ANNOUNCEMENTS OF UNION OF SCIENTISTS – SLIVEN





Union of scientists in Bulgaria - branch Sliven

1/

Journal

ANNOUNCEMENTS OF UNION OF SCIENTISTS – SLIVEN

in

- Technical sciences
- Social sciences
 Natural sciences
 Healthcare sciences

списание ИЗВЕСТИЯ НА СЪЮЗА НА УЧЕНИТЕ –СЛИВЕН

в областта на Технически науки ✓ Социални науки

Природни науки Медицински науки





Известия на Съюза на учените Сливен, том 38 (1), 2023 Announcements of Union of Scientists Sliven, vol. 38 (1), 2023

Главен редактор: проф. д.т.н. инж. Станимир КАРАПЕТКОВ e-mail: izv_su_sliven@abv.bg **Editor-in-chief:** prof. eng. Stanimir KARAPETKOV, DSc. e-mail: izv_su_sliven@abv.bg

Отговорен редактор: **Managing Editor:** Ваньо ИВАНОВ Vanyo IVANOV Консултативен съвет: **Advisory Board:** Maria TODOROVA Мария ТОДОРОВА Снежана КОНСУЛОВА Snezhana CONSULOVA Димитър НЯГОЛОВ Dimityr NIAGOLOV Христо УЗУНОВ Hristo UZUNOV Мария КИРОВА Maria KIROVA Редакционна колегия: **Editorial Board:** Марина НИКОЛОВА Marina NIKOLOVA Тана САПУНДЖИЕВА Tana SAPUNDJIEVA Гани СТАМОВ Gani STAMOV Димитър НЯГОЛОВ Dimitar NYAGOLOV Красимир СПИРОВ Krassimir SPIROV Димитър СТОЯНОВ **Dimitar STOYANOV** Маргарита ТЕНЕВА Margarita TENEVA Йордан ЧОБАНОВ Yordan CHOBANOV Анна ТАТАРИНЦЕВА Anna TATARINCEVA Олга БОМБАРДЕЛИ Olga BOMBARDELLI Александър БЕЗНОСЮК Alexander BEZNOSYUK Байба РИВЖА Bayba RIVŽA Елена БУТРОВА Elena BUTROVA Николай ЛОБАНОВ Nikolay LOBANOV Олга ШЧЕРБАКОВА **Olga SHCHERBAKOVA** Павел ГЕРДЖИКОВ Pavel GERDZHIKOV Роман ТОМАШЕВСКИ Roman TOMASZEWSKI Светлана КОЛОДА Svetlana KOLODA Вера ГЮРОВА Vera GYUROVA Христо УЗУНОВ Christo UZUNOV Силвия ДЕЧКОВА Silvia DECHKOVA Христо ПЕТРОВ Christo PETROV Андреас ХАРАЛАМБУС Andreas HARALAMBUS Златин ЗЛАТЕВ Zlatin ZLATEV Явор ИВАНОВ Yavor IVANOV Иван ПЕТРОВ **Ivan PETROV Editor prepress and design:** Редактор предпечат и дизайн: Михаил МИЛЕВ Michail MILEV

ИЗДАТЕЛ:

Съюз на учените в България - клон Сливен Бюро на СУБ – клон Сливен Председател: Михаела ТОПАЛОВА Зам.-председател: Д-р Юлия БЯНКОВА Секретар: Мина ЦОНЕВА Членове на бюрото: Марина НИКОЛОВА Магдалена ПАВЛОВА

Адрес на издателството: Бул. "Бургаско шосе" № 59, 8800 Сливен, България, тел: +35944667549, e-mail: sub_sliven@abv.bg

PUBLISHER:

Union of scientists in Bulgaria - branch Sliven Advisory Boardof USB – branch Sliven Chairwoman: MichaelaTOPALOVA Deputy Chairwoman: Dr. Yulia BYANKOVA Secretary: Mina TCONEVA Members of the Advisory Board: Marina NIKOLOVA Magdalena PAVLOVA

Publishing House Address: 59, Bourgasko shousse Blvd 8800 Sliven, Bulgaria, tel: +35944/667549 e-mail:sub_sliven@abv.bg

The volume is dedicated to the International Science Conference "Educational Technologies - 2023" and was implemented with the support of the "Culture" Fund of the Municipality of Sliven **CONTENTS Pedagogical sciences** Velcheva K. INTEGRATION OF METHODS - THE "FLIPPED CLASSROOM" AND PROJECT-BASED ON THE STUDY SUBJECT "TECHNOLOGY AND ENTREPRENEURSHIP" 5 Dobreva Ivanova V. MODERN APPROACHES IN WORKING WITH CHILDREN WITH MENTAL RETARDATION FROM 1ST-4TH CLASS IN CENTERS FOR SPECIAL EDUCATIONAL SUPPORT 12 Daneva M., Nikolova M. TEACHERS - THE PROVOCATEURS OF THE PROCESS OF TRANSFORMATION OF THE EDUCATIONAL ENVIRONMENT INTO A MULTICULTURAL ONE 17 Bobeva, S., Dimitrova, M. REFLECTION PRACTICE AS A MEANS OF INCREASING STUDENT ACTIVITY DURING THEIR LEARNING 22 Kovchazova V., Simeonova T. IMPACT OF TRADITIONAL AND DISTANCE LEARNING ON THE PHYSICAL ABILITY OF CHILDREN OF PRESCHOOL AGE 28 Staikova M., Chivarov N., Ivanova V., Chivarov St. ROBO STEAM - INCLUSIVE TECHNOLOGIES 33 Simeonova-Ingilizova M., Slavcheva Y.

ENGINEERING EDUCATION IN THE AGE OF TECHNOLOGY - INNOVATIVE APPROACHES FOR ACTIVE STUDENT PARTICIPATION 41 Radev V., Vazova T. TRAINING OF SOCIAL WORKERS FOR THE APLICATION OF INFORMATION TECHNOLOGY IN SOCIAL SERVICES 49 Teneva M., Hristova Iv., Petrov Iv. STRESS MANAGEMNET AMONG PEDAGOGIGAL SPECIALIST, AS PART OF THE MANAGEMENT OF EDUCATIONAL INSTITUTION 56 Georgieva-Hristozova V. VOICE ASSISTANTS IN THE UNIVERSITY DIDACTICS 61 Kostov Kr. CHALLENGES FOR EDUCATION IN A CHANGING DIGITAL SOCIETY_____66 Savcheva M, Bankova D. UNCONVENTIONAL MATERIALS AND TECHNIQUES IN TEACHING VISUAL ARTS 71 Dimitrov L., Tomov P., Belcheva K. SURVEY ON EMPLOYERS ATTITUDE TOWARD EDUCATION AT EUROPEAN UNIVER-SITY OF TECHNOLOGY AND EUT DIPLOMA 76 Atanasova L. M EXPLORING VALUES. ATTITUDES AND SKILLS THROUGH AN ENVIRONMENTALLY FOCUSED EXTRA-CURRICULAR ACTIVITY 83





Dimitrova M.

THE CHALLENGE – UNIVERSITY TEACHER	<u>8</u> 9
Shoshev M. APPLICATION OF NEUROSCIENCES AND NEUROTECHNOLOGIES IN SPECIAL EDU- CATION	95
<i>Kazakova M.</i> INNOVATIVE EDUCATIONAL TECHNOLOGIES - A NECESSITY OF THE XXI CENTURY	100
Yankov N. INNOVATIVE PEDAGOGICAL TECHNOLOGIES. THE GAME AS AN INNOVATIVE PED- AGOGOCAL TECHNOLOGY FOR EFFECTIVE AND AESY ACQUISITION OF GERMAN	103
<i>Habibe N.</i> FACTORS THAT AFFECT CURRENT PEDAGOGICAL PRACTICE TRENING AT EDU- CATIONAL FACULTIES	108
<i>Simeonova-Ingilizova M.</i> CAUSES AND CONSEQUENCES OF STRESS IN NOVICE TEACHERS	112
<i>Yordanov A.</i> FEATURES OF ENGLISH LANGUAGE TEACHING - STATUS AND PROSPECTS FOR THE PROFESSIONAL DEVELOPMENT OF LEARNERS	121

INTEGRATION OF METHODS - THE "FLIPPED CLASSROOM" AND PROJECT-BASED ON THE STUDY SUBJECT "TECHNOLOGY AND ENTREPRENEURSHIP"

Keranka Georgieva Velcheva

Faculty of Pedagogy, "Bishop Konstantin Preslavski" Shumen University, Republic of Bulgaria, e-mail: k.velcheva@shu.bg

Abstract

The application integrates an approach based on the design-based (design) method. In the least accepted and applied in a mountainous manner, assess the "meks" of skills and positively on the "family flock" for aiming for the implementation on the activity of working on the project on "Technology and Entrepreneurship". **Keywords**: project method, very classy flock, technologically advanced training

Introduction

The changes taking place in Bulgarian education have as their main focus the globalization of the world and our sincere desire that our children not be left out of this process, as well as to be fully competitive with their peers.

The change in concept causes an avalanche-like process for local changes in the education system as a whole and in each unit separately. Every teacher can contribute to the improvement of Bulgarian education by applying new approaches and teaching methods.

Why are these major changes in training necessary? Why don't we use the previous, wellproven methods in practice? The answer is obvious: because the new situation requires new approaches.

The purpose of this publication is: How to integrate the activities of the two selected active learning methods?

