by a member of the scientific jury Prof. Galin Tzokov, PhD from Plovdiv University "Paisii Hilendarski" of scientific works presented 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)

Associate professor Vladimira Stefanova Angelova, PhD from Plovdiv University "Paisii Hilendarski" is the candidate that took part in the contest for occupying the academic position of "professor" announced in state gazette issue № 31 of 12.04.2019 and the Web site of Plovdiv University "Paisii Hilendarski" for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy

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

With order 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). Associate professor Vladimira Stefanova Angelova, PhD from Plovdiv University "Paisii Hilendarski" is the candidate that took part in the contest for occupying the academic position of "professor" 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.

The set of materials submitted by associate professor Angelova, PhD in paper comply with the Regulations on the Academic Staff Development of PU. The candidate has presented 44 scientific papers for the participation in the contest: 2 monographs, 1 studio research paper, 15 scientific articles − 5 of which are in a foreign language, 1 resource book for university students, 21textbooks and activity books for primary school students, and 4 methodological handbooks for teachers. The candidate has indicated 31 proofs of citations of her publications in the documents.

Brief biographical information about the candidate

Associate professor Vladimira Angelova, PhD is the only candidate for the contest for occupying the academic position of "professor" and she was born in 1968. In 1992 she graduated a Master degree programme "Mathematics and Computer Sciences". From 1992 until 1995 she worked as a mathematics and informatics teacher in a municipality center for students' technical and scientific arts in Assenovgrad. In 1996 Angelova started working as an assistant at the Department of School Pedagogy of the Faculty of Pedagogy at PU "Paisii Hilendarski". In 1998 she was promoted to senior assistant and in 2002 − to an assistant professor. In the period 2001 − 2006 Vladimira Angelova developed and successfully defended a PhD dissertation in the scientific field "Methodology of Teaching Mathematics". In 2014 Angelova acquired the academic position of 'associate professor' for the needs of the Department of Primary School Pedagogy of the Faculty of Pedagogy of PU "Paisii Hilendarski".

2. Summary characteristic of the candidate's activities

Assessment of the candidate's pedagogical and educational activity

Vladimira Angelova has a rich pedagogical experience and 23-year-long job experience at PU "Paisii Hilendarski". Her annual workload is 500 academic hours while the requirement for the obligatory workload is 360 academic hours. As a university lecturer associate professor Vladimira Angelova, PhD has read lectures in the following courses:

Methodology of Teaching Primary School Mathematics; Strategies for Applying Methods for Solving Mathematical Problems; Logical Problems in Primary School Mathematics; Alternatives to Traditional Mathematics Education; Competitive Mathematics; Problem Solving Methods; Logical Problems and Creativity; Cognitive Development and Mathematics Culture in Kindergarten and Primary School; Innovative Technologies in Kindergarten and Primary School. Many Bachelor- and Master-degree students have successfully defended their thesis papers after having been consulted by Vladimira Angelova.

The following facts verify the candidate's high-quality educational work:

- She is Head of the Department of Primary School Pedagogy of the Faculty of Pedagogy of PU "Paisii Hilendarski".
- She is a member of the Academic Council of PU.
- She is a Manager of a Master degree programme.
- She has developed educational curricula and courses in both Bachelor and Master degree programmes at PU.
- She took part in 2 national, 1 international and 3 university educational and scientific projects.

I think that the educational experience of the candidate meets the criteria for acquiring the academic position of "professor" and complies with the Regulations on the Academic Staff Development of PU.

Assessment of the candidate's scientific-research activity

Angelova has presented 44 scientific papers for the participation in the contest: 2 monographs, 1 studio research paper, 15 scientific articles – 5 of which are in a foreign language, 1 resource book for university students, 21textbooks and activity books for primary school students, 4 methodological handbooks for teachers.

In the presented monograph – *Angelova, V. Pedagogical technology for teaching word problems in primary school. Plovdiv, Plovdiv University "Paisii Hilendarski" Publishing House, 2019, 216 pages, ISBN 978-619-202-416-1* – associate professor Vladimira Angelova, PhD analyzes significant problems related with modelling of word problems designed for primary school students. The theoretical background of word problems is presented as well as an innovative technological variation for teaching them. Some strategies are developed for comprehending, planning and solving word problems and they bridge the connection between theory and practice.

