

## OPINION

regarding the selection procedure for the academic position of Associate Professor in the Area of Higher Education 1. Pedagogical Science in Professional Field 1.2. Pedagogy (Preschool Pedagogy – Pedagogy of Mathematics in Preschool Age announced in the State Gazette, issue 22/16.03.2021 for the needs of the Faculty of Sciences for Education and Arts at Sofia University “St. Kliment Ohridski ”

by member of academic jury: Proff. Marinela Velikova Mihova, PhD - “St. Cyril and St. Methodius” University of Veliko Tarnovo

The opinion was written on the basis of order RD 38-176 / 06.04.2021 of the Rector of Sofia University "St. Kliment Ohridski ". According to the announced selection procedure for associate professor, there is one candidate - Ch. Assistant Professor Dr. Galina Georgieva Georgieva. During the inspection of the materials submitted for the selection procedure, no violations of the procedure were found.

### 1. Short biography of the candidate

#### *Education and professional experience*

Ch. Assistant Professor Dr. Galina Georgieva was born in 1983. She completed secondary education in Haskovo at the High School for Teaching Foreign Languages "Prof. Dr. Asen Zlatarov. In 2007 he graduated as a bachelor in "Preschool pedagogy and foreign language", and in 2012 as a master in Pedagogy of mass and artistic communication at Sofia University "St. Kliment Ohridski ". In 2016 she defended his doctoral dissertation on "Model for the development of mathematical thinking in the constructive activities of preschool children" and acquired ONS "Doctor".

Galina Georgieva's pedagogical career began in 2008 as a teacher in DG 56 "Zdravets" in Sofia, and the academic - in 2011 as an assistant (2011-2017) and chief assistant at FNOI, Sofia University "St. Kliment Ohridski "(2017-2021).

#### *Teaching activity*

Ch. Assistant Professor Dr. Galina Georgieva declares active teaching in bachelor's and master's programs. Its annual average classroom workload exceeds 1,200 hours, which includes compulsory and elective courses in bachelor's and master's programs. The subjects for which there are developed curricula are: Pedagogy of mathematics in preschool age, PUPCHE, PNUP, Internship practice, PUPCHE, Pedagogy of mathematical culture, masters; Applied techniques for creativity in kindergarten - constructive, PNUP. From the provided references it is evident that the academic disciplines of which the candidate is the holder are in the direction of the announced competition.

#### *Administrative activity*

Ch. Assistant Professor Dr. Galina Georgieva declares active administrative activity in the Department of Preschool and Media Pedagogy. She is the head of the master's program Preschool pedagogy (for graduates of other specialties) and scientific secretary of the department.

These activities are proof of professionalism and a highly developed sense of responsibility.

#### *Project activity*

Ch. Assistant Professor Galina Georgieva, PhD, actively participates in project activities. In the period 2015-2021 as a member in 5 NIS projects and 4 projects under the Operational Program "Human Resources Development" has contributed to their successful completion.

The professional biography of Ch. Assistant Professor Dr. Galina Georgieva is proof of growth and recognition as a scientist, expert and university lecturer.

## **2. Information on scientometric indicators**

Presented by Ch. Assistant Professor Dr. Galina Georgieva Information on the implementation of the minimum number of points required by groups of indicators for scientific field 1. Pedagogical sciences, PN 1.2. Pedagogy shows that the candidate meets the minimum requirements for holding the academic position of "associate professor". Of the required 400 points, Dr. Georgieva performs 550 points.

The publications included in the minimum requirements for the academic position of "Associate Professor" correspond to the professional field of the competition.

Regarding the Web of Science/Scopus databases, a publication in the journal Pedagogy is included.

Regarding the citations of her works, Dr. Galina Georgieva points out a total of 9 citations, of which 1 is in scientific journals, referenced and indexed in world-famous Web of Science databases.

