

SUMMARIES
OF THE PUBLICATIONS SUBMITTED FOR PARTICIPATION IN THE
COMPETITION FOR ACADEMIC POSITION
"PROFESSOR" OF 1.3. PEDAGOGY OF TRAINING IN... (TECHNOLOGY AND
ENTREPRENEURSHIP TEACHING METHODOLOGY IN PRIMARY GRADES),
PUBLISHED IN STATE GAZETTE, №48/28.06.2022
OF ASSOC. PROF. NIKOLAY IVANOV TSANEV, PhD

HABILITATION WORK – MONOGRAPH

Tsanev, N. (2022). *Technological Education in the Field of Constructivism*. Sofia: Education 5.0, ISBN 978-619-7683-02-8, 199 p.

Abstract: The monograph for the competition for the academic position of Professor is devoted to the problem of modern projections of constructivism in technological education. A comprehensive review of the main theoretical and applied aspects of constructivism as a theory is made. The most prominent representatives of this particularly influential theory in recent decades are presented. The nature of teaching and learning in technological education is examined through a perspective quite different from the one traditionally accepted in Bulgaria. Constructivism is a theory focusing on students' questions and interests, building on what students already know, using interactive learning. Teachers engage in a dialogue with children to help them build their own knowledge, working mostly in groups.

The reason behind the attention given to this theory is that technological learning is particularly close in its specificity and character to constructivism. The practical focus of learning activities, group work, orientation to independent research and experimental work are characteristics linked closely with technologies and entrepreneurship education.

The book is structured in the following sections: introduction, ten independent chapters, a conclusion and references. The discussed topics are: the philosophy of constructivism; the most famous representatives, schools and their ideas; the advantages of the constructivist approach in the modern educational process; the constructivist view on learning; the essence and main characteristics of technological training in the current training documentation and the main highlights of the content of technological training; the basics of the constructivist methodological approach in the study of technology and constructivist methods and techniques in technological education, the application of information and communication technologies in the constructivist classroom; constructivist lesson design in technological education. The aim is to capture and illustrate the constructivist concept of learning and teaching in the field of technology, with a special emphasis on technologies and entrepreneurship education in primary grades.

The book contains 199 standard pages of main text and 8 pages of cited literature. A total of 15 figures, tables and diagrams are included in the text.

PUBLISHED MONOGRAPH THAT IS NOT SUBMITTED AS A HABILITATION WORK

Tsanev, N. (2022). *The Art of Origami in the Educational Environment*. Sofia: Education 5.0, ISBN 978-619-7683-03-5, 130 p.

Abstract: The monograph examines basic theoretical and practical issues related to the use of the art of origami in the educational environment. The interest in this art has been going on for decades and its use in education provides considerable pedagogical possibilities. Origami activates mental processes – in the process of construction the child must combine the visual signs giving information about the folding technique with the verbal signs explaining the stages of work and transfer their meaning into practical activities for independent performance of the actions of making origami.

Origami is easy to make. Its potential to teach children to work with their hands, to develop dexterity, to improve fine motor skills, and eye coordination is indisputable. That is why it is particularly suitable to use for educational purposes.

The main contributions of the book are related to the elicitation of the pedagogical and methodological possibilities of origami art for educational purposes. The present study focuses on the use of origami in an organized learning environment, discussing how the knowledge and skills of the learners are expanded and upgraded in the learning process, and proposing in addition ideas for therapeutic work in the Bulgarian educational system environment.

The content covers the following main topics: the theoretical and methodological foundations of origami; the technological features of paper as a basic material for practical activities; the specific terminology, symbols and signs; the basic forms of folding upon which are developed initial work skills; the methodological aspects in the pedagogical side of the activities; the therapeutic options affecting children's health; ideas for the development of creativity; famous origamists.

The reason to explore this topic is the substantial pedagogical and therapeutic possibilities of origami for the development of memory, attention, the dexterity of both hands, discipline, responsibility and precision in the work process, imagination, readiness to write and many other possibilities.

The book consists of 130 standard pages of main text and 3 pages of cited literature. The text includes a total of 56 figures and diagrams.

Tsanev, N. (2019). *Didactic Foundations of Technological Education in Primary School*. Sofia: Veda Slovena-ZHG, ISBN 978-954-884-655-4, 180 p.

Abstract: The monograph is dedicated to the modern concepts that are the basis of technological education in elementary grades. A basic description of the main concepts is presented, as well as of the key trends in the development of theory and practice. The new circumstances in which technological education takes place in Bulgaria require permanent updating of approaches, technologies, work methods taking into account all specific conditions. In the information age we live in, each teacher can choose and apply his own view to the educational work, based on various pedagogical theories and his own educational philosophy.

