

STATEMENT

In Relation with Participation in a Contest for Occupying the Academic Position of “Professor” for the Needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy of Plovdiv University “Paisii Hilendarski”

Under Higher Education Area: 1. Pedagogical Sciences,
Professional Field: 1.3. Pedagogy of Teaching
(Methodology of Teaching Primary School Mathematics)
Announced in State Gazette, Issue № 31 of 12.04.2019

Candidate: associate professor Vladimira Stefanova Angelova, PhD

Statement prepared by: Prof., D. of Pedagogic Sc., Vassil Borisov Milushev
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The current statement is prepared on the basis of order № R 33 – 3697 of 10.07.2019 of the Rector of Plovdiv University ‘Paisii Hilendarski’(PU) as well as on the basis of a decision made by the scientific jury (Protocol № 1 of 16.07.2019). The statement is in accordance with Article № 29 (1) of the Law on the Development of the Academic Staff in the Republic of Bulgaria, Article 60 (1) of the Regulations on the implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria, and Article 76 (1) and (4), Article 79 (1) – (5) of the respective PU Paisii Hilendarski Regulations.

1. Summary of the candidate’s procedure for the contest

The contest was announced in state gazette, issue № 31 of 12.04.2019 for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy of Plovdiv University “Paisii Hilendarski”. Only one candidate has submitted documents for participation in the contest announced: associate professor Vladimira Stefanova Angelova, PhD. After reviewing the submitted documents (in paper and electronic form) which are accurately prepared and organized I did not find deviations from the procedure related to the requirements of Article 4 of the Law on the Development of the Academic Staff in the Republic of Bulgaria, Article 2 of the Regulations on the implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria, Article 76 of the respective PU Paisii Hilendarski Regulations or the Specific requirements of the Faculty of Pedagogy. Reference № 7 proves that the candidate meets the minimum national requirements and under some of the indexes (D, E and F) even exceeds the requirements necessary for participation in the contest for acquiring the academic position of “professor” and the candidate’s total sum of points is 1208 while the required minimum is 550 points.

Biographical information about the candidate.

Vladimira Stefanova Angelova was born on 24.10.1968 in Assenovgrad. She finished her secondary education in 1987 in Assenovgrad and she studied the Master specialty “Mathematics and Computer Sciences” and in 1992 she obtained the qualification - mathematician with specialization in informatics: mathematics and informatics teacher. From 1992 to 1995 she worked as a mathematics and informatics teacher in a municipality center for students’ technical and scientific arts in Assenovgrad. In 1992 - 1993 she acquired a postgraduate specialization “Methodology of Teaching Mathematics” and “Second Qualification Degree”. On 17.01.1996 she won a contest for acquiring the position of assistant at the Department of Primary School Pedagogy of the Faculty of Pedagogy of PU “Paisii Hilendarski” teaching the discipline Methodology of Teaching Mathematics. In 1998 she was

promoted to senior assistant and in 2000 to the position of assistant professor. In 2005 she successfully defended her dissertation paper entitled: “Acquiring Methods for Solving Mathematical Problems by Students Qualifying for Primary School Teachers” and she was awarded the educational degree “doctor” in the scientific field “Methodology of Teaching Mathematics”. In 2014 she acquired the academic position of ‘associate professor’ for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy of PU. From 2014 to 2015 she was a director of the Centre for Electronic Education at PU. Since 2016 she has been the head of the Department of Primary School Pedagogy. Since 2017 until now she has been a member of the Council by the Qualification and Professional Development Department of Pedagogical Specialists (QPDDPS) at PU “Paisii Hilendarski”. From 2015-2019 she was a member of the Controlling Council at PU “Paisii Hilendarski”. From 2015-2019 she was member of the Information Provision Commission at PU “Paisii Hilendarski”. She took part in the organization of scientific forums, symposiums, webinars, etc. She is a member of the Faculty of Pedagogy Council of PU “Paisii Hilendarski”; of faculty and university commissions for preparing documents for accreditation of the university and programme accreditation of specific professional fields at PU. She is a member of the association “A Network for Education and Constructive Activity”. She is a member of the Managing Board of the “Bulgarian Association of Educational Research”. She has a good command of English and Russian and she can use Microsoft Windows 7, MS Word 2010, MS Excel, and Microsoft PowerPoint 2010.

2. General characteristic of the scientific-research work of the candidate and assessment of the contributions

Associate professor Vladimira Angelova, PhD has written 89 scientific works independently and in co-authorship. Nine of them are related to the dissertation research for acquiring the educational degree “doctor” and 36 are related to acquiring the academic position of “associate professor”.

