

## REVIEW

**By Prof. Katerina Karolova Karadzhova PhD, from SU "St. Kliment Ohridski".**

Of the materials submitted for participation in a competition for

Occupying the academic position "**Associate Professor**"

**At University of Plovdiv "Paisii Hilendarski"**

In Field of Higher Education: 1. Educational Sciences.

Professional Direction: 1.2. Pedagogy (Special Education) –

Assistive Technologies

In the competition for "Associate Professor", announced in the State Gazette, Issue No. 92 of 18.11.2022 and on the website of the University of Plovdiv "Paisii Hilendarski" for the needs of the University of Plovdiv's Faculty of Pedagogy, the only candidate participating is Senior Assistant Professor Vanya Angelova Sivakova PhD from the Department of Pedagogy and Education Management.

### *General Presentation of the Received Materials*

By Order No. PD – 21-73 of 18.01.2023 of the Rector of University of Plovdiv "Paisii Hilendarski" (PU), I have been appointed as a member of the Scientific Jury presiding over a competition for acquiring the academic position of "Associate Professor" at PU "Paisii Hilendarski". Senior Assistant Professor Vanya Angelova Sivakova has submitted documents to participate in the announced competition.

The set of materials presented by the Senior Assistant Professor Vanya Angelova Sivakova is in accordance with the Regulations for the Development of the Academic Staff of PU "Paisii Hilendarski".

The Associate Professor candidate, currently holding the position of Senior Assistant Professor, Vanya Angelova Sivakova submitted a total of 40 scientific works, two papers, four monographs, two textbooks, and a list of 32 published research projects. For review are accepted 23 scientific works whose topic is not associated with the candidate's PhD Thesis. There are 10 scientific papers following the PhD Thesis, as well as 7 papers not connected with the Associate Professor competition's issues, which are not subject for a review. The count of scientific works' distribution separated by relevant rubrics, published in the country as well as abroad, is as follows: A monographical habilitation thesis – 1; Monographs that are not presented as the main habilitation thesis – 3; Articles and reports published in scientific journals which are referenced and indexed in world-renowned databases with scientific information –

4; Articles published in non-referenced peer-reviewed journals or published in edited collective scientific volumes – 2; Co-authored textbooks and teaching aids – 2.

*Brief biographical data (of the Associate Professor candidate)*

Senior Assistant Professor Vanya Sivakova is the only participant in the competition for acquiring the academic position “Associate Professor” with Professional Direction: 1.2. Pedagogy (Special Education - Assistive Technologies). Senior Assistant Professor Vanya Sivakova has completed Bachelor's and Master's degrees at the University of Plovdiv's Faculty of Mathematics and Informatics. She holds the scientific degree “PhD”, defended before the University of Plovdiv's Pedagogical Faculty. She began her teaching career first as a part-time Assistant Professor in Information Technologies, and, in 2011, she won a competition for Assistant Professor in Special Education in the department of “Pedagogy, Psychology and Social Activities”, where, in 2012, she became Senior Assistant Professor. She is currently teaching at the undergraduate and the graduate level by developing and presenting lectures as well as developing and conducting seminars at the Bachelor's and Master's degree level. Over the years, she has accumulated serious teaching, research and administrative experience, which in itself is a prerequisite for achieving high scientific-theoretical and scientific-practical results and distinctions. As a scientist and a university lecturer, she has demonstrated a distinguished and dominant presence within national and international scientific life. Senior Assistant Professor Sivakova has been significantly participating in a number of scientific conferences (both national and international), scientific research projects, where she promotes the concept of integrated and inclusive education of children with SEN, as well as their opportunities for electronic and distance learning. Her participation in the projects related to student practices also deserves commendation.

*General characteristics of the Associate Professor candidate's activity*

The Associate Professor candidate teaches both in the Bachelor's and Master's academic degree programmes. Her lecture and seminar occupation over the years is 600 – 700 school hours with an annual norm of 360 hours. In the Bachelor's degree, she leads 7 subjects, and in the Master's degree - 6, which is notably more than what is required.

A favourable impression is made by the fact that the number of developed university curricula is more than the subjects lead by Senior Assistant Professor Sivakova. Their number for the Bachelor's degree is 8, and for the Master's degree - 14, which fact demonstrates the academic position candidate's collegial commitment and professional responsibility.