The book is structured in the following sections: an introduction, eight independent chapters, a conclusion and references. The discussed topics are: modern technological education – characteristics, basic concepts, trends and perspectives; the educational content according to the educational documentation; the main didactic principles that are the basis of

modern technological education; the methods and strategies used in the educational process; the forms for structuring and organising the implemented learning activities; the learning environment in technological learning, as well as the basic pedagogical theories and concepts of teaching and learning. A place has also been allocated to the new section in the educational content – entrepreneurship. Special emphasis is placed on the classification of technologies and entrepreneurship lessons, with the specific methodological structure and content of the coursework.

The book contains 176 standard pages of man text, cited literature after each chapter. The text is illustrated by 8 figures, 4 tables and diagrams.

PUBLISHED BOOK ON THE BASIS OF A DEFENDED DISSERTATION THEESIT FOR THE AWARD OF PHD EDUCATIONAL AND SCIENTIFIC DEGREE

Tsanev, N. (2022). *Didactic Functions of Models and Modelling in Technological Education*. Sofia: Education 5.0, ISBN 978-619-7683-01, 130 p.

Abstract: The research was conducted in the period, when the development of Bulgarian education was marked by many changes as a result of the change of the political and economic system in the country. Information related to a variety of modern didactic technologies became available and attracted the interest of leading specialists in the field of education. In our country, new educational systems such as Lego Dacta, Fisher Price and others were accessible and used by the most prominent teachers in the Bulgarian school. The substantial didactic possibilities were particularly attractive to Bulgarian teachers who were hungry for novelties.

In those years, Robert B. Reich's book “The Work of Nations: Preparing Ourselves for 21st Century Capitalism” was published. One of the most prominent American political economists, a professor at the Harvard John F. Kennedy School of Government, presents his concept of new job categories responding to the nature of structural and functional changes on a global scale and the specific symbolic and analytical skills that make citizens competitive in the 21st century. The study is based on the theory of symbolic and analytical training cited above, carried out in a technological educational environment using Lego Dacta learning sets in the conditions of curricular and extracurricular work with elementary school students. The educational subject, through which the students' technological training was carried out, had an old and completely inappropriate name – manual labour. However, this by no means affected the research work negatively, on the contrary, the need for serious changes in both the learning environment and didactic learning technologies was shown even more clearly. In the study, an attempt was made to clarify and analyse from a new perspective an important problem for modern pedagogical theory and practice – the application of models and modelling in technological education. The results have not lost their value and have projections in modern pedagogical and educational literature.

The information functions of the models, the levels of application of technical modelling and other types of modelling of various processes and objects have been analysed and interpreted in detail. Special emphasis is placed on the practical implementation of this idea – the operationalization of the modelling method in the implementation of the main didactic

functions, the specific results of the research, objectified in the form of methodological guidelines, didactic materials, training programs, etc.

The main scientific and theoretical issues discussed in the work process are related to revealing and substantiating the theoretical foundations of the essence and features of models and modelling in various aspects, researching the leading experience regarding their application in technological education, selection, transformation and experimenting with new learning content, modern didactic tools and learning topics.

ARTICLES AND REPORTS PUBLISHED IN NON-REFEREED PEER-REVIEWED JOURNALS OR PUBLISHED IN EDITED COLLECTIVE VOLUMES

Tsanev, N. (2022). A Connectivism and Technological Education. *Education and the Arts: Traditions and Perspectives. Proceedings of the Third Scientific and Practical Conference, ISSN 2738-8999*

Abstract: The paper presents the theory of learning in the new digital and networked world, developed by George Siemens and Stephen Downes, called connectivism. The reason is the response among educators, who asked many questions related to the extent to which this is really a new theory, whether it meets the needs of modern students, whether it is applicable in mass education and others. In the study are presented the essential characteristics of connectivism, ideas for the use of specific approaches in technological education, as well as some shortcomings related to its applicability in Bulgarian education.

Tsanev, N. and Zh. Kyushev. (2022). A school strategy for STEM education. *Education and the Arts: Traditions and Perspectives. Proceedings of the Third Scientific and Practical Conference, ISSN 2738-8999*

Abstract: The article examines the possibilities for implementing a school strategy for STEM learning. The connection between the areas of Science, Technology, Engineering and Mathematics gives an opportunity to the students to develop not only basic technical skills, related to the use of various materials and technical supplies, but also their curiosity and interest in Science. The experience in other countries has been studied.

STEM education has become more popular as a concept in Bulgaria. It gives the opportunity for innovative approaches in teaching and development of the students' abilities. By building the right strategy for its establishment, attention is paid in creating an environment for education that will increase the learners' competence and motivation, to learn and achieve in jobs related with Science and Technology.