In this contest for occupying the academic position of “professor” she presented **44** works (2 monographs, 1 studio research paper, 15 scientific articles – 10 of which are in Bulgarian language and 5 in English, 1 resource book for university students, 4 methodological handbooks for teachers, 8 mathematics textbooks for primary school students (of them 4 are e-textbooks), 13 mathematics activity books for primary school students). All of them are published after acquiring the academic position of “associate professor” (June, 2014) and the defense of her dissertation paper. The distribution of her publications in the period 2014 – 2019 is as follows:

Publications: \ Years:	2014	2015	2016	2017	2018	2019	Общо 2014 – 2019
Monographs	–	–	–	–	1	1	2
Studio research papers	–	–	–	–	–	1	1
Scientific articles in Bulgarian	–	3	3	2	1	1	10
Scientific articles in a foreign language	1	1	2	1	–	–	5
Resource books for university students	–	–	1	–	–	–	1
Methodological	–	–	1	1	1	1	4

handbooks for teachers							
Mathematics textbooks for primary school students	–	–	1+1e	1+1e	1+1e	1+1e	4 + 4e
Mathematics activity books for primary school students	–	–	2	6	2	3	13
Total number of publications	1	4	11	12	7	9	44

As the table shows the candidate's overall creative activity in the period 2014 – 2019 has been balanced evenly. After acquiring the academic position of “associate professor” Vladimira Angelova not only continued publishing new results but actively participated in the development of mathematics textbooks and activity books for primary school students. She has been the main author in the co-written works and has been an independent author of the methodological handbooks for teachers that are used by the university students – future primary school teachers as well. I welcome the creation of e - textbooks for primary school mathematics. A logical endpoint of this creative activity throughout the 5-year-long period was the two monographs in which the author summarized the scientific results from this period.

Associate professor PhD Vladimira Angelova's research and contributions are well known amidst her colleagues. 31 citations are indicated in reference № 7 which prove that fact.

In relation with the publications submitted for the contest, written after acquiring the academic position of “associate professor”, I can admit that they can be generalized in thematic areas. I agree with the thematic areas suggested by the candidate:

1) Creation of technologies for mastering word problems in primary school mathematics: [1; 8; 14; 15]

Here I will briefly review only monograph № 1 “Pedagogical Technology for Teaching Word Problems in Primary School”. It consists of 216 pages and examines a current methodological issue. A classification of the word problems is provided and it deserves special attention. I highly value the strategies that are developed for comprehending, planning and solving word problems and they bridge the connection between theory and practice. An original pedagogical technology is developed by the author for teaching word problems that is useful both for the teachers and the students.

2) Creation of technologies for understanding basic concepts from sphere of competencies: *Geometric shapes and bodies* and *Measurement* in primary school education: [3; 4]

An innovative pedagogical technology is developed which is designed for 4th grade students and which is related to the teaching knowledge and skills related to *area of a rectangle* and *the units of measurement for area* as well as their application for solving mathematical and practical problems [3]. An original pedagogical technology is developed by the author for teaching *geometric shape* and *perimeter of a triangle, a rectangle, and a square* and their application for solving mathematical and practical problems – [4].

3) Improvement of the methodology for teaching the algorithms for written and mental calculations with natural numbers and basic properties of the arithmetic operations: [6; 7; 9; 11; 12; 13]

A variation is presented for mastering tabular multiplication and division by second grade students. A system of problems is developed and it is richly illustrated and supported by electronic resources. Detailed instructions for using the methodological system of problems are presented – [6].

Different strategies and techniques are developed for explaining the arithmetic operations addition and subtraction with natural numbers up to 20 – in [11] and the same operations with the natural numbers up to 100 and the focus is on the mental math calculations in [9].

Some strategies are developed for non-standard multiplication with the numbers: 5, 50, 500; 25, 250; 125 and the numbers 11 and 101. Original and effective rules for quick calculations are formulated – [12].

A system and methodology for applying Euler-Venn diagrams that aid: the mastering of knowledge related to the qualitative meaning of numbers; understanding the use of the arithmetic operations – addition, subtraction, multiplication and division; acquiring the algorithm for calculations – [13].

The author developed an original methodology which is designed for teaching the commutative and associative properties of addition and presents different options for their application in second grade mathematics education – [7].

4) Creation of technologies for mastering the skills necessary for solving non-standard problems in primary school mathematics: [2; 10; 16; 17; 18]

Book № 2 – „Diophantine Equations and Systems of Diophantine Equations – Theoretical Aspects and Methodological Projection in Primary School Education” is a monograph. It consists of 172 pages and it presents a specific methodological issue. Not only the meaning of the concepts *Diophantine equations* and *systems of Diophantine equations* is made clear in this monograph but methods that can be used for solving *Diophantine equations* and *systems of Diophantine equations* are also presented as well as a technological variation for mastering problem solving with *Diophantine equations* or *systems of Diophantine equations*. Article [17] focuses on the same issue.

Original methodological systems of exercises are developed and they are designed to teach students:

- how to solve non-standard problem by using set theory models. This category of problems is solved with schematic models such as Euler-Venn diagrams – [10];
- the theme *Counting possibilities* and it demonstrates the opportunity to integrate the components of this system in the educational content in primary school mathematics education – [18].

A technology for teaching the indirect apagogical proof is developed for the needs of primary school mathematics – [16].