In the context of what has already been said, I will additionally mention the wide-ranging activities she carries out with students, such as: diploma thesis' guidance and reviewing; coursework's guidance, revising and grading; consultations with students, etc.

*Evaluation of the Associate Professor candidate's scientific and scientific-applied activity*

The list of publications with which Senior Assistant Professor Vanya Sivakova participates in the academic-position-acquirement competition are, as follows:

1. Habilitation thesis – a monograph;
2. Monographs that are not presented as the main habilitation thesis – 3 in number;
3. Articles and reports published in scientific journals which are referenced and indexed in world-renowned databases with scientific information – 4 in number;
4. Articles and reports published in referenced peer-reviewed journals or published in edited collective scientific volumes – 10 in number;
5. Articles published in non-referenced peer-reviewed journals or published in edited collective scientific volumes – 2 in number;
6. Co-authored textbooks and study aids – 2 in number;
7. Other scientific works – 1.

The monograph: “Assistive and Information Technologies in Education” is presented in the list of publications as the main habilitation thesis. It is dedicated to inclusive education and the information technologies' introduction into education.

The concept of inclusive education regulates the inclusion in the general educational environment not only of children with SEN, but also of talented, gifted children and students. The use of assistive technologies (ATs) contributes to the academic inclusion of all students. In the context of what has been said, I will add that this monograph refers to the need to create contemporary theoretical and practical solutions contributing to the education of all groups of children in the mainstream class. In this sense, we can say that ATs support the formation of skills for independent life and opportunities for all children to develop, learn and play together. Moreover, ATs offer effective ways of communication and interactions, which is one of the main tasks of inclusive education. Parallel to that, they help children with SEN successfully overcome challenges related to orientation, movement, writing, arithmetic, while gifted children are assisted in developing their abilities in the various fields of science, art and sports.

In a thorough and professional manner, the author promotes the idea that ATs and related information and computer technologies (ICTs), together with cloud technologies, can encourage the activities-of-daily-living and educational functioning of children with SEN.

The aim of the monographic study is ambitious and promising due to its combining the efforts of the specialists – the general education and the support teacher – for the purpose of the different students in the class' learning process optimisation. The generalisations and proposals made are in the context of the inclusive education paradigm and the opportunities offered by the ATs and ICTs phenomena.

The Associate Professor candidate's focus on the so-far-insufficiently-studied issues related to the receiving educational environment's organisation and the inclusion in that environment of ATs (mobile devices, tablets, smartphones, etc.), intended for all groups of children in the mass class, increases the merits of the peer-reviewed work.

The monograph consists of an Introduction, 12 chapters, a Conclusion, and a List of references.

The Introduction presents the importance of ATs for inclusive education, thereby justifying the importance of the analysed issues. The main argument brought up here and later found throughout the text is that the use of assistive technologies contributes to the academic inclusion of all students, including both the ones with SEN and the gifted ones. According to the author's opinion, ATs are alternative methods that aid the education of children with SEN. This undoubtedly determines the relevance and significance of the reviewed monograph.

The aim of the monographic study is ambitious and interesting, namely: through the use of ATs to optimise students' academic inclusion prospectively, to improve children and students with SEN's interactions with their classmates, teachers and parents.

The first, second and third chapters present interesting, relevant and useful information related to the philosophy of inclusive education, the universal design for learning and the assistive technologies. The author substantiates the possibilities of their reconciliation in the conditions of the inclusive class depending respectively on the disability or the established gift of the student.

Professionally and competently, Mrs. Sivakova refers to assessing the ATs needs of students with problems in writing and reading. The work focuses on students' strengths and weaknesses, on the teaching methods and the AT type best to aid the reading and writing processes. The information is descriptive and significantly relevant to teachers who have students with SEN in their classes. The theoretical interpretations as well as the summaries in this part are made accurately, thoroughly and logically coherent.

From the sixth to the ninth chapter, the author offers important information related to an assessment of the need for ATs. This includes the use of ATs as a tool for organising inclusive education, for difficulties with mathematical operations, for computer access and for students' communication. Parallel to clarifications made in the monograph, ideas are put forward about the necessity to rethink existing pedagogical concepts and to create new ones commensurate with modern realities. The ideas and work directions, which Senior Assistant Professor Vanya Sivakova offers here, can be used to optimise the pedagogical activity of teachers in the conditions of inclusive education.