The flipped classroom is an innovative teaching method. Its difference from the traditional one is that the theoretical material is studied by the students independently before the lesson with the help of ICT (video lectures, interactive materials, presentations), and the freed time in the lesson is aimed at solving tasks, cooperation, interaction, application of knowledge and skills in a new situation and on the creation of a new educational product by students.

The idea of a "flipped" lesson is relatively new and certainly promising. This idea was first presented by American educators Jonathan Bergman and Aaron Sams, who introduced the term and tested this method for the first time. The main purpose of using the "Flipped Classroom" technology is to organize educational work in such a way that the following occurs: formation of universal educational activities; development of the student's personal qualities and general culture; understanding the value of education; intrinsic motivation and responsibility for one's own learning.

A number of distinguished American and European educationalists have written about the positive sides of the "flipped classroom" method, presenting educational platforms and programs on which this pedagogical model is built - Khan Academy, Ucha se, TeacherTube, Flubaroo, Educaplay, Screencast-O-Matic, OneNote, Educanon, etc. One of the most famous is the Khan Academy. The mission of this organization is to "provide high-quality education to everyone, everywhere for free." Bulgarian scientists and pedagogical specialists working in the educational system, such as S. Kostadinova and others, have written about this problem [3, 4].

An opportunity is provided to support the development of each student, the development of important "soft" skills for the 21st century, such as:

- ➤ activity, initiative and independence;
- ➤ ICT literacy;
- creativity and innovation;
- critical thinking and ability to solve problems;



- ➤ communication and cooperation;
- ➤ information literacy;
- flexibility and adaptability;
- productivity and engagement;
- leadership and responsibility [5].

According to the relative share of each of the two methods in the applied integrated approach, the project-based (project) method is the leading one. We adopt and apply the above mentioned "soft" skills and the positives of the "flipped classroom" for the purposes of realizing the project work activities in "Technology and Entrepreneurship". Training by the project method forms qualitatively new social skills and competencies. Dynamic modern times require students to cope with learning project activities, and we hope that in their future personal and career development they will be much more adjusted, able to plan their own activities, to navigate in diverse situations, together to work with different people ie. to adapt to changing conditions.

The project method is based on the development of students' cognitive and creative skills, ability to build their own knowledge, skills, and the development of critical thinking. This approach is organically combined with the team approach to training. Projects always involve problems containing production, on the one hand, and with the use of different methods of integrating knowledge, skills from different fields of science and technology.

Specialists in technological education define the *project method* as a way of organizing the cognitive labor activity of students in order to solve a problem that considers "certain needs of people, developing ideas for making products or performing services to satisfy these needs, evaluating their qualities, determining the real demand on the goods market" [2]. The application of the project method promotes the emergence of relationships between the students themselves and with adults, in which creative efforts of the student's personality are realized to achieve the goals of the project. The implementation of the creative project also has an important educational role. The performance of various technological activities during work on the project form a material-value attitude towards the labor process and its results.

Designing is a creative activity that combines a child's ideas with action; humanitarian culture – with a culture of technical work; labor - with creativity; artistic activity – with design and construction; technology – with an assessment of the economic, ecological and social consequences of transforming the material world.

The project activity of students is a manifestation of creative activity. And the *project method* and the learning project itself are inseparable from the concept of creativity. The educational product of educational and creative activity is *the creative project* (in particular, the creative project in technological education). The educational creative project is implemented in three stages: research (preparatory), technological and final. At each stage of the joint activity, the students and the teacher solve certain tasks.

The creative project is oriented towards solving educational problems, creative tasks of a technological nature. One of its important signs is the result of the implementation of new knowledge, skills and competences, the creative abilities of the person.

The project method enables the application of new interactive methods and forms of work in technological education. It gives grounds for the transformation of the specialized offices into creative pedagogical laboratories for the development and implementation of public-social projects, such as "The interior of a school", "Design and interior of a dwelling".

The final version of the topic and the problem of the student project – this is a joint choice of the students and the teacher (as a leader, coordinator, chief consultant of the project), who conducts consultations, discussions, takes into account the resources, time, educational and cognitive focus of the project, knowledge and the skills necessary for the implementation of the given project, including the costs of updating and obtaining the new knowledge in the process of the project activity.

The choice of topic for the project must meet certain methodological requirements specific to technological training:

• the object (product) must be familiar, understandable, and most importantly, interesting;

• the future new product must be manufactured according to known technological processes, with the number determined according to the mass or individual user;

• the participants in the project must be convinced that the choice of a product gives them the opportunity to be creative and realize their own ideas and they can cope with the task [2].

Themes for creative projects can be derived from:

1. Solving construction-technological tasks in the development and production of educational and visual aids, tools, devices for educational workshops for small mechanization and automation, household devices, decorative and applied products and others.

2. Development and modernization of technologies for making various objects from wood, metal, plastic, fabrics, processing of food products, soils, use of waste materials.

3. Design solutions for production, educational and residential premises.

4. Development and implementation of methods and methods for rational management of the farm, improvement of housing.

5. Solving tasks of a production-commercial nature, related to the realization on the market of material and intellectual products of the students' activities, conducting events of an ecological nature.

6. Solving tasks from the field of information and communication technologies.

The learning content in "Technology and Entrepreneurship" is divided into competence areas and here we present to you the opportunities for project-based learning in technological activities in the 5th grade.

General topic: Design and construction

It prepares students in the field of competence "Design, planning and evaluation of technological processes and objects" and enables them to learn:

• how to define the views and depict the details of an article with a simplified construction;

• what scale and drawing and dimensioning lines are and to use them;

• how geometric constructions and expansions of volumetric bodies are depicted;

• about the relationship between function and construction when describing technical and everyday objects;

• what are the requirements for structures and stages in the creation of technical objects;

- how constructive tasks are solved;
- how partial structural changes to objects are carried out.

A significant amount of time is devoted to learning about the rules of teamwork, planning and implementing small projects.

Competencies are mainly acquired knowledge about the home, its functionality, main rooms and structures. Students develop skills for presenting ideas – orally, in writing and through sketching. The basics of graphic preparation are laid - working with tools, line types, views, scale, technical drawings, sketches and drawings.

The main topic is aimed at building graphic knowledge and skills. It is expedient to form these knowledge and skills at the very beginning in the context of ideas about the construction, function and purpose of the various products. The acquired elements of graphic culture are further developed and perfected during the development of individual and group projects.

The section ends with the *"New Playground"* project. Students research and come up with ideas for a new playground with benches, a sandbox, interesting climbing frames, swings and more. They organize an exhibition of products with different shapes, from different materials and with different ways of connecting and arranging the main parts.

Here it is necessary to show students different residential buildings around the school or in pictures. To engage in a discussion of what types of housing they know and how housing in different countries, climates and cultures are similar and different. To look at the illustration in the textbook, discussing the different types of rooms in the home – what are their functions, equipment and furnishings. Differentiating between the furniture and appliances that are important and those that are nice but not necessarily to own.

So you can pose economic issues, such as saving, priorities for home expenses, etc.

We emphasize that the construction consists of separate elements located and connected in different ways. We discuss the role of materials in the strength and functionality of a structure.

Students need to be shown technical drawings, sketches and blueprints and encouraged to comment on the differences and similarities between them. It is useful to be familiar with pencils with different hardness of graffiti and to look at the signs on them. Pay attention to the fact that B means softness, and H means hardness of graffiti, by organizing exercises on drawing simple sketches.

The class can be divided into small groups and each of them will tell about the shape, the materials from which they are made, and the purpose of the various drawing aids and tools – drawing line, triangle, compass, protractor, templates, eraser, etc.

General topic: Technique

Includes the topics "Measuring Tools and Hand Machining", "Home Appliances".

The main topic here is familiarization with the principle of operation of some household appliances and machines and the dangerous consequences of using faulty machines, tools and appliances. It prepares students in the field of competence "Household and production technology" and gives them the opportunity to learn:

• how mass and linear dimensions are measured with analog and digital control-measuring instruments and devices;

• how materials are handled with hand tools;

• what are the rules for safe work with hand tools and devices when cutting, outlining, centering, cutting, filing, bending, drilling holes;

• how the workplace and places for storing tools and materials are rationally arranged;

• what is the principle of operation of the sewing machine, the washing machine, the cooker and the food processor;

• what are the rules for maintenance and safe work with household appliances;

• how household appliances are prepared for work

The priorities here are aimed at acquiring knowledge about materials (elasticity, plasticity, hardness, etc.) and their application in technology and the world around us. Special attention is paid to working with different tools. A variety of problems, exercises, and hands-on activities are provided for measuring linear dimensions and mass, as well as for machining. Emphasis is placed on mastering rules for safe work with materials and tools.

In this general topic, we introduce students to cutting and indicate the tools with which it is most often done: saws, hacksaws or special scissors. Attention is drawn to the fact that often when cutting parts from different materials, tools of the same type are used, which, however, differ in their shape, strength and purpose - scissors, saws, hacksaws, drills, etc. When cutting, it is important to work economically, to save excess parts and even material waste, because they can serve us when making other products.

Students are introduced to drilling holes by explaining how it is done: using different mechanical devices or machines that use different drill bits with cutting edges.

The operations of filing and sanding are explained and when and how the surface is treated and given the desired shape and finished look of the product with different types of files and sandpapers.

One of the most important conditions is for students to be familiar with the basic rules for safe work with tools.

Acquaintance with household appliances – all appliances, machines and devices used in the home, which serve for heating, storage and preparation of food, cleaning, carrying out repairs, reception and reproduction of sound and images, the compilation of various classifications of household appliances –

computer, audio-visual, communication, white and black appliances, appliances that use heaters (electric stove, hair dryer, air conditioner, boiler, electric radiator, etc.), principle of operation, functions and features of other appliances and machines that use electric motors, to drive their working parts, such as mixer, vacuum cleaner, fan, electric toothbrush, sewing machine, etc.