In the second monograph – *Diophantine equations and systems of Diophantine equations – theoretical aspects and methodological projection in primary school education. Plovdiv, Plovdiv University "Paisii Hilendarski" Publishing House, 2018, 172 pages, ISBN 978-619-202-394-2* – associate professor Vladimira Angelova, PhD presents the problem of the Diophantine equations and the systems of Diophantine equations and includes the theoretical foundations of this type of problems as well as the methodological options for teaching this topic in mathematical classes. The basic goal of this scientific work is the creation of a technological variation 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.

Other scientific achievements refer to the following thematic areas which are included in the list of scientific work – № 3 to № 18:

- Works related to the presentation of a didactic technology for understanding the concepts area of rectangle and the units of measurement for area in primary school teaching of mathematics.

- Research and publications dedicated to an innovative training technology for mastering tabular multiplication and division.
- Research dedicated to problem-based education as an alternative for activating students' thinking when studying primary school mathematics.
- Scientific work related to alternative models and technological options for mastering the arithmetic operations addition and subtraction with natural numbers.
- Articles presenting the application of some set theory tools in elementary mathematics education.
- She is a co-author of a resource book for university students – *State Exam Resource Book on Methodology of Education in the Kindergarten and the Primary School.*

Basic scientific contributions

Associate professor PhD, Vladimira Angelova's contributions are as follows:

A. Theoretical contributions
- The theoretical foundations of the methodology of teaching word problems in primary school have been examined. The characteristics of the problems are presented. The structure of the word problems is analyzed and that becomes the basis for constructing the typology of the problems. The structure of the problem solution is presented.
- The theoretical foundations of the operations multiplication and division are analyzed and presented. A technological 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.
- Selected topics from the Number theory are explored and they are related to solving Diophantine equations and systems of Diophantine equations.

B. Scientific contributions
- A technological variation of teaching the system of word problems in $1^{st} - 4^{th}$ grade is developed. This technology includes a rich systematized range of problems accompanied with a relative and innovative methodology for teaching and learning.
- An innovative didactic technology is developed and focused on the education of fourth graders. It is directed towards mastering of knowledge and skills related to area of rectangle and the units of measurement for area and their application for solving mathematical and practical problems.
- An original technology for understanding the concepts geometric shape and perimeter of a triangle, a rectangle, and a square is created and their application for solving mathematical and practical problems.
- 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.
- A methodological system of exercises is developed and it is designed to teach students how to solve non-standard problems by using set theory models.
- Electronic mathematics textbooks are created for primary school students from $1^{st} - 4^{th}$ grade. They are a universal device for organizing the technological education in a new information era.

The submitted reference proves that associate professor Angelova, PhD has 31 citations of her publications.

3. Critical remarks and recommendations

The following recommendations can be made to the candidate and they refer to:

- In my opinion associate professor Angelova, PhD has enough in number originally developed ideas and achieved results that can be popularized and published in leading specialized referenced scientific journals abroad.

CONCLUSION

The documents and materials presented by associate professor Vladimira Angelova, PhD comply with all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations on its implementation, and the respective PU Paisii Hilendarski Regulations. She has presented enough in number scientific work published after acquiring the academic position of "associate professor". The candidate's publications contain original scientific and applied contributions. The candidate's theoretical elaborations have practical applicability and part of the work is closely directed to teaching and education. The scientific and educational qualification of associate professor Vladimira Angelova, PhD is undeniable.

The candidate in the contest meets the minimum national requirements for occupying the academic position of "professor". I have no doubts for plagiarism in the submitted scientific work.

After reviewing the materials and scientific works presented for the contest and analyzing their significance and the scientific, scientific-applied and applied contributions they contain I find it justified to give my **positive assessment** and 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 of "professor" at PU Paisii Hilendarski under higher education area: 1. Pedagogical Sciences, professional field 1.3. Pedagogy of Teaching (Methodology of Teaching Primary School Mathematics).

22.08.2019   Statement, prepared by:…………
                                            (Prof. Galin Tzokov, PhD)