Tsanev, N. (2021). Digital competences of teachers – modern perspectives and solutions. *Education and Arts: Traditions and Perspectives. Proceedings of the Second Scientific and Practical Conference of the Faculty of Educational Studies and the Arts, Sofia University "St. Kliment Ohridski" (pp. 490-496). ISSN 2738-8999*

Abstract: This report provides a brief overview of digital competences and the state of teachers' digital training. It outlines a model for tracking their continuing professional development cycles and the more significant problems they encounter in the field of school education. A typology of the teachers' preparation and the possibilities for applying modern information technologies in the educational process is made. An emphasis is placed on the tendency of increasing the share of e-learning and the need for an appropriate learning environment and training of future and current teachers.

Tsanev, N. (2020). Constructivist design in technologies and entrepreneurship education in primary school. *Education and Arts: Traditions and Perspectives. Proceedings of the Scientific and Practical Conference Dedicated to the 80th Anniversary of the Birth of Prof. Dr. Georgi Bizhkov* (pp. 631-639). Sofia: UP "St. Kliment Ohridski", ISBN 978-954 - 075061-3

Abstract: The paper discusses the main characteristics of constructivism as a theory in the context of technological education. The key concepts in the theory are outlined as well as the possibilities for redesigning the learning process in technologies and entrepreneurship in a constructivist style. A constructivist model of instruction as well as the most significant advantages and characteristics of the constructivist approach in technological education are presented. Keywords: technology, technological education, constructivism.

Tsanev, N., T. Borisova & G. Kirova. (2007). Development of distance learning courses for students in master's degree programmes. *Succession and Perspectives in the Development of Pedagogical Theory and Practice. 125 Years of Preschool Education in Bulgaria. Proceedings of the Fifth Autumn Scientific Conference of the Faculty of Primary and Preschool Education, Kiten, 5 – 8 September 2007* (pp. 320-326). Sofia: Veda Slovena-ZHG, ISBN 978-954-8846-02-8

Abstract: This paper analyses various theoretical sources on the problems of distance learning in higher education. The experience of Bulgaria and some Western European countries of distance learning, especially in master's degree programmes, has been studied. The selected system MOODLE for distance learning is presented. Successful efforts have been made to adapt the educational process (approaches, methods, environment, organisation, and content) for master's education according to the selected information product. A package of accompanying didactic materials has been developed for two courses from the compulsory and one from the elective disciplines, with electronic resources for the courses on three CDs – lectures, manuals and other materials to ensure the educational work with students.

Tsanev, N. (2005). Origami – historical and educational aspects. *Assuring and Evaluating the Quality of Training. Proceedings of the Third Autumn Scientific Conference of the Faculty of Primary and Preschool Education, Kiten 19 – 24 September 2005* (pp. 263-265). Sofia: Veda Slovena-ZHG, ISBN 954-8510-92-8

Abstract: The report discusses the possibilities of the art of origami in the field of education. Brief historical background on the origin and development of origami is presented, as well as some ideas for its use in kindergarten and primary school. The methodology of origami is still not well developed, but all evidence of its use in education show that its didactic effect is entirely positive. Some methodological recommendations for the successful application of origami are presented.

Tsanev, N. (2000). Consultation office – a contemporary form of relationship between the university and the school. In P. Radev (Ed.) *Education and the challenges of the new millennium* (pp. 60-62). Plovdiv: Sema 2001, ISBN 954-883-333-6

Abstract: The paper presents a new initiative of the Faculty of Primary and Preschool Education – a consultation office aiming at assisting educators, parents, teachers and students in issues concerning pedagogical, socio and psychological and methodical problems. Its activity is organized and coordinated by all members. A programme has been developed for delivering classes with students, teachers, university colleagues and other stakeholders. The consultation office elects a methodological council to determine the guidelines of the activity and conduct the planned activities.

UNIVERSITY TEXTBOOKS

Tsanev, N. (2010). Electronic course on information technology training methodology. Sofia: Avangard Prima, ISBN 978-954-323-624-4, 73 p.

Abstract: The textbook presents an electronic version of materials from the content of the university course "Methodology of information and communication technologies in primary school". The research is aimed at adapting learning content from a traditional learning course into an electronic version. The course is built on the constructivist approach - the learner is placed in a position to "construct" his own knowledge. The famous Swiss psychologist Piaget, who is one of the founders of constructivism, believes that "knowledge is actively acquired by the learner, and not passively perceived from the outside". Therefore, the course envisages a lot of independent work, with an emphasis on shared learning in an active learning community. The texts of the lectures and applied activities are presented as they appear on the website. They are only the basis, the starting point for work on individual topics.