A positive point in the thesis is the separation of ATs for aiding hearing and vision in a separate chapter. Bulgarian software products' functional capabilities in education are presented in a practical aspect.

The significant empirical-theoretical research and its practical-applied aspects dispel multiple myths that children and students with SEN cannot use information technologies in the process of their education and inclusion. The monograph proves the opposite statement.

The list of publications includes three monographs that are not submitted as the main habilitation thesis. Regardless of the fact that they have been peer-reviewed before being published, I will emphasise some of their primary points which I believe are relevant to the scientific profile of Senior Assistant Professor Vanya Sivakova.

The first monograph in this section is: "The Inclusive Classroom in an Educational Environment", published in 2022. In detail, reasoned and categorically, the author substantiates the philosophy of inclusion, pleading for the creation of an educational system that meets the needs of all students. According to the author, a multitude of the aspects of this system can affect not only the development of children and students, but also their academic achievements. The alternative statement is also true, namely that the unfavourable classroom environment can pose difficulties for the inclusion of children. These two statements are fundamental in formulating the objective of the empirical study, namely: the development of a model of an inclusive classroom.

I evaluate highly the empirical research' organisation and execution, as well as the carried-out analyses and scientific discussion.

The second monograph from the mentioned section is: "Correlation and Regression Analysis in the Behavioural and Social Sciences, published in 2021. Addressees of the monograph are all those applying electronic spreadsheets, such as MS Excel (Microsoft Excel), for statistical calculations and regression analysis.

In recent years, statistical methods of research and analysis have rapidly entered the field of behavioural and social sciences. In practical terms, Ms. Sivakova presents the significance of statistics for planning, execution, interpretation and applying the acquired results of scientific research.

The third monograph (“Special Education and e-Learning”) is co-authored. It examines the standards and principles for creating accessible Internet sites, in particular it suggests a methodology for creating suitable websites that are adapted to the specific student and their needs for assistance. This subject found its practical application in the conditions of the pandemics, when e-learning was the only way to educate children.

In the section: *Articles and reports published in non-referenced peer-reviewed journals or published in edited collective scientific volumes*, ten articles and reports are included. In here, the following publications are submitted: those related to e-learning and e-resources’ accessibility for students with visual impairments; those related to the use of suitable software applications for virtual diagnostics, consultation and therapy of children with stuttering, etc. From a special-educational point of view, this is a noteworthy innovation with a remarkable long-term aspect.

Senior Assistant Professor Vanya Sivakova PhD has two papers published in non-referenced journals that have been scientifically reviewed, as well as two co-authored textbooks. The covered issue is interesting, contemporary, related to the psychology and methodology of working with children with special educational needs.

A fact that is worthy of acclaim is that, parallel to content analyses, Senior Assistant Professor Vanya Sivakova PhD also offers strategies for working with different groups of children and students. In depth and in an unconventional manner, Senior Assistant Professor Sivakova presents her vision for the inclusive classroom model, which unavoidably includes computer and information technologies, as well as a special software that aids the education of these children and students.

Almost all of Senior Assistant Professor Vanya Sivakova PhD’s publications are aimed at searching and finding innovations capable of aiding the education of children and students in the mass class, of helping pedagogical specialists in structuring and adapting the educational content. They in themselves are a serious incentive for including ATs in the education process of all children and students. The analyses that are made in the reviewed publications are the result of systematic long-term research and are presented with scientific enthusiasm and profound professionalism.

From what has been stated so far, I will try to highlight the value and the contribution points of the scientific output subject for review. It has a theoretical-applied nature and is in the field of special and inclusive education.

First of all, I would like to note that I fully accept the contribution points indicated by the candidate for the academic position of “Associate Professor”. She has divided them into seven areas that are relevant to current aspects of special and inclusive education. In the following part of the review, I will try to summarise the contribution points and present them in the way I perceive them:

1. An exceptionally large volume of analysed content. In-depth and comprehensive theoretical interpretations, through which an emphasis is placed on the need to search and find innovative methods and tools for assessing and educating children and students with SEN. I will mention the author’s proposal for AT application in the education of all children in the inclusive class;

2. The capabilities of ATs are substantiated with regard to the methodology of assessing the needs for ATs through the adoption of the "student-environment-tasks-means" model;

3. The capabilities of cloud technologies and their application in the education of children and students in the inclusive class have been analysed.