Special attention is paid to the requirements for household appliances – to be functional, strong, economical, comfortable, safe, etc.

General topic: Technology \geq

Известия на

Includes the topics Joining Parts, Wood Crafting, Textile and Leather Crafting, Food and Healthy Eating, Cooking and Baking.

The main topic is directed to combining and joining materials and components according to their properties, the use of basic technological operations in the processing of materials and products, planning and evaluation of technological processes and objects, and the use of technical terminology to describe machines, tools, materials and processes.

It prepares students in the field of competence "Processing, assembling and combining materials and products" and enables them to learn:

- what are the different types of structural joints;
- how permanent connections are made with glues, nails and assemblies;
- how to choose appropriate ways of joining details depending on the design of the product;
- how to read a working drawing for making a product from wood;
- how technological operations for processing wood are carried out;
- how to select and use tools and devices to implement a technological process;
- what forms and mechanical properties do wood materials have;
- what artistic processing techniques can be applied to wood products.

The training is oriented towards the acquisition of knowledge about the different ways of joining materials, about detachable and non-detachable joints, about processing wood materials and making textile and leather products. An important part of the time is devoted to the acquisition of food Students acquire knowledge about regular, varied and balanced nutrition. The technology. recommendations of the National Center for the Protection of Public Health are introduced and discussed. They learn tips for healthy eating. An important emphasis is the assimilation of technologies for hot and cold processing of food products. Students explore recipes for a variety of foods that are prepared by cutting, mixing, boiling, frying, baking, and more.

General topic: Communications and Control

The section includes two topics: "Means of visual and voice communication" and "Means of control".

A priority in the training on this topic is communication with digital means. It prepares students in the area of competence "Communication and control in everyday life and work processes" and gives them the opportunity to learn:

• how to differentiate visual and voice communication tools according to functional characteristics;

- the principle of operation of the camera, web camera and mobile phone;
- how to carry out visual communication through a web camera;
- how to capture, store and transfer photo images on different media;
- how to distinguish means of control by functional characteristics;
- how heat processes are controlled;
- how control is carried out when purchasing goods.

The learning content and activities are aimed at familiarizing with means of visual and voice communication, their principle of operation and purpose. Students practice visual communication through a web camera, capture and store photos and other materials. They also get to know the means of control of thermal processes and the types of communication.

General topic: Economics.

It includes three themes – *"Resources"*, *"Production, Trade and Service" and "Budget"*. They also determine the content of entrepreneurship training in the 5th grade.

A priority in training on this topic is familiarization with various forms of economic activity. It prepares students in the area of competence "Organization and Economy" and enables them to learn:

• why resource scarcity is a major economic problem and requires people and societies to make choices to satisfy needs;

- what are the types of resources needed to produce goods and services;
- what are the resources and options for production, trade and services in their locality;
- how production, trade and services are distinguished as main economic activities;
- how the types of goods and services are classified according to certain characteristics;
- what is the price of goods and services;
- how a user is distinguished from a producer by the activities they perform;
- what are the types of income of the family members;
- how the types of expenses are distinguished in the family.

The main emphasis is on the different types of resources and their scarcity, production, trade, goods and services, as well as producers and consumers. Important attention is also paid to the family budget.

Here students are introduced to the economy and its main activities. What is production activity, tangible and intangible production and their characteristics, goods and services, what is the difference between them and how to distinguish them.

Work is organized in pairs to study and describe examples of material and non-material production, as well as the services they use every day in their lives, to make a classification of goods according to different characteristics, supporting it with examples from practice.

The creative learning projects proposed by us, according to the considered models of project classification, is from the point of view of content, we can define them as:

• Project for the development of new types of technologies.

- Project for solving structural and technical tasks.
- Project for solving tasks of a production and commercial nature.

From the point of view of educational goals, the use of the project in technological education will contribute to the synthesized nature of the educational field, how to form creative abilities, intellectual skills in school, as well as in the development of practical knowledge and skills. Individual work with each student allows the teacher to form in students practical skills for transforming materials into products, skills to analyze, synthesize and compare.

In conclusion, we can say that in the conditions of the project-based method and the flipped classroom, the role of the teacher changes, he becomes more of an advisor and mentor to the students, motivating them to be active and work in groups. The role of the students is also changing, since a large part of them until now are passive participants in the educational process and expect ready-made instructions. The integration of the two methods enables students to take more responsibility for their education and is an incentive for experimentation. The most successful is considered a change of priorities - to conduct research work at home after receiving the topic of the project or from simply covering the educational material to working on mastering it. It allows greater involvement of parents in the educational process of their children by shaping a supportive environment that everyone works with and for him.

Students are assured of solving real-world problems through this approach, as they do not feel discouraged by the unstructured information coming their way. Through the information presented to them, they will learn to trust their own decisions.

Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	

Acknowledgment: This research was financed under the project "Innovative models for the realization of qualifications and formation of competences in the educational system" RD-21-175 of 27.03.2023

REFERENCES

[1] Gerver V.A. (1998): Tvorcheskiye zadaniya po chercheniyu (Creative Drafting Activities).

[2] Karpova, L. (2008): Proektnata deĭnost kato sredstvo za razvitie na intellectualite i tvorcheski sposobnosti na po-mladite uchenitsi. (Project activity as a means of developing the intellectual and creative abilities of younger students.). https://nsportal.ru/blog/nachalnaya-shkola/all/2018/03/04/proektnaya-deyatelnost-kak-sredstvo-razvitiya-intellektualnyh

[3] Kostadinova, S. How is the school of activating the learning process?. E-write-off "Pedagogical Forum", March 1, year 2016 ISSN: 1314-7986DOI: 10.15547/PF.2015.042. https://www.dipkusz-forum.net/article/171/kak-obrnatata-klasna-staya-aktivira-uchebniya-proces

[4] Lisiyska, Zdr. (1994): Metodika za formirane na tvorcheski hudozhestveno-konstruktivni sposobnosti u detsa ot nachalna uchilishtna vazrast (The methodology of creative artistic design abilities in children of primary school age), Sofia

[5] Vinogradova L.I. Educational model "Flipped classroom" or "flipped learning" MOO SV - [Electronic resource].- http://www.moocv.ru/pages.php?pageid=5981

MODERN APPROACHES IN WORKING WITH CHILDREN WITH MENTAL RETARDATION FROM 1ST-4TH CLASS IN CENTERS FOR SPECIAL EDUCATIONAL SUPPORT

Veselina Dobreva Ivanova

Faculty of Pedagogy, Thrace University, Bulgaria, e-mail: ivanovaveselina14@gmail.com

Abstract

The education and upbringing of students in Centers for special educational support is an actual problem for society. The students with special educational needs who are taught in them need different approaches and strategies at work to develop their potential. Thanks to the specially equipped offices and well-prepared specialists working there, students have the opportunity to fully participate in the learning process, rehabilitation, family psychological counseling, etc. Depending on their individual and developmental characteristics, approaches can be adapted to meet the different needs of students. The use of modern technology, for example the interactive whiteboard, is increasingly desired by both teachers and students. By using it, students 'natural curiosity is stimulated, more sensory channels are simultaneously stimulated, the development of fine motor skills and the improvement of cognitive processes are supported. This enables active participation in activities in which everyone can express themselves in an interesting way and with accessible means, regardless of the type of their violation.

Keywords: Special educational needs, therapy, inclusive education

The problem of socialization and successful integration of students with special educational needs (SEN) in the education system is very topical. In many of the schools, personal development support teams (EPLD) have been established, but since the training of some students requires a specially organized learning environment and different approaches, in 2017, as a result of a reform of the inclusive education system in the country, Centers were created for special educational support (CSEP). They are the successors of the former auxiliary schools. Currently, there are 42 secondary schools operating on the territory of Bulgaria, and they educate students from PG to 12th grade. They perform various functions: diagnostic, rehabilitative, correctional and therapeutic work with children and students, pedagogical and psychological support, implementation of support and training programs for the families of children and students, education of children and students of compulsory preschool and school age. Some of the centers also have dormitories, for the convenience of parents from remote settlements.

Specialists apply different educational and therapeutic approaches to achieve educational goals, learn skills useful in everyday life, satisfy emotional needs for friendship, communication with peers and adults. They contribute to the stabilization of the general physical status and to the development of the feeling of belonging to a community. The main goal of the pedagogical team is focused on improving the quality of life and overcoming social isolation.

In today's education environment, technology is an integral part of everyone's daily life, even in the classroom. When teaching students with mental retardation, their use facilitates teaching, stimulates cognitive processes, provokes their interest in the offered stimuli and participation in the learning process. Both individual and group tasks can be set during the training, as with individual tasks, the student's individual pace is the leading one, and with group tasks, a higher pace of work can be set, since the tasks are distributed among the participants. Overcoming difficulties during the implementation of the assigned tasks gives students an additional incentive, increases interest in the studied subject.

In the education of students with SEN, the interactive whiteboard (IWB) is used more and more often. It is "a combination of electronic and software technologies a computer-based device that connects to a video projector and a computer. Working with an interactive whiteboard is not so complicated and

does not require specific technological knowledge"[2]. The advantages it provides are much more compared to those of an ordinary board. Using the possibilities and, it is easier for students to form concepts, it contributes to the development of fine motor skills and the improvement of cognitive processes. In e-learning, the interactive whiteboard can be successfully replaced by another computer-based technology – the so-called flipped classroom. It provides an opportunity to work on a whiteboard, which is projected on the student's computer monitor - videos, texts, photos, etc. This allows the application of a multisensory approach, and the educational material is perceived much more easily, because more sensory channels are stimulated simultaneously and the student's participation is required to solve the tasks, and not just passively watch and listen. For this purpose, multimedia learning resources are designed and created, which simultaneously visualize, sound and require action on the part of the student. Using the natural curiosity of children, specialists also use educational platforms and resources such as "Envision" and "Class Buddy".

