

## STATEMENT

By

**Prof. Natalia Ivanova Vitanova – Marinova, PhD**  
**From Konstantin Preslavsky University of Shumen**

of scientific works presented by **associate professor Vladimira Stefanova Angelova, PhD**, in relation with participation in a contest for occupying the academic position of “professor” at 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 and the Web site of Plovdiv University “Paisii Hilendarski”

### **1. Summary of the presented materials and a brief biographical information about the candidate**

With order № R 33 – 3697 of 10.07.2019 of the Rector of Plovdiv University ‘Paisii Hilendarski’(PU) I have been appointed as a member of the scientific jury in a contest for occupying the academic position of “professor” at PU under higher education area: 1. Pedagogical Sciences, professional field: 1.3. Pedagogy of Teaching (Methodology of Teaching Primary School Mathematics) announced for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy.

Only one candidate has submitted documents for participation in the contest announced: associate professor Vladimira Stefanova Angelova, PhD from PU “Paisii Hilendarski”. The set of materials submitted by associate professor Vladimira Stefanova Angelova, PhD in paper complies with the Regulations on the Academic Staff Development of PU and includes the following documents:

- application form to the Rector for admission to the contest;
- CV in EU format;
- diplomas for MSc. educational-qualification degree;
- diploma for PhD educational and scientific degree;
- certificate for acquiring the academic position of “associate professor”;
- list of scientific works and their copies;
- reference on complying with the minimum national requirements;
- declaration regarding the enclosed documents’ originality and authenticity;
- annotations of the scientific publications, including self-assessment of the candidate’s contributions;
- work record certificate;
- documents regarding educational work;
- documents regarding scientific-research work;
- other documents compliant with the requirements of the Faculty of Pedagogy – an excerpt from a minute of a Faculty Council meeting verifying the candidate’s readiness for occupying the academic position of “professor”
- other documents – references and excerpts from minutes, citation proofs, certificates verifying the candidate’s participation in conferences and educational courses.

Vladimira Angelova graduated from PU “Paisii Hilendarski” with Master specialty “Mathematics and Computer Sciences”. She acquired a PhD educational and scientific degree in 2006. In 2014 she won a contest for associate professor under higher education area: 1. Pedagogical Sciences, professional field: 1.3. Pedagogy of Teaching (Methodology of Teaching Primary School Mathematics). She started her professional career in 1992 in a

municipality center for students' technical and scientific arts in Assenovgrad. Since 1996 she has been working at PU 'Paisii Hilendarski'. Since 2016 she has been the Head of the Department of Primary School Pedagogy of the Faculty of Pedagogy at PU "Paisii Hilendarski". She has a good command of two languages – English and Russian which is a prerequisite for her scientific and research knowledgeability.

Vladimira Angelova is distinguished by the degree of her professionalism, research competence, rigour and responsibility. In the field of methodology of teaching mathematics she is a sought-after lecturer and consultant by university students, teachers and school principals. Her participation in various certified educational courses as well as in many international, national and university projects is a proof for her competence.

All the scientific papers submitted for review are published in the period 2014 – 2019 after acquiring the academic position of "associate professor". The scientific production associate professor Vladimira Angelova, PhD is participating with in the announced contest, reflects the scientific specialty and its specifics. It comprises 44 scientific papers – 2 monographs; 1 studio research paper; 26 textbooks and resource books, of which 8 textbooks for primary school mathematics – 4 of them in electronic form (all of them in co-authorship in which the main author is Vladimira Angelova); 17 resource books for teaching primary school mathematics (handbooks, workbooks, practice books) of which 13 are in co-authorship; 1 resource book for university students; 6 scientific articles published abroad, 3 of which are with Global Impact and Quality Factor 1.023; 1 article referenced and indexed in world databases with scientific information (Web of Science Core Collection) and which is to be published (a certificate is presented verifying that the article is reviewed and approved for publishing); 8 articles published in modern Bulgarian scientific editions with scientific reviewers included in the list of the national referenced editions. All the enumerated publications meet the minimum national requirements and the national scientific indexes for acquiring the academic position of "professor". They are an indicator for the candidate's degree of activity and scientific pursuits.

Vladimira Angelova's scientific interests are concentrated mainly in the field of methodology of teaching primary school mathematics. Particularly striking is the thematic concentration which is a guarantee for completeness and comprehensiveness of her research perimeter and prevents the author from fragmentation and divergence of her scientific pursuits.

**Personal impressions** – I know Vladimira Angelova from our mutual work (in projects, commissions to the Ministry of education, inter-university and administrative work). She is distinguished by her ambition to widen the scope of her competence and erudition and by her scientific curiosity. She is a responsible, diligent, accurate, fair, demanding and responsive person.