5) Information and Communication Technologies in Education and the Creation of Electronic Mathematics Textbooks for Students from 1st to 4th Grade: [5; 25; 27; 29; 31]

Original electronic resources are created with the help of the educational platform mozaBook and they are integrated in the educational content for the 2nd grade – [5].

Electronic mathematics textbooks are created for primary school students from 1st – 4th grade – [25; 27; 29; 31]. The attractive animations demonstrate:

- the algorithms for written calculations in the 3rd and 4th grades – [25; 27];
- finding the perimeters of the geometric shapes – rectangle, square and triangle – [29];

- a grid containing 10 x 10 squares and visualization of each separate case of tabular multiplication – [29].

6) Developing and creating mathematics textbooks for students from 1st to 4th grade of primary school: [24; 26; 28; 30], and methodological handbooks for mathematics teachers working in primary schools: [20; 21; 22; 23]

Mathematics textbooks for primary school are compliant with the new normative documents of the Ministry of education. The educational technology developed in the mathematics textbooks is personalized and aids the formation of mathematical literacy and key competencies. The author created and added some original educational games and sample project tasks in the mathematics textbooks that allow team work. [24; 26; 28; 30]

Special attention deserves the fact that the resource pack for the 1st grade [30] took part in the competition for best teaching resource – BELMA (Best European Learning Material), which is held every year during the International Book Fair in Frankfurt and won a bronze medal in the 6- to 11- year-olds category.

The methodological handbooks which are created for teachers – [20; 21; 22; 23] contain a complete didactic technology which is directed towards mathematics education and is thoroughly developed in the context of the 1st – 4th grade mathematics resource packs.

7) Developing and creating resource books for university students [19] and activity books for primary school students: [32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43; 44]

In the resource book for university students [19] associate professor Vladimira Angelova, PhD, developed the topic about the natural numbers up to 100 and the arithmetic operations with them. The rest of the resource books are: workbooks [32; 33; 37; 38; 41; 42]; practice books [35; 39; 43] and activity books for the elective classes for 1st – 4th grade [34; 36; 40; 44].

3. Assessment of the candidate's pedagogical and educational activity

The submitted reference proves that associate professor PhD Vladimira Angelova's pedagogical and educational activity has been long – since 1996 up to now. She has been reading lectures, has been involved in seminar activities and practice exercises, pedagogical practice at schools, examination sessions and state exams of Bachelor and Master degree students (full-time and part time) at the Faculty of Pedagogy. For these disciplines associate professor Vladimira Angelova, PhD developed and updated curricula and lecture courses. She took part in the development of the curricula of the Bachelor Degree specialties “Primary School Education” and “Primary School Education in a Foreign Language” and the Master Degree Specialty “Kindergarten and Primary School Education”. She is a coordinator of these specialties. She is the author of 18 educational courses in Bachelor degree programmes and 6 educational courses in Master degree programmes. In the last 5 years she has consulted 25 Bachelor and Master degree students who successfully defended their thesis papers. Associate professor Vladimira Angelova, PhD is a scientific consultant of one PhD student.

Associate professor Vladimira Angelova, PhD actively took part in scientific and research projects (12 altogether from 2003 to 2019) as a member of the team or as an academic mentor in some of them. She has taken part in 6 projects since 2014.

Critical remarks and recommendations. I have no critical remarks. As a recommendation I would inform the candidate that she could generalize and summarize the contributions in the self-assessment part of her work more efficiently.

Conclusion

As a conclusion I would point out that associate professor Vladimira Angelova, PhD has enough in number scientific and applied contributions in the field of methodology of teaching mathematics. The candidate's contributions characterize her as a scientist and an instructor with a rich scientific potential and competencies in the profile of the contest. She built creative teams for implementing and realization of the achievements in primary school as well as exploring the potential for updating her educational work at the university.

The candidate in the contest **has met** the minimum national requirements for acquiring the academic position of "professor" under higher education area: 1. Pedagogical Sciences, professional field: 1.3. Pedagogy of Teaching. **I find no** foundations for doubts for plagiarism in the submitted scientific work.

I consider that she **complies with** the requirements of Article № 29 (1) of the Law on the Development of the Academic Staff in the Republic of Bulgaria, Article 60 (1) of the Regulations on the implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria, and Article 76 of the respective PU Paisii Hilendarski Regulations for acquiring the academic position of 'professor' of methodology of teaching mathematics. The above presented analysis and assessment of the candidate's submitted scientific work and documents constitute valid grounds for giving my **positive assessment** and for recommending to the Scientific Jury to prepare a report-proposal to the Faculty of Pedagogy Council to appoint associate professor Vladimira Stefanova Angelova, PhD to the academic position "**professor**" of **Methodology of Teaching Mathematics** at PU Paisii Hilendarski under higher education area: 1. Pedagogical Sciences, professional field: 1.3. Pedagogy of Teaching for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy of PU 'Paisii Hilendarski'.

07.08.2019
Plovdiv

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