Modern approaches to working with children with special educational needs in centers for special educational support are based on the individualization of the educational process. Some of the main approaches are:

- Individualized training: When working with children with special educational needs, their individual needs, skills and interests are taken into account. Teachers and specialists create individual curricula and programs that meet the specific needs of each child.

- Inclusion: Inclusive education promotes the inclusion of children with special educational needs in the general education environment. Children have the opportunity to learn together with their peers without disabilities, using additional support for personal development from various specialists in the school - resource teacher, speech therapist and psychologist. Appropriate facilities and aids are provided in special educational support centers to ensure their successful inclusion.

- Methods and strategies: Teachers use a variety of teaching methods and strategies that are adapted to the special educational needs of children. This may include visual aids, multimedia resources, games, sensory stimuli, and more.

- Teamwork: The team of teachers, specialists and parents work together to provide appropriate educational support for children. They exchange information, plan and coordinate their activities to ensure the best development and education of the children.

In the process of education, various types of therapies are also used for the integration of the senses and getting to know the world.



Su-Jock Therapy

Active points located on the palms and feet corresponding to all organs and systems in the body are stimulated. There are no contraindications. During this therapy, the active points located on the palms of the hands and feet of the child are stimulated with the help of various devices: massage balls, magnetic balls, rollers with spikes, walking on relief paths, carpets with buttons. In this way, the receptivity of the skin receptors is improved. Various massages are used to improve muscle tone, which children can do themselves - massage of the face, fingers, relaxation

techniques are applied for different muscle groups. Through the impact on these points, a healing impulse is generated which is sent to the brain and complex regulatory mechanisms are activated, a healing process is started. This therapy is not complicated and does not require special preparation. Известия на Съюза на учените Сливен, том 38 (1), 2023



Art - Therapy -

Through art, children express themselves, the way they see and perceive the world, their impressions, fears and emotions. Art therapy supports cognitive and emotional development through the use of art. Various deficits are overcome, it has a beneficial effect on the emotional state, it contributes to mental and creative development. Fine motor skills of the hand, imagination and speech are developed. Group communication skills are formed, it can also be used in family

therapy. "In education with the help of art, the whole polyphony of its possibilities and functions comes to the fore, in which its aesthetic nature is decisive, but apart from it there are also the following possibilities and functions of art - cognitive, value orientation, recreational, communicative, socializing, transformative' [1]. The goal of art therapy activities is to achieve positive changes in the psychological and social sphere of persons with disabilities, to reduce tension, activate inner vitality, personal capabilities, and support social adaptation.



Music therapy –

Recommended for all types of communication and behavioral disorders. Speech has many elements compatible with music: melody, rhythm, tempo, pauses, etc. It is a well-known fact that stuttering disappears during singing - skills of correct speech breathing are mastered. It has been proven that music tones the central nervous system, normalizes the rhythm of breathing, heart rate, and lowers muscle tension. Therapy can include various activities – dancing, playing musical instruments, singing. Both works of classical music and sounds of nature are used. The aim is to stimulate communication, reduce stress, improve cognitive skills.



Puppet Therapy –

All children love puppet theater. Playing with dolls allows children to express their emotions with actions and words, to participate in various speech situations, to embody themselves in various roles. Storytelling develops logical thinking and imagination. Speech is stimulated, the correct articulation of words. Entering into dialogue develops the skill of communication. Last but not least, gross and fine motor skills are developed. Children express their emotions freely, communication is facilitated, fantasy and imagination are stimulated.



Occupational therapy –

It is effective for children with problems in coordination and orientation, supports the integration of the senses, activities are carried out that require fine and gross motor skills such as: using a toothbrush, putting on and taking off clothes, putting on and taking off shoes, jumping, climbing, writing, unfastening and fastening buttons and zippers, cutting with scissors, etc. Helps children with

sensory integrative dysfunction, improves concentration. The earlier the sessions with an occupational therapist begin, the more effective they would be. While working, the therapist assesses the child's strengths and weaknesses and can recommend activities that would positively impact development.



Game –

According to A. Veleva, "the game is the subject's own, freely and voluntarily chosen activity, modeling rearranged and cyclically repeating components of utilitarian human activity, but without realizing the functional and result" [4]. Teaching children to play is as simple as it is complex. Through the game, they learn skills to communicate with peers, share toys and space, express their emotions. Play must be supervised and directed by an adult, and must have a beginning and an end. Through play and toys, we teach

children different concepts: "small", "big", "same", "different", colors, shapes, prepositional relations and others.



Sand Games –

It is used for both individual and group work. They develop tactile sensitivity and fine motor skills, help train various skills - counting, writing, reading, develop imagination. A sufficiently large sandbox is necessary - sieved or artificial, figurines of plants, animals, vehicles. Different activities alternate - writing letters and numbers, leaving footprints, forming figures, making different movements with fingers or palms, burying and finding objects in the sand and many others.

Mnemonics –

Development of logical and associative thinking. Cards of varying complexity are used such as: "Who



Lives Where", "Third Redundant", "Fourth Redundant", "Parts of the Body" (people and animals) and many others. Auditory and visual attention, memory and speech develop. During therapy, various techniques are used, the easiest of which is to associate a word with a picture to visualize the specific thing. If the child is literate, he can spell the word. Examples are used with objects that are related to the surrounding environment and gradually move to abstract concepts. "Mnemonic techniques are powerful tools for improving memory. They work in accordance with the way our brains evolved to process information. [3].



Известия на Съюза на учените Сливен, том 38 (1), 2023

The application of similar activities in educational work for children with special needs supports and facilitates the development of qualities that contribute and support social inclusion and inclusion in an educational environment. Depending on their individual and developmental characteristics, approaches can be adapted to meet the different needs of students. This enables active participation in activities in which everyone can express themselves in an interesting way and with accessible means, regardless of the type of their violation. Modern approaches in working with children with special educational needs in centers for special educational support focus on individualization, inclusion and diversity of methods and strategies. They promote early intervention, the use of assistive technologies and the development of independence and motivation in children.

REFERENCES

1. Boyadzhieva, N., Education through art, UI "St. Klimet Ohridski", Sofia, 1994

Ivanova, G., S. Karakoleva, N. Nedelchev. Modern information technologies for training people with special educational needs.// Education and technology, 2013, number 4, p. 64-70, ISSN 1314-1791.
 Joshua Foer, Moonwalking with Einstein: The Art and Science of Remembering Everything, New York, United States, Penguin Press, 2011

4. Veleva, A., Pedagogy of the game, Ruse, 2013, p. 10

TEACHERS – THE PROVOCATEURS OF THE PROCESS OF TRANSFORMATION OF THE EDUCATIONAL ENVIRONMENT INTO A MULTICULTURAL ONE

Daneva M.¹*, Nikolova M.²

¹ Dept. of Pedagogy and management, Faculty of Engineering and Pedagogy of Sliven, Technical University – Sofia, Bulgaria, e-mail: marlen1bg@yahoo.ca * - corresponding author

² Dept. of Pedagogy and management, Faculty of Engineering and Pedagogy of Sliven, Technical University – Sofia, Bulgaria, e-mail: nikol.mn@gmail.com

Abstract

In the Bulgarian education system today, many schools teach children with a mother language other than the official one. Working in an intercultural educational process and in a multicultural environment is not only an educational process in an environment with more than one ethnicity. Teachers' skills and professionalism to educate ethnic minority children and to work with the community are not realized as a synergistic process that is a precursor to transforming the educational environment into a multicultural one. This article examines the issue of differences and similarities in intercultural and multicultural education in our country and provides recommendations for educational approaches in kindergarten and elementary school in a multicultural environment.

Keywords: multicultural, intercultural, educational environment

1. INTRODUCTION

Bulgaria is one of many countries in the world with a diversity of cultures. It is therefore important to have effective guarantees for the implementation of the multidirectional and multilayered interaction between them. In this way, a mechanism for fruitful intercultural interaction is implemented.

The focus of influence is targeted on the personal development of individual cultural identities. There is a need to positively and systematically change the knowledge, skills, habits and attitudes of the society to achieve the fruitful interaction of the community groups within it. And it is known from science that such a series of interventions leads to transformation of the behaviour of individuals. When the motive in such an intervention is to bring about change so that communities live together in harmony and create their vital well-being together, then national prosperity is achieved. In these processes, it is evident that the leading role is played by organized pedagogical activity. It is fundamental to national vital well-being in culturally diverse countries. The wealth of a nation is its children and teachers need to seek ways and means for their successful realization in life, an opinion of V. Kyurkhiyska (Kyurkhiyska, V., 2017, 22). with which we fully agree [7]. Creating a foundation for successful learning and learning is effective when it is based in the context of social development (Doncheva Yu., 2017) [6]. Thus, the economic conjuncture, based on the improvement of technology and the personal development of generations, can be a carrier of guarantees for the vital well-being of the nation, according to Velcheva (Velcheva K., 2018, 163) [9].