## **2. Summary characteristic of candidate's activities**

The monograph "Pedagogical technology for teaching word problems in primary school" examines a topical issue in the field of mathematical sciences. It is a fact that Bulgarian primary school students experience serious difficulties when solving word problems. Another fact is that solving word problems develops primary school students' cognitive thinking and creativeness. In this respect the scientific work has a great contribution because in recent years the educational theory has often been associated with these issues (the results from school leaving examinations, external evaluation, PISA exams, etc.) The work is applicable in practice because the whole theory is made operational by many practical examples that can be used in schools and can assist the acquisition of educational content. The monograph contains valuable ideas and solutions that can successfully be used in the practical realization of the difficulties related to teaching word problems. It is a good information basis

that can help university students and teachers understand different mathematical phenomena in the context of teaching word problems in primary school. On one hand, the monograph is advanced and on the other hand, it is innovative. It combines both classical considerations and an innovative technology for teaching word problems. The most valuable contribution is the developed and described technology for teaching word problems in 1<sup>st</sup> to 4<sup>th</sup> grades. It contains a diverse, systematic and organized set of problems accompanied by a relevant and innovative methodology for teaching and learning.

The monograph “Diophantine equations and systems of Diophantine equations – theoretical aspects and methodological projection in primary school education” is particularly valuable both for school and inclusive education. It is designed for teaching a specific target group – students with outstanding mathematical talents. The work is distinguished by its practical applicability because it is a useful tool for training students for different mathematical competitions and Olympiads. A particular contribution is the developed and presented technological model for mastering problem solving with *Diophantine equations* or *systems of Diophantine equations* and its implementation in those forms of teaching mathematics that allow its integration: elective classes, facultative classes, school *mathematics study groups*, etc. The presented technology ensures the development of students’ logical thinking and their skills to solve non-standard type of problems. These are qualities and skills vital for every young person in order to be able to function efficiently in the era of the modern information society.

Another outstanding contribution in associate professor PhD Vladimira Angelova’s publications are the mathematics textbooks, workbooks, mathematics practice books, handbooks for mathematics teachers designed by her for teaching primary school mathematics. They are modern and compliant with the demands of the new generation. They are approved by the Ministry of Education and can successfully be used in school education.

The other submitted publications are socially predetermined and contemporary in character. They meet particular social and practical requirements and solve specific didactic problems.

The following positive aspects can be outlined in associate professor PhD Vladimira Angelova’s publications:

- science based research in the specific professional field;
- foundations of contemporary paradigms, concepts and opinions in the field of didactics of mathematics;
- analytical approach;
- a huge practical applicability;
- the co-written publications are an indicator of the author’s engagement with the scientific community and her successful communication with colleagues;
- orientation to a specific target group.

I accept Vladimira Angelova’s self-assessment of her contributions. I can also add the following contributions:

- the monograph “Pedagogical technology for teaching word problems in primary school” presents an original formulation of the concept “word problem” (publication № 1. p. 19 – 20)
- the author created an original orientation apparatus and acquisition facilitation apparatus which is to be found in the mathematics textbooks 1<sup>st</sup> – 4<sup>th</sup> grades (publication № 1. p. 85-86). This is a matrix that facilitates the easier acquisition of the technology for solving word problems.
- the presented technological models for solving word problems and Diophantine equations and the systems of Diophantine equations enrich the school mathematics didactics.

There are grounds to point out that the scientific works associate professor Vladimira Angelova, PhD is participating with in the contest, are result of her personal research and are her own achievement. The detailed analysis, characterization and comparison of contemporary theories, practices and technologies in the field of mathematical methodology prove the potential for positive change in the educational context. My assessment for associate professor PhD Vladimira Angelova's scientific works is positive. They are written in a professional manner; they are reviewed and meet the requirements for high-quality educational and scientific literature. They present her as a coherent and thoroughgoing scientist and researcher. Her works demonstrate her professional aptitude for noticing and presenting significant problems in the field of pedagogical science, respectively the methodology of teaching mathematics. The successful identification, presentation and interpretation of these problems are part of the author's outstanding contributions.

The citations of associate professor PhD Vladimira Angelova's work are 31 (traditionally reported). They are by authors different from those Vladimira Angelova worked in co-authorship with and are accumulated mainly in the period 2018 – 2019.

### 3. Critical remarks and recommendations

- To sustain and develop critical reflection;
- To direct her attention towards richer argumentation when analyzing the issues under research.
- The scientific publications will improve their quality if they are written in the same tense form (present historical) and if the use of the 1<sup>st</sup> person plural is avoided.

The submitted remarks do not reduce the overall positive assessment of associate professor PhD Vladimira Angelova's scientific work but aim the stimulation of her further intentions.

### Conclusion

The analysis of Vladimira Stefanova Angelova's teaching, research and scientific activity as well as the presented reference on the compliance with the scientific indexes required for acquiring the academic position of "professor" present her as a good professional, well-directed and reliant researcher with sustainable scientific interests. The candidate complies with the minimum national requirements for occupying the academic position of "professor". I have no doubts for plagiarism in the submitted scientific work and publications. The ideas developed in associate professor PhD Vladimira Angelova's publications, the author's contributions to the sphere of methodology of teaching mathematics, her academic and research work justify my *positive assessment* and decision to recommend 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**" at PU 'Paisii Hilendarski' under Professional Field 1.3. Pedagogy of Teaching (Methodology of Teaching Primary School Mathematics).

29.07.2019

Statement, prepared by: .....  
(Prof. Natalia Vitanova, PhD)