## **3. Description of scientific works**

The total number of scientific publications with which Ch. Assistant Professor Dr. Mariela Todorova participates in the competition for associate professor, there are 15. They are distributed as follows: □ scientific publications in publications, referenced and indexed in international databases with scientific information and in journals with impact factor - 1 pc .; scientific publications in publications, referenced and indexed in national databases and published after review - 4 copies; reports, printed in full text, in collections of international and national forums - 6 pieces; studio 1; chapter of a collective monograph - 1; monographs and books - 2 pieces;

The publications included for participation in the competition can be divided into the following thematic areas:

1. Competence approach in teaching mathematics in preschool age - monograph [1]; publications [4, 6, 7, 14];

2. Pedagogical aspects of teaching mathematics in preschool age - publications [2, 5, 7, 8, 12, 13, 15];

3. Integration in the teaching of mathematics in preschool age - publications [9,10];

4. ICT in preschool education - publication [3,];

5. Didactics of the University - publications [11].

The quantitative and content characteristics of the presented publications correspond to the profile of the announced competition for acquiring the academic position "Associate Professor". The derived thematic areas of scientific production very clearly define the scientific interests of the candidate related to the pedagogy of teaching mathematics in preschool age and are evidence of a clearly defined scientific focus and sequence of research research.

#### **4. Evaluation of the publications submitted for participation by the candidate**

##### *4.1. Evaluation of the main habilitation work of the candidate*

Dr. Galina Georgieva presents as a habilitation work "Mathematical competence in preschool age." The monograph is an author's study and fully meets the issues of this competition.

The topicality and significance of the researched problem finds argumentation in the official recommendations of the European Union regarding the education of the 21st century, projected also on the national priorities and normative documents. Assessing the role and importance of preschool education for the progress and success of the future student, the search for models and approaches to learning based on the competence approach and integrative knowledge of the world, organizing pedagogical interaction in kindergarten, which is based on provoking curiosity and the child's cognitive interests, the belief that mathematical skills "have a long-term impact on human development" are part of the convincing grounds for the scientific significance of the object of this study - mathematical competence in preschool age.

In form, the study is a classic monographic study, in a volume of 160 pages with 148 pages of theoretical part. Critically, in a certain logical system ch. Assistant Professor Dr. Georgieva introduces us and builds the theoretical foundations of the study. On the basis of good scientific awareness (mainly research by German and American scientists was used) and in order to achieve terminological precision and clarity, the concepts of mathematics, competence, mathematical competence are clarified and the seven areas of skills of mathematical competence are outlined. Each of these areas is analyzed separately with a focus on the specifics of preschool age.

The specific methodological view on the mathematical competence in preschool age is in the search for an answer to the question HOW - HOW to develop and form it in the process of pedagogical interaction. Ch. Assistant Professor Dr. G. Georgieva finds this answer in the possibilities of the game and in particular in the interactive game as its role for the early mathematical education is reasonably assessed.

The demonstrated theoretical clarity and depth on the problem of mathematical competence and its development in preschool age gives grounds to Ch. Assistant Professor Dr. G. Georgieva to propose an innovative model of

pedagogical interaction for the formation of mathematical competence of 5-7-year-old children in the conditions of the kindergarten. The emphasis of the model is the development of children's mathematical competence through specific constructive and interactive activities with the help of an interactive display, which is carried out both individually and in groups / in front. The model has been tested and the results have been competently processed and analyzed.

The scientific contributions in this monographic study can be summarized as follows:

1. An in-depth theoretical study has been made on the problem of developing mathematical competence in preschool age.

2. The methodological possibilities of the interactive game are outlined and its contribution to the development of mathematical skills is evaluated.

3. A model for the development of mathematical competence in preschool age has been developed, the content of which is five key cores, and the pedagogical focus is the creation of pedagogical interaction in which children are active participants and concentrate on thinking and expression.

#### *4.2. Evaluation of publications not related to the main habilitation thesis*

##### Evaluation of articles, studies and reports

Dr. Galina Georgieva presents other publications - studies, articles, conference reports that are relevant to the topic of the competition.

Publications [4,6,7,14] can be included in the thematic area "Competence approach in teaching mathematics in preschool age". In terms of content, these publications present individual issues included in the monographic study.