2. PRELIMINARY NOTES

The critical skills that students need for their future self-realization in the active labor market are found in the analysis of Dr. Bushnell (I. Bushnell, 2009) [3]. Skills such as analytical thinking, communication skills, critical evaluation, analyzing and synthesizing information, problem solving,

teamwork, and time management underlie the creation of well-being in life. The possession of these skills is as necessary in a multicultural society as in a homogeneous one. Their formation and consolidation is within the framework of action of the educational system and the family, which in turn is subject to its community.

Thus, we arrive at the idea that the culture of a nation is a spectrum of characteristics of cultural identities that can be recognized as a community according to M. Daneva (Daneva M., 13) [4]. And since cultural diversity is the carrier of the ideas, vision and image of real life, cultural diversity appears as a source of innovation and creativity needed for the progress of society today. Diversity is not a barrier, but an occasion to build an appropriate educational environment so that children develop all their gifts, talents, interests. Boneva believes that the role of teachers in this process is important, guiding, irrevocable (Boneva I., 2018, 1031) [2].

In scientific literature there are many concepts of interculture and multiculture. We dwell for the needs of this study of teachers working in multicultural environments on a series of definitions.

Interculturality according to M. Daneva (Daneva M.,29) [4], is the picture of deep mutual respect for others, for the values and norms of others and, therefore, realized transformation of each participant and group in these relationships. This is the path to their common prosperity. It is a deeply transformative process of cultural identities, resulting in a change in the image of the community group.

Intercultural education is, according to the author (ibid.), an approach to educational interaction consistent with the awareness of several (at least two) different cultural groups in the classroom. It is based on the recognition of different expressions of cultural values, the formation of tolerance and empathy, and emphasizes students' education as one in which respect for cultural differences and selfawareness are achieved simultaneously.

Multiculturalism as a concept is defined in the UNESCO Handbook for Working in Multicultural Environments in the section on Education for Peace and Human Rights (UNESCO, 2006, 16) [8]. Since multiculturalism is a description, a picture, it does not carry a process, it lacks any dynamism in its definition. It brings together all the characteristics used to describe cultural communities, a kind of characterological lexicon. Multiculturalism is the completed process of continuous intercultural interactions, their realized goal.

Difference between interculturality and multiculturality. It is expressed precisely in the dynamics of transformative processes. When it is present, it is interculturality, and when all transformation is absent, it is multiculturality.

In the perspective of the diversity of communities in organized civil society, one of the most important groups is ethnic. It is characteristic of them that they cohere strongly under the pressure of prejudices and fears within the group. According to Daneva, Nikolova (Daneva, M. & Nikolova, M. (2021), the race in I. Ivanov (1999), has a biological palette of descriptive traits, while ethnicity has a socio-cultural one [5]. Moreover, also according to the authors, by Ivanov (1999), ethnicity exists on the basis of self-determination and only within the state. According to the authors, ethnicity is constructed by language, religion and collective memory. The ethnic group is subject to gravitational forces that through stereotypes and prejudices create the perception of strength in togetherness according to the authors in I. Ivanov [5] - Fig. 1. Characterological and psychological peculiarities and attitudes of an ethnic group define in the attitudes and attitudes of people of the ethnic group towards one of the most important human activities - learning. Therefore, it is important for the public to know the successful patterns of life well-being achieved by representatives of different ethnic groups. In this way the ethnic group will be demarginalized.

Relative to the educational goals in intercultural education, the study of the differences of an ethnic community would give clarity to work towards active and appropriate behavioural change of students in this group. Elevating significant and valuable cultural phenomena, deciphering socio-cultural processes, are an argument for a qualitative educational process. Working with parents and students at the same time is the sought basis for the formation of positive educational motivation.



Fig. 1. Ethnic pressures on cultural identities - [5]

We believe that changed motivation to learn is a necessary driving element in the transformation of cultural identity. However, if the intervention targets attitudes and, inevitably, this will generate disagreement, rejection, opposition, and ultimately failure to achieve the goal of cultural identity transformation. According to M. Daneva, the intervention of attitudes generates resistances. There is a sense of invasion of personal space, a plundering of individual freedom. It is better to work on changing wrong attitudes without stigmatizing differences. This is possible if one builds on what is considered by both sides to be good and constructive (Baron, R., Byrne, D., 2000, 140-143) [1].

In this regard, it is impossible to achieve national prosperity in a multicultural country unless the school is staffed by professionally trained teachers who know the difference between the dynamics of the concept of intercultural education and the statics of describing a multicultural environment. They must, of course, be well prepared with new knowledge, new skills, to form new values, to use and explain new means of expression. Their activity should be based on new patterns of behaviour that are necessary to create a calm and tolerant classroom atmosphere. They also need to have practical skills for working with the specific cultural group in question. Thus, just as in business communications it is necessary to know all the socio-cultural and emotional-behavioral characteristics of a business partner from another culture, so in the multicultural classroom the teacher is called upon to know the socio-cultural palette of the communities that are represented in his or her classroom. This brings out the need for teachers to have adequate practical measurable knowledge and skills to engage and enable learners to achieve mutual transformation in intercultural interaction.

In the usual case, teachers focus their educational goals on improving language proficiency, knowledge of dress and its ethnoelements, folklore, ceremonies and rituals, customs, traditions, culturally specific foods, and art. This is a great gateway to learning about cultural differences, but in no way exhausts the palette of cultural characteristics of a community group. Serious attention should be paid to differences such as manners and body language in the particular culture, family values, emotional thresholds, values, beliefs, superstitions, criteria of harmony and beauty, health and hygiene norms in the culture, attitudes towards education as a value, towards children, the scope of humour, norms of justice, ethics and aesthetics, attitudes towards work, self-control and self-organisation, etc.

This is what we find in E. Hal. The meaning of the illustrative metaphor according to M. Daneva (Daneva M.,32-33) is that the visible cultural aspects of an individual do not exhaust her culture according to Eastreid [4]. They are even much less numerous in kind than the invisible ones, but we see them most easily in our relationships, and their visibility does not diminish their value [4].

3. MAIN RESULTS AND DISCUSSIONS

This problem among teachers working in multicultural settings has sparked our research interest. We undertook a study among primary school teachers in Sliven region who work in localities with more than 70% Roma and/or Turkish ethnicity. The methodology included an interview, standardized type, with three questions with standardized answers with one open response and two closed response types.

A 3-question interview was conducted in May 2023 with 34 teachers in training in the Multiculturalism in Education course. When asked about the difference between a multicultural environment and a multi-cultural environment, participants did not indicate an answer related to the outcome of an ongoing process that led to a transformation of cultures. Responses of 100% did not identify an outcome of intercultural interaction.

When asked about the difference between learning a foreign language and learning a second language, no one indicated that the foreign language was not in the medium of living, unlike the second language, i.e. 0% were aware of the difference.

When asked about the teachers' preferred cultural characteristics and phenomena in their pedagogical interactions in a multi-ethnic setting, all participants indicated two, three or more characteristics from those above the line in the multicultural iceberg model.

The findings from the interview with primary teachers thus conducted are:

- There is a deficit in knowledge of the nature of multiculturalism.
- Knowledge of aspects of bilingualism are not at the practical minimum.
- All aspects of cultural identity are not known.
- Only the visible differences are dealt with and the invisible ones are not explored and dealt with.

After the theoretical and practical research done, we believe that teachers can be effective agents of change in the educational environment if they personally accept the challenge of studying the history of a minority group, its present, and the prospects for its development. Furthermore, we believe that teachers should be well aware of the power of this group in society. Last but not least, they should study and use in their work knowledge about the influence of the family in this specific cultural group. Teachers should be uncompromising towards acculturation processes, but at the same time support ethnic identity so as not to achieve an identity crisis of the learners. In their teaching, they should be guided by the stigmas subordinate to the knowledge of the religious particularities of cultural identities in the classroom. It is very important for the teachers in a multicultural classroom to realize that they are in fact the drivers of a process that will make an impact in years to come and drive the direction towards vital well-being, first of the learners and simultaneously of the nation. And this is a power to exert social control, a position not yet well recognized by teachers today.

4. CONCLUSIONS

In societies that are culturally, ethnically, racially and linguistically diverse, ensuring fruitful interaction between people is a fundamental requirement. The direction of this interaction is to bring about changes in skills, knowledge, habits and attitudes and subsequent behavioural transformations, forming a desire to live together to create their well-being. Educational activities are leading and fundamental to the well-being of vulnerable cultural communities. Teachers are the main strategic instigators of the whole transformation process. Thanks to their professionalism, education of multicultural communities becomes a means for vibrant well-being.

5. ACKNOWLEDGMENTS

The authors would like to thank the management of TU-Sofia and IPF-Sliven, the team for organizing the conference and the team for editing and printing the proceedings.

REFERENCES

[1] Baron, R., Byrne, D., (2000) Social psychology, A person Education Company, Needham, Massachusetts, ISBN 0-205-27956-2, p.140-143

[2] Boneva, I. (2018). The Role of Teachers' Attitudes in Including Different Children. Overview and Analysis of the Main Socio-Psychological Theories on Attitudes, their Natural and Purposeful Formation, "Pedagogy", issue XC, vol. 8, 1032

[3] Bushnell I., (2009), Emplyability, Life after university, McGraw hill Custom publishing, ISBN 9780077127596

[4] Daneva M., Intercultural education in a multicultural environment, monography, "Obnova BT i sie", Sliven, ISBN 978-619-7445-56-52

[5] Daneva, M. & Nikolova, M. (2021), Ethno-cultural aspects of learning attitudes. Tokyo summit-IV, 4th International Conference on Innovative Studies of Contemporary Sciences, ISBN: 978-625-7720-52-6, ISPEC Publication Tokyo Japan. p.288-295,
U.D.L. H. M. K. M. (2021), Ethno-cultural aspects of learning attitudes. Tokyo summit-IV, 4th International Conference on Innovative Studies of Contemporary Sciences, ISBN: 978-625-7720-52-6, ISPEC Publication Tokyo Japan. p.288-295, 101-51.

URL:https://www.tokyosummit.org/_files/ugd/614b1f_ffb6acf1d1b14e04a1082b34aee18b5d.pdf [6] Doncheva, Yu. (2017), Principles of training in line with the new thinking and action, "Mircea cel Batran" Naval Academy Scientific Bulletin, Volume XX — Issue 1, DOI: 10.21279/1454-864X-17-I1-

000 [7] Kyurkhiyska, V. (2017), The system of competences in 1. - 4. class and the special education.

Bulgarian journal of education, vol. 1

[8] UNESCO Guidelines on Intercultural Education, UNESCO Section of Education for Peace and Human Rights, Printed at UNESCO in Paris (ED-2006/WS/59) - CLD 29366, crp. 16, 19-20) https://unesdoc.unesco.org/ark:/48223/pf0000147878

[9] Velcheva K., (2108), Strukturni komponenti na procesite v proizvodstvenite tehnologii, Sbornik nauchni trudove ot pytuvasht seminsar Inovacii v obrazovanieto na Shumenski universitet "Ep. K. Preslavski", "Faber" ISBN 978-619-00-0783-8

REFLECTION PRACTICE AS A MEANS OF INCREASING STUDENT ACTIVITY DURING THEIR LEARNING

Bobeva, S.^{1*}, Dimitrova, M.²

¹ Dept. of Pedagogy and Management, Faculty of Engineering and pedagogy of Sliven, Technical University – Sofia, Bulgaria, e-mail: silvia_bobeva@tu-sofia.bg * - corresponding author

² Dept. of Pedagogy and Management, Faculty of Engineering and pedagogy of Sliven, Technical University – Sofia, Bulgaria, e-mail: marina_dimitrova@mail.bg

Abstract

Dynamic change in many aspects of life worldwide requires suitable tools and practices to answer the needs of nowadays' student's learning reality. Reflection seems to be a key to provide the necessary immediate action on the topic. Despite the acceptance the concept of reflective practice in education, it is the notion of 'reflection' in itself is still broad. This article attempts to investigate students' awareness of reflective practice in an educational context. Study includes exploring the practical application vs. theoretical knowledge of the reflective learning.

Keywords: reflection, soft skills, active learner, self-awareness in education process

1. INTRODUCTION

Reflection in education is considered as an essential part of both teaching and learning. Nevertheless, results from such practices in reflective learning are not spread yet. Its aim is considered to provide the learner tools for observation of their own professional knowledge and actions by "challenging oneself inner assumption regarding routine action and critically evaluating practitioners' personal reaction and feedback to feasible situations" as Finlay claims [4]. The reflection process also encourages one's ability to engage and cooperate with others in a way they can share opinion, observation point marks on one another and practices and thus have support from each other.

In regards of higher education, reflective actions have been acknowledged as a salient aspect once in education process and from there on professional development for educators. It's also through actual reflective application, that a student can identify the chief influences, the consequences and the premises that underlie their own learning style actions. Inevitably in higher education, reflective learning implementation is yet to become a proactive, empowerment, and a dynamic cyclical procedure [1] that donates to educators' personal growth [3, 8]. It enables to reach objective self-observation [2] and promotes workflow professional accomplishment throughout committing to regular plan execution, carrying out assignments and improving one's acting by regular rethinking about strengths, weaknesses and essential learning needs [6, 9].

Reflective learning is basically the ability of a person to reflect on their own ways of learning. Pretty much, reflection in the learning process is related to perform self-perception, self-observation, self-determination, self-evaluation, self-control, self-actualization [5].

2. PRELIMINARY NOTES

Reflection in learning is a subject of theoretical and survey exploration by numerous authors. The conducted research is aimed at investigating how much reflection is known among students and whether I apply it in my teaching. It's a topic that tend to be spreading more in different education degrees. Studies and survey are not that many in that field yet. Anyways some are aimed into specific areas of personal

Съюза на учените Union of Scientists Сливен, том 38 (1), 2023 Sliven, vol. 38 (1), 2023	Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	7
--	---	--	---

reflection application research, which is basic to understand one's personal tendencies to inner beliefs, self-perception and behavior therefore indicates learning manners [5].

Reflective practice helps building confident teachers as the students involved in the questionaries' research are in their own study for becoming a teacher at the very moment. Confidence of the teacher should come from ones understanding the process of learning first then followed by accurate and adequate transfer knowledge and skills to adjoining students.

3. MAIN RESULTS AND DISCUSSIONS

For the purposes of the research, during the academic year 2022/2023, in the Engineering and Pedagogical Faculty - Sliven at the Technical University - Sofia, a survey was conducted among 54 students from the specialty "Preschool and Primary School Pedagogy", "Master's degree". The Google Forms WEB tool was used for carrying out the anonymous survey. According to Kostov, K., " *Google Forms is an online service for creating a variety of electronic forms with the possibility of feedback. It is a popular tool that is increasingly being used for educational purposes as well.*" [7]

The survey card contains a total of 9 questions, 7 of which are optional with preset answer options, and other 2 are with gap for obtaining free given response, looking for learner's opinion on the topic. The results presented in the article are analyzed and summarized from a survey conducted among the students. The gathered data about the responder's knowledge is investigated in two directions. The first is in relation to their theoretical knowledge of the reflection applied by the trainees in the education process and its characteristics, and the second seeks an answer to the extent of its practical application. The first question, "*Do you know what reflection in education is*?" aims to check how familiar the respondents are with the basic essence of this concept (Fig. 1).



Fig. 1. "Do you know what reflection in education is?"

The results show that all surveyed students (100%) show confidence in their knowledge about reflection, with 96.3% confident in their knowledge and a small fraction 3.7% - "only heard about it". According to the data obtained, we can claim that special attention was paid to reflection during the training in the master's specialty.

The second question "*Do you know how to apply reflection in your learning*?" is a question that checks the further detailed knowledge on the topic and compared to the first question the positive answers of are decreasing (Fig. 2). It draws up identifying how many of the participants possess exhaustive comprehension quoting the ways of reflection's practical application. Contrast to the expressed certainty of theoretical knowledge about reflection as general topic in first question, the answers at question two show that half of the students (55.6%) are actually familiar with the characteristics of the reflection and its implementation. The answer "*To some extent"* is chosen by 40.7% and shows insufficient memorizing of researched acquaintance specifics and thus inadequate in depth



understanding of it. Ample theoretical comprehension is the premise of successful workflow to attain its fortunate practical application.



Fig. 2. "Do you know how to apply reflection in your learning?"

Furtherance, the survey continues thoroughly into rendering an account of the students' executive enactment of reflective learning. The interrelationship between question 2 and question 3 aims to show the extent theory and practice actually overlap. The answers to question 3 *"Have you practiced reflective learning?"* practically reveals significant distinction that is important to announce and analyze. Barely 25.9% of the trainees give affirmative answer 'yes' (Fig. 3). More than half of the repliers say that put an effort to do so and 11% do not apply reflection in their learning at all. These results are indicative, although the knowledge the students have has not been put into practice. Compared to the theoretical knowledge of reflective learning that all students declare to have in richness, only ¼ of them actually put it into action.



Fig. 3. "Have you ever practiced reflective learning?"

In all cases of obtained discrepancies in the degree of non-overlapping data in a given area implies marking the criteria by which the recorded differences are present in order to try to explain what they are due to. The difference that is reported in the first three questions shows a certain discrepancy in the knowledge of the students about the essence of reflective learning and its application itself. The results of the sensitivity analysis regarding the acquisition of knowledge, manifestations of skills, personality characteristics such as self-analysis, expressed in a personal assessment of need for achievement and motivation to achieve success.

Next is to research student's concentration and mind-focusing abilities. It's an attempt to reveal and register their ability to first notice and then give an account of one's awareness of the mind wandering time while perform learning activities. When asked, *"Do you tend to observe yourself how concentrated*

|--|

you are while carrying out your assignments?", 44.4% report to observe themselves by tracking their focus while are in class, and the same number of students (44.4%) say they often try to pay attention on that. The remaining 11.1% do not purposefully and regularly register their time of focused tasks performing and mind wandering during their studies. In fact, the degree of awareness and constant self-monitoring regarding full presence and participation in the conducted classes and task duties is of high importance to investigate. This may be defined as one of primary prerequisite indicating the actual implementing of reflective learning by personal initiative (Fig. 4).



Fig. 4. "Do you tend to observe yourself how concentrated you are while carrying out your assignments?"

Questions No. 5, 6 and 7 aim at detailed research and exploration of available activities that suggest a tendency to actual reflective learning application. The questions tend to examining partial details suggesting available activities of the students suggesting the application of reflection in their studies. There is a decrease in the number of subjects who show activity and self-initiative in their studies. Answers to the question *"Do you make notes of your thoughts when you are about to make a decision about a given task?"* are different. Only 37% of the students answer affirmatively with 'yes'. Pretty much same number of students choose the other two options, that relate to their actions in learning style.



Fig. 5. "Do you list in notes your thoughts before you make a decision on your assignments?"

Questionnaire continues with the question "*Do you consider yourself as an active or passive learner*?", which is focused on students' personal self-assessment of their activity during lectures and exercises. Total 55.6% of the respondents consider themselves as active learners, and only 14.8% have inner perception of themselves as a "rather passive". This issue is also directly related to the typological characteristics of the learners where self-confidence and ability to have objective self-evaluation is essential. Student activation is in tune with the modern educational paradigm. Academic educators should

ISSN: 1311 2864, volume 38 (1), 2023	ISSN: 1311 2864, том 38 (1), 2023
Union of scientists in Bulgaria – branch Sliven	Съюз на учените в България – клон Сливен



Известия на Съюза на учените Сливен, том <u>38 (1), 2</u>02<u>3</u>

tend to try ways to create an educational environment where learners are at the center of education process and involve them into activeness and extract their own creativity. Participation and engagement in various research projects may point positively influence to achieving this. None of all of the registered trainees who took part in the survey discern themselves as a passive participant in the education process. That creates confusion in understanding of what student's beliefs are in respect of a successful learning activity is all about based on the registered results so far.



Fig. 6. "Do you consider yourself as an active or a passive learner?"

The last two questions of the survey are open-ended and the aim is for students to express their opinion freely. To the question *"Share the main difficulties you encounter when preparing the assigned tasks in your studies?"*, students give different answers, that may be summarized in following ranges:

- "Lack concentration"
- "Lack organization of the time "
- "Struggle in understanding the instructions for carrying out the tasks given"
- "Short deadline for completing the tasks"
- "No evidence of any serious difficulties in completing the tasks"

Question 9 "*How activity and efficiency in student learning can be improved?*" investigates students' ideas of how learning can be improved. Most of them believe that preponderance of practical classes over lectures may definitely help. It complies with fretfulness in acquiring new skills when apply 'leaning while doing' methodology, where activity is fostered and discussions are essential. The analysis of the answers submitted presents the training from learners' perspective as a difficulty arising from insufficiently developed personal skills, mainly related to time management, self-motivation and adaptation.

4. CONCLUSIONS

The conducted survey shows that, despite the registered high level of theoretical knowledge on the topic of reflection in education, the degree of its practical application by the students is a quarter. Participants claim to be fluent in theory thus survey analysis indicate that students tend not to process theory through exhaustive understanding and then transfer it into practice. There is a need to providing the students with additional clarifications for the reflective learning practical application during trainings as long as further activities to obtaining it.

The progressive decrease in the number of students who actually decide to apply reflection in their own learning, without being forced or required by the trainer, is indicative for the initiative manners, determination and persistence of the student himself. The latter are skills that are subject to professional

demand from many companies and thus should be developed. That may be done both individually and in a group under the guidance of a mentor. Success in the degree of soft and transferable skills development is in favor of the group learning because it allows for more varied activities involving discussion and teamwork. Applying an adequate approach with appropriate interactive methods along with support and encouragement is a possible option for acquiring the desired skills.

The research indicates that successful learning is associated with personal reflection, which begins with the level of awareness and activity associated with the degree of personal self-esteem. The latter manifests itself in interpreting one's own qualities and manifestations in a way that leads to a positive and satisfying outcome. Intrinsic personal characteristics from the list of specific transferable skills for personal performance, personal effectiveness and self-awareness are targeted. Transferred into learning through the prism of reflection, they can be concretized in self-organization, self-motivation and self-analysis with continuous self-observation.

REFERENCES

[1] Ai, A., Al-Shamrani, S., and Almufti, A. (2017). *Secondary school science teachers' views about their reflective practices*. J. Teach. Educ. Sustainability 19, 43–53. doi: 10.1515/jtes-2017-0003.

[2] Day, C. (1999). "*Researching teaching through reflective practice*," in Researching teaching: Methodologies and practices for understanding pedagogy. ed. J. J. Loughran (London: Falmer).

[3] Davies, S. (2012). Embracing reflective practice. Educ. Prim. Care 23, 9–12. doi: 10.1080/14739879.2012.11494064.

[4] Finlay, L. (2008). *Reflecting on 'Reflective practice'*. *Practice-based Professional Learning*. Paper 52, The. Open University.

[5] Hadzhiali, I., Tsanova, N., Raycheva, N., & Tomova, S. (2014). Reflexion in the integrative field of didactics of biology. Strategii na obrazovatelnata i nauchnata politika, 22 (1), 38 – 64.

[6] Huynh, H. T. (2022). *Promoting professional development in language teaching through reflective practice*. Vietnam J. Educ. 6, 62–68. doi: 10.52296/vje.2022.126.

[7] Kostov, K., (2022), Using Google electronic forms as a digital resource in the educational activity of students in the conditions of online learning, Proceedings of the Ninth National Conference Electronic Learning in Higher Education, ISBN 978-954-21-1126-9, p. 46

[8] Marshall, T. (2019). *The concept of reflection: a systematic review and thematic synthesis across professional contexts*. Reflective Pract. 20, 396–415. doi: 10.1080/14623943.2019.1622520

[9] Zahid, M., Khanam, A. (2019). *Effect of reflective teaching practices on the performance of prospective teachers*. Turk. Online J. Educ. Technol. 18, 32–43



IMPACT OF TRADITIONAL AND DISTANCE LEARNING ON THE PHYSICAL ABILITY OF CHILDREN OF PRESCHOOL AGE

Viktoriya Kovchazova^{1*}, Teodora Simeonova²

¹DIQLL – Varna, Konstantin Preslavsky University of Shumen e-mail: v.kovchazova@shu.bg * - corresponding author

² Faculty of Education, TMTS department, Konstantin Preslavsky University of Shumen e-mail: t.simeonova@shu.bg

Abstract

The dynamic development of the child's organism during preschool age is the result of active motor activity, interaction with the environment, psychophysical growth. Motor activity and physical health are interconnected and are aimed at developing physical ability, strengthening muscles, stimulating children's interest in sports and games. Systematic activities with physical exercises and sports during the children's stay in kindergarten guarantee the achievement of the above. The Covid pandemic a few years ago and the subsequent distance learning in preschool age necessitated the restriction of children's physical activity. During this period, organized motor activities and sports in the conditions of the kindergarten do not take place. Distance learning, in a family environment, to some extent manages to maintain satisfactory physical performance. The purpose of this report is to track and determine the impact of classroom training on the motor skills of children of the third age group in kindergarten. Are there changes in children's achievement averages, on a validated standardized test battery, during distance and traditional learning.

Keywords: preschool age, physical qualities and ability to act, pandemic, motor activity

1. INTRODUCTION

The main goal of preschool education and training is to provide health, motor experience, develop skills and build motivation for independent motor activity through sports activities, with good organization and use of different forms in the kindergarten.

According to Ordinance No. 5 of 03.06.2016 on preschool education, Art. 3. "Preschool education takes place in an environment for learning through play, which is age-appropriate and guarantees the overall development of the child, as well as opportunities to protect their physical and mental health" [4]. Through the forms of physical culture in preschool education, the aim is to strengthen and harden children, increase the body's resistance to diseases, develop physical qualities and ability to act. "According to the needs of society and the age characteristics of preschool children, it is necessary to ensure an active motor regime" [1].

The motor activity, physical development and capacity of children are the subject of research by specialists in the field of physical culture and sports, whose aim is to direct attention to:

- \checkmark optimization of children's motor activity ;
- ✓ formation of various motor skills and habits;
- ✓ developing physical qualities;
- \checkmark education of the need for systematic activities with physical exercises, games and sports.

The essence of the motivation for engaging in motor activities at preschool age is dictated by the child's interest in participating in the movements themselves, by achieving results and by the opportunity to express one's own capabilities. At the same time, motor activity plays a significant role in the child's mental development and emotional satisfaction.

For the successful realization of all this in the specified organizational moments, it is necessary to effectively use appropriate means, methods, environmental conditions, as well as optimization of objective and subjective factors. In preschool age, physical education focuses on forming motor skills and habits, developing physical qualities and improving coordination. At the same time, the decrease in motor activity, the reduced physical capacity caused by various factors can lead to a complex negative impact on the overall development of adolescents.

2. EXHIBITION

The actuality of the problem of the state of physical activity among children of preschool age is increasingly present in the literary sources, especially in the last three years, and draws attention to the need for systematic motor activity. Under the influence of the environment, the changing living conditions, the volume and direction of activities with motor activity, the physical capacity of preschool children changes significantly. These trends are noticeably observed during the pandemic situation in the country caused by the spread of COVID-19 [2]. It is known that physical ability in preschool age covers the physical qualities: strength, speed, endurance, flexibility and agility. R. Alexiev defines physical capacity as a complex indicator of the general functional state of a person and their motor abilities, which depend on the degree of development and manifestation of motor qualities [1]. Reduced motor activity disrupts the balance of biological needs, muscle work and energy expenditure. The necessary systemic motor activity must be provided by a rational regime that will lead to the full physical development of children.

The information provided in the presentation directs us to a scientific search for answers about the importance of face-to-face learning after the Covid pandemic in the situations of physical education and sports in preschool age.

The aim of the study is to determine the effect of hands-on learning on the motor skills of 6-7-year-old children.

The method of sports pedagogical testing with a test battery was used. Variation and comparative analysis were applied to process the obtained results.

In March 2020, in connection with the spread of COVID-19, the National Assembly declared a state of emergency, which respectively led to the suspension of children's visits to kindergartens, to the suspension of: mass events, sports events, cultural and entertainment events, as well as closing parks and gardens for walking [2]. In the spring of 2021, after the kindergartens were closed again, in his order the Minister of Education and Science allowed "pedagogical interaction with children enrolled in preschool education in kindergartens and in schools throughout the country to be carried out, insofar as and if it is possible, remotely in an electronic environment by using the means of information and communication technologies and with the participation of parents. The duration of the pedagogical interaction with the children should be determined by the pedagogical specialists in accordance with the age of the children, but it cannot exceed 30 minutes a day" [3].