4. Significant professional skills for scientific interpretation as well as adequate application of the suggested innovations and AT have been exhibited;

5. There are scientifically based innovations in the information technology field as far as the education of students, including students with SEN, is concerned. In the context of what has been said, I will additionally note that the functional capabilities of various Bulgarian educational software applications have been presented. I will also mention the author’s LOGOPED system, which is designed for virtual counselling of children with stuttering;

6. An outline of the education perspectives for children and students with SEN who are used to applying new information technologies and of the of e-learning possibilities has been drafted;

7. Correlations are established between the education quality of students with SEN, the improvement of new ATs and the software products’ application in the creation of didactic materials for working with children with SEN;

8. There is scientific substantiation of the possibilities for partnership between students with SEN, their teachers and their parents through the means of ATs;

9. Promotion of the Bulgarian pedagogical experience abroad;

10. The inclusive classroom model proposed by the author is bound to find application in the Bulgarian school and other places.

I would like to point out here that all of the contribution points are the result of the Associate Professor candidate's own research, analyses and interpretation. The ideas that are set forth in the submitted scientific works are presented in the process of their development, while observing their logical sequence and systematisation of the research data. Based on this, I can categorically state that the listed scientific contribution points are a personal achievement of the author as well as the result of the many years of Senior Assistant Professor Vanya Sivakova PhD's scientific research and scientific educational activity. On a positive note, I will add the fact that all co-authored publications have a separation protocol included.

The total number of submitted citations is 21, 8 of which are referenced and indexed in world-renowned databases, 11 of which are in monographs and collective scientific volumes that have been developed with the assistance of a scientific advisor, and lastly, there are 2 citations in non-referenced peer-reviewed journals. I believe that this number is entirely sufficient so as to attain the academic position for which Senior Assistant Professor Sivakova is applying.

With regard to the minimum national requirements to the scientific and teaching activities concerning the minimum required points determined by groups of indicators pursuant to Art. 2b of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), I can affirm that they are fully complied with. Accordingly, their number as far as Sivakova PhD is concerned is, as follows: (A-50, B-100, C-100, D-495.5, E-211.6, F-0). The total number of points is 857, which is twice as many as what is required for attaining the academic position of "Assistant Professor".

The assistive computer technologies paradigm is new for the field of special education and of inclusive education. In this context, I can confidently state that Senior Assistant Professor Vanya Sivakova PhD is an innovator regarding the implementation of these technologies in the conditions of inclusive education's teaching process.

I have been acquainted with Ms. Sivakova for a number of years, I have witnessed her scientific growth as a scientist and as a teacher, and therefore, I can categorically attest that everything submitted and described by her and reviewed by me is of her own work and merit.

I believe that the presented scientific production, in terms of volume, structure and content, exceeds plenty what is required for the occupation of the academic position of "Associate Professor".



In the long term, I would recommend that Senior Assistant Professor Sivakova should popularise the innovations proposed by her through the action of compiling them in a separate scientific guide book or a handbook, which can be used by all who are concerned with either children and students with SEN or those with manifested talents.

### **CONCLUSION**

The documents and written materials presented by Senior Assistant Professor Vanya Sivakova PhD meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for the Implementation of LDASRB and the relevant Regulations of PU "Paisii Hilendarski".

After getting acquainted with the materials and scientific works submitted during the competition, analysing their significance as well as the scientific, scientific-applied and applied contribution points contained in them, I find it reasonable to give my positive assessment and to recommend that the Scientific Jury should prepare a report-proposal to the Faculty Council of the Faculty of Pedagogy at PU "Paisii Hilendarski" for the appointment of Senior Assistant Professor Vanya Sivakova PhD at the academic position of "Associate Professor" at PU "Paisii Hilendarski" in the higher education field: Educational Sciences, professional direction: Pedagogy.

03.2023

Reviewer: .....

Prof. Katerina Karadzhova PhD