To the thematic direction "Pedagogical aspects of teaching mathematics in preschool age" are publications under numbers 2, 5, 7, 8, 12, 13, 15. The main problems that are studied are theories of play as a tool for developing mathematical competence and in particular constructive games, role-playing games and rule games (5); substitution as a means of developing numerical competences in preschool children and emphasizes the importance of developing different counting and counting skills in children as a basis for early numerical knowledge (7); sense of numbers and methodological recommendations for its development in terms of material and tools with mathematical content, through which children can be stimulated to reach and understand certain rules and algorithms and thus consolidate their knowledge and skills - a ladder of numbers, square grids, moving objects, etc. (8); ideas for additional forms of education following the example of German kindergartens (12); collection and subtraction strategies for preschool children. The studied problems are considered in the context of modern studies of German and American scientists, which allows the practice of mathematics education in kindergarten to be enriched and developed in the direction of current trends.

Publications 9 and 10 are in the thematic area "Integration in the teaching of mathematics in preschool age". The integrative approach in preschool education is scientifically substantiated and the role and importance of constructive activities and fine arts for the development of thinking and the formation of mathematical concepts is proved.

Ch. Assistant Professor Dr. G. Georgieva directs her scientific interest to the integration of information and communication technologies in the teaching of mathematics in kindergarten. In an article for the magazine "Pedagogy" she reasonably and objectively assesses the possibilities of the interactive whiteboard as an innovative tool for pedagogical interaction in kindergarten.

One publication each declared scientific interest in the interactive whiteboard as an innovative tool for pedagogical interaction (3) and the design of blended courses in the Moodle learning management system (11). With these studies, ch. Assistant Professor Dr. G. Georgieva declares scientific interest in the integration of ICT in preschool education and higher education.

Publications that are not related to the habilitation work present Ch. Assistant Professor G. Georgieva as a scientist with a lasting interest in the methodology of teaching mathematics in preschool age, sensitive to innovations and current trends.

I do not subject to analysis and evaluation the book "Mathematics in children's thinking", which is based on the dissertation research of the candidate - "Model for the development of mathematical thinking in constructive activities in preschool children." To a large extent, the scientific contributions in it were discussed during the defense. Congratulations, Ch. Assistant Professor Dr. G. Georgieva, with the publication of this book, because in this way the scientific contributions related to the enrichment of the pedagogy of mathematics in preschool age have reached more professionals.

The two books of Ch. Assistant Professor Dr. G. Georgieva upgraded and presented her as a consistent scientist who strives to achieve scientific completeness.

## **5. Main contributions in the scientific and scientific-applied activity of the candidates**

After I got acquainted with the publications of Ch. Assistant Professor Dr. G. Georgieva, presented for participation in the competition, I can summarize the following scientific and scientific-applied contributions, which are related to the topic of the competition:

1. A theoretical study has been made, in which theoretical, methodological and methodological summaries have been formulated regarding the methodology of teaching mathematics in preschool education, in particular the development of mathematical thinking and the formation of mathematical competence.

2. In theoretical and practical-applied plan are presented modern interactive strategies and integrative approaches, suitable for teaching mathematics in kindergarten. The connection in the education in the educational fields of mathematics, construction and technologies and fine arts for the development of

mathematical thinking in preschool age is pedagogically and methodically meaningful.

3. An integrative innovative model for the development of mathematical competence in preschool age has been developed, based on the activity of the child in a system of purposeful interactive and constructive activities.

4. Some of the applicant's publications contain contributions related to separate methodological aspects - revealing and proving the possibilities of the interactive game for developing mathematical competence, substantiating the need to develop mathematical thinking and improving mathematical competence on the basis of interactive and constructive activities through additional and problematic pedagogical situations, pedagogical comprehension of the interactive board in teaching mathematics in kindergarten, design of mixed university courses.

## **6. Conclusion**

The presented scientific production covers the minimum scientometric indicators and corresponds in volume and quality to the academic position "Associate Professor". I am convinced that there are all grounds ch. Assistant Professor Dr. Galina Georgieva Georgieva to be elected "Associate Professor" in the field of higher education 1. Pedagogical sciences, professional field 1.2. Pedagogy (Preschool pedagogy - pedagogy of mathematics in preschool age), for the needs of FNOI at Sofia University "St. Kliment Ohridski" and I give my positive assessment.

16.06.2021

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