3. METHODOLOGY AND RESULTS

In pedagogical practice as information for establishing the level of physical preparation of children can be used observations during morning gymnastics, situations, mobile games, physical culture holidays, tourism, walks, sports. Children's knowledge and skills for performing motor activities of an organizational nature (building, rebuilding) can be established in a different way – observation of groups



of children formed by gender, height, friendship. To assess the physical capacity of children in kindergarten, a unified test battery has been approved, including: 1. running 40 m, 2. long jump from a place, 3. throwing a solid ball with two hands above the head, 4. throwing a ball 150 d in goal. When tracking children's achievements, it is necessary for them to be equipped for the purpose.

During the period of April 2021, 2022, 2023, 75 children from the 3rd group of Shturche Kindergarten, town of Shumen, were examined. The tests with which children's physical capacity is monitored, are reflected in Table 1, Table 2 and Table 3.

2021						
no	n	X min	X max	\overline{X}	S	v%
1.	25	19.41	10.93	15.87	4.31	27,16
2.	25	62	108	91.12	23,27	25.54
3.	25	150	180	151.33	40.37	26.68
4.	25	1	5	3.72	0.97	26,22

Table 1
Statistical data on physical capacity

Table 2
Statistical data on physical capacity
2022

2022						
no	n	X min	X max	\overline{X}	S	v%
1.	26	19.41	10.93	15,24	3.26	20.56
2.	26	59	100	93.22	19.95	21.41
3.	26	160	190	153.53	34,36	22.38
4.	26	2	7	4.72	1.02	21.64

Table 3Statistical data on physical capacity2023

no	n	X min	X max	\overline{X}	S	v%
1.	24	19.41	10.93	10.67	1.87	17.58
2.	24	62	108	95.98	14.66	15,28
3.	24	150	190	160.33	21.96	13.70
4.	24	4	11	7.02	1.16	16.55

In the tables, the tests are numbered from 1 to 4.

The normalization or linear transformation of the test results is expressed in bringing natural units of measurement - number, kilograms, seconds, centimeters, meters and others into normalized (point) units. The obtained points in each individual test are objectified by a verbal assessment (table 4).

The "40 m run" test measures sprinting speed. From the tables, we note that the dynamic strength of the lower limbs in 2021 and 2022 is very low (from table 4 for both years the results are 2 points each). The result of this test for 2023. shows average score or are tied at 12 points. Taking into account the decrease in the coefficient of variation from 27.16 to 17.58, we can establish an averaging of the children's results over the years.

ASSESSMENTS				
VERBAL	NUMBER			
VERY LOW	UP TO 3 POINTS			
LOW	4 - 7			
BELOW AVERAGE	8 - 11			
AVERAGE	12 - 14			
ABOVE AVERAGE	15 - 18			
TALL	19 - 22			
VERY HIGH	23 AND MORE			

Table 4Verbal assessment of individual countriesof physical capacity

We diagnose the explosive power of the lower limbs with the "Long jump from a standing" test. The results in 2021 X = 91.12 are low grade and 7 points, in 2022 X = 93.12 - grade below average and 8 points and prize 2023 - X = 95.98 again with a verbal grade below the average. The coefficient of variation decreases, which indicates equal opportunities for children to make efforts to jump horizontally.

Test "Throwing a solid ball with two hands" overhead reveals the speed-power capabilities of the arms and trunk. Unfortunately, in all three traceable years the values for the strength of some major muscle groups, the back and the abdomen are equal to 2, 3 and 6 points, respectively, and not passing a low rating. A positive test is the value of the coefficient of variation in 2023 - V% = 13.70 speaks of group uniformity.

The "Throwing a small ball at a target" test gives information about the child's coordination and partly about the speed-power abilities. From the obtained results, we report a positive change from 3 points in 2021 to 5 points in 2022 and the desired equalization of achievements reported by the coefficient of variation. In the last year, 12 points from the results give an average rating.

CONCLUSION

Taking into account the topicality of the problem, the conducted study of children regarding the physical capacity during distance and in-person education, the following conclusions can be drawn:

1. Although the given problem is increasingly on the agenda among its researchers, there is a need to update and update the information about the need for motor activity. This would help to increase the level of physical activity in the present education of children of preschool age.

2. Measuring the dynamics of physical performance by means of a test battery over three years does not give more than an average verbal rating. At the same time, the homogeneity of the results last year is positive, taking into account the reduced coefficient of variation.

3. The results of the analysis of the observed indicators raise alarm in the direction of the fact that the physical qualities of the children for the studied period have underestimated values. To overcome this problem, we recommend a variety of motor activities, supporting the complex development of physical capacity.

4. Given the fact that physical culture in preschool age creates favorable conditions for the physical, intellectual and socio-moral development of children, effective and full use of a richer sports base is necessary as a prerequisite for increasing physical performance and improving physical qualities.

REFERENCES

[1] Alexiev, R. Methodological guidelines for increasing the motor activity of children in kindergarten, Shumen, UI "Ep . K. Preslavski", 2019.

[2] Simeonova, T., V. Kovchazova. The physical capacity of children of preschool age in the conditions of a pandemic. Thirteenth MNC "Modern trends of the FFS". Sofia: University Publishing House "St. Kliment Ohridski", SU, Department of Sports, 2021, pp. 102 - 108. ISSN: 1314-2275.

[3] Order No._RD-09-747/19.03.2021 of the Minister of Science and Education.

[4] Ordinance No._5 of 03.06.2016 on preschool education.



Maya Staikova^{1*}, Nayden Chivarov^{2*}, Valentina Ivanova^{3*}, Stefan Chivarov^{4*}

¹ Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, e-mail: ctaukoba@gmail.com

* - corresponding author

² Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, e-mail: nchivarov@gmail.com

³ Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, e-mail: v.ivanova@gmail.com

⁴ Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, e-mail: schivarov@gmail.com

Abstract

This article presents developmental a cost-effective robot - TELE-ROBKO and a robot-based platform for education - ST(R)EAM IT.

An autonomous mobile robot (and the required software) will to provide virtual presence visits of museums, as a part of the teaching curriculum or as an extracurricular activity for classes of students (pupils) and their teacher. This is a high-tech solution, which will allow the visiting class to easily remote visit ("tele - visit") the museum exhibitions regardless of the distance separating them form the location of the museum (for example – in another city or even in other county).

Students will be able to view in real time the exposed national treasures, cultural values, historical artifacts, art and so on exhibits and participate interactively in the exhibition tour, conducted by the museum expert-guide (including asking questions and receiving answers trough the robot's audio system).

64 teachers and trainers will be trained on how to use the ST(R)EAM IT platform. They will become the backbone of a teacher and trainer community, which will operate as informal group and provide sustainably of the project results in the future.

Keywords: mobile robot, education, STEM, platform, tele-visit, COVID-19.

1. INTRODUCTION

Education is provided in formal and private institutions in Bulgaria and is managed by the local authorities. Today we all talk about the big technology changes after the last big health pandemic COVID-19. The pandemic brought changes in the Bulgarian education and education in whole world. The COVID-19 crisis once again outlined the importance of digitization of the social interaction. One of the most vulnerable groups are the students who had to explore the vast world of knowledge by spending long hours in front of their computer screens.

Digital transformation goes beyond the limits of the desktop computers, laptops and tablets. Robots are the logical next generation of digital tools, that can be utilized to speed up the digital transformation of the educational systems.

2. PRELIMINARY NOTES

Bulgarian education has two mandatory stages: Primary and Secondary. Pre-primary, uppersecondary and higher education are optional. Primary and secondary education in Bulgaria are free in the public schools. There are primary schools (first through fourth grade), basic schools (first through eighth grade), secondary schools (eighth through twelfth grade) and general-secondary schools (first through twelfth grade). Elementary stage includes children first – fort grade (7-10 age) or its elementary school,



Announcements of

Union of Scientists

Известия на

Съюза на учените



Fig.1 Educational system in Bulgaria

Education is separated in two parts, based on the childrens abstract eye vision. The child's vision gets stronger each year. This improved vision is needed as the child explores the world more fully and begins attending school. The developing eye is learning to do many things better, such as: seeing things in 3D (three dimensions). This is known as depth perception, tracking, which helps the eyes follow a moving target and etc. Around the age of 11 or 12, children learn to think about abstract concepts. It's the pre-secondary stage. They complete what Piaget termed the concrete operational period and enter the formal operation period. There are two major aspects to this theory: the process of coming to know and the stages we move through as we gradually acquire this ability. [13] Piaget was interested in how an organism adapts to its environment. That he described intelligence. He explained behavior. Behavior is controlled through mental organizations called schemes that the individual uses to represent the world and designate action. This this adaptation is driven by a biological drive to obtain balance between schemes and the environment. [13] Piaget described two processes used by the individual in its attempt to adapt: assimilation and accommodation. Both of these processes are used throughout life as the person increasingly adapts to the environment in a more complex manner. Piaget identified four stages in cognitive development: Sensorimotor stage (7 months of age); Pre-operational stage (toddler and early childhood); Concrete operational stage (elementary and early adolescence) and Formal operational stage (adolescence and adulthood).

Concrete operational stage. In this stage (characterized by 7 types of conservation: number; length, liquid, mass, weight, area, volume), intelligence is demonstrated through logical and systematic

<u>ISSN: 1311 2864, volume 38 (1), 2023</u>	ISSN: 1311 2864, том 38 (1), 2023
Union of scientists in