the Ministry of Education and Science in recent years and used in the school network) of textbooks, including electronic textbooks, on individual content components (Indicator D 7-3; D 7-6; D 9-2; D 9-3)
- Research on learning outcomes in mathematics (Indicator D 7-4)
- Visualisation in mathematics learning (Indicator D 9 – 1)
- Project work in primary mathematics education (Indicator D 7 - 5; D 7 - 7; D 7 - 8; D 7 – 11)
- Opportunities for introducing new, atypical for Bulgarian school practice types of mathematical tasks (Indicator D 7 - 14; D 7 - 16; D 7 - 17; D 7 - 18; D 7 - 19; D 7 – 22).

Apart from the scientific publications mentioned in the competition documents, the active participation of the candidate in the writing of textbooks and teaching aids in mathematics for grades I - IV (according to the new curricula, after the entry into force of the Pre-school and School Education Act 2015) is impressive. It is part of the author's collective of IK KLET Bulgaria Ltd - brand Anubis. She has contributed to 4 textbooks (Indicator E 20 - 3; E 20 - 4; E 20 - 5 and E 20 - 6) and 14 teaching aids, including teacher's books, collections, holiday collections, a collection of preparation for the National External Assessment and a collection of tasks and exercises for international competitions and Olympiads (Indicator E 21 from E 21 - 1 to E 21 – 14).

6. Citations of scientific production
In the competition documents G. 8 citations of her publications in non-refereed and non-indexed publications, 2 citations in refereed and indexed publications and 7 citations in monographs.

The reference from "Authors" reflects a total of 50 citations of the candidate, but there are probably more.

7. Scientific - theoretical, experimental and applied contributions
Scientific-theoretical contributions

From the review of the scientific publications mentioned for the competition some tendencies emerge. Another aspect of the scientific-theoretical contributions is the development of the issues of project work in teaching mathematics in primary grades, which is reflected in the university textbook "Project work in teaching mathematics in primary grades" (2020).

Experimental contributions
 - Own study of the effectiveness of the author's model of training students (904 students) - future primary teachers to work with text tasks;
 - Derived trends and classified wrong approaches of work of primary teachers in own observation of mathematics lessons in I - IV class (80 lessons);
 - Developed and experimentally approbated own work methodology in teaching grade III students to solve text problems in indirect form;
 - Developed classification and systematization of creative exercises over text problems in mathematics textbooks for 1st - 4th grade;
 - Conceptualized the possibilities of introducing non-traditional types of mathematical tasks into Bulgarian school practice by testing the methodology of working with this type of educational content

Applied contributions:
 - Materialization of author's methodological concepts and their introduction into mass practice through the teaching kits and teaching aids of Anubis brand, where he is a co-author.
 - Made and promoted through publications comparative content analyses of the current mathematics teaching kits for grade I (9 kits), for grade II (9 kits), for grade III (7 kits) and for grade IV (7 kits) by key elements of the teaching content in them (for grades I and II - comprehensive comparative analysis).
 - The candidate currently teaches 15 lecture courses in the following subjects: Didactics of Mathematics (compulsory course - two semesters) in the Bachelor's degrees of the specialties NUTE and PNUP, full-time and part-time studies; Methodology of Mathematics Education in I - IV grade (compulsory course - one semester) in the Bachelor's degrees of the specialty Pedagogy - full-time and part-time studies; Didactics of Mathematics - Contemporary Trends and Approaches (compulsory course - one semester) in the master's degrees of NUP (graduates of pedagogical specialties and specialists with teaching license) and NUP (graduates of other specialties); Creative work on text problems in mathematics in grades I - IV (elective course) in the undergraduate degree programmes of the PNUP and NUPCE full-time and part-time studies; Project work in mathematics education (elective course) in the undergraduate degree programme of the NUPCE; Diagnosis and external assessment of learning outcomes in primary grades (optional subject) in the Bachelor's degree of ESL; Diagnosis and external assessment of learning outcomes in primary grades (optional subject) in the Master's degree of STEM (for graduates of pedagogical specialisations and specialisations with teaching qualifications).
 - The candidate has developed her own e-courses for all of the following subjects. In those compulsory courses, full video recordings of her lectures have been integrated, which is particularly valuable in the context of blended learning due to the epidemic situation and related restrictive measures in the country in the last two academic years

8. Evaluation of the materials submitted to the competition:
The competition submission fully complies with the requirements of the PRAIDS Act.

The habilitation paper submitted to the competition, 'Teaching students - future primary school teachers to work with text problems', is an example of a successful result of a long and very serious creative work in a difficult and responsible scientific field.

9. Personal impressions
I have known for years Assoc. I can say that she is an extremely conscientious lecturer who always treats her students with care.
I can definitely say that Assoc. Kirova enjoys an excellent reputation among her colleagues.

10. Conclusion
The scientific production of the candidate Gabriela Nikolova Kirova fulfils the minimum national requirements under Art. 25, par. 2 and 3 of the Law on Research and Development for scientific field 1. Pedagogical sciences, professional field 1.3. Pedagogy of Education in ... (Methodology of Mathematics Education in Primary Grades). With 550 points required, she provides evidence for 778 points.

In conclusion, I consider that the materials submitted for review in the competition meet the requirements for the academic position of Professor by Assoc. Prof. Dr. Gabriela Nikolova Kirova.

Referring to everything written above, the unquestionable professional qualities of the candidate as a scientist, teacher and supervisor, I confidently propose that Gabriela Nikolova Kirova be elected to the academic position of Professor in 1.3. 1. 1.

28.02. 2022   Prof. Dsc Milen Zamfirov