The book is part of the implementation of project № 91/2009 under Scientific Research Fund of Ministry of Education and Science and Sofia University "St. Kliment Ohridski" - Faculty of Primary and Preschool Education.

Tsanev, N. (2009). Electronic course on technique and technology didactics. Sofia: Avangard Prima, ISBN 978-954-323-480-6, 106 p.

Abstract: The textbook is intended for students from bachelor's and a master's degree, and the goal is to experiment with a variant of blended learning when adapting learning content from a traditional educational course in Didactics of Techniques and Technologies for the

purposes of e-learning. The texts of the lectures and applied activities are presented, as they approximately appear on the web page of the e-course in the Moodle electronic platform. They are only the basis, the starting point for work on individual topics. The book attempts to summarize and presents information about the content and organization of an e-course. The main challenge underlying the creation of this textbook is e-learning, as a new, different from the traditional type of learning activity in the conditions of teamwork, without strict binding of learning to time, place and geographical location.

The book is part of the project №12/2008 under Scientific Research Fund of Ministry of Education and Science and Sofia University "St. Kliment Ohridski" - Faculty of Primary and Preschool Education.

PUBLISHED TEXTBOOK USED IN THE SCHOOLS

(Copyright of PDF of the mathematics textbooks for the 1st, 2nd, 3rd and 4th grade belongs to PH KLET - Bulgaria OOD and they cannot be copied and distributed)

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, I. Nedelcheva, M. Kavdanska. (2019). Technologies and entrepreneurship for 4th grade, ISBN:978-954-18-1389-8, Bulvest-2000

Textbook on technology and entrepreneurship for the fourth grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, I. Nedelcheva, M. Delinesheva. (2018). Technology and entrepreneurship. Textbook for 3. class, ISBN:978-954-18-1193-1, Bulvest-2000- PH Anubis

Textbook on technology and entrepreneurship for the third grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, I. Nedelcheva, M. Delinesheva. (2017). Technologies and Entrepreneurship for Grade 2, ISBN: 978-954-18-1135-1, Bulvest-2000

Textbook on technology and entrepreneurship for the second grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, O. Delieva. (2016). Technology and entrepreneurship. Textbook for 1st grade, ISBN: 978-954-18-1005-7, Bulvest-2000- PH Anubis, Sofia

Textbook on technology and entrepreneurship for the first grade of the general education school

PUBLISHED TEACHER'S GUIDE TO BE USED IN THE SCHOOLS

(The copyright of the PDF of the mathematics textbooks for the 1st, 2nd, 3rd and 4th grade belongs to PH KLET - Bulgaria OOD and the same cannot be copied and distributed)

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, I. Nedelcheva, M.

Kavdanska. (2018). A book for the technology and entrepreneurship teacher for 4th grade, ISBN: 978-954-18-142-08, Bulvest-2000

Teacher's guide to the textbook on technology and entrepreneurship for the fourth grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, I. Nedelcheva. (2018). A book for the technology and entrepreneurship teacher for 3rd grade, ISBN: 978-954-18-126-24, Bulvest-2000

Teacher's guide to the textbook on technology and entrepreneurship for the third grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, I. Nedelcheva. (2020). A book for the technology and entrepreneurship teacher for 2nd grade, ISBN:978-954-34-460-01, Bulvest-2000

Teacher's guide to the textbook on technology and entrepreneurship for the second grade for the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, O. Delieva. (2020). A book for the teacher of technology and entrepreneurship for 1st grade, ISBN:978-954-34-459-98, Bulvest-2000

Teacher's guide to the textbook on technology and entrepreneurship for the first grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, Irena Nedelcheva, M. Kavdanska. (2019). Technology and entrepreneurship album for 4th grade, ISBN:9789541813782, Bulvest-2000

Teaching aid to the textbook on technology and entrepreneurship for the fourth grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, Irena Nedelcheva. (2018). Album on technology and entrepreneurship for 3rd grade, ISBN:9789541813782, Bulvest-2000

Teaching aid to the textbook on technology and entrepreneurship for the third grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, Irena Nedelcheva. (2017). Album on technology and entrepreneurship for 2nd grade, ISBN:9789541813782, Bulvest-2000

Teaching aid to the textbook on technology and entrepreneurship for the second grade of the general education school

Tsanev, N., G. Yotova, D. Kyuchukova, E. Palamarkova, M. Delinesheva, O. Delieva. (2016). Album on technology and entrepreneurship for 1st grade,

ISBN:9789541813782, Bulvest-2000

Teaching aid to the textbook on technology and entrepreneurship for the first grade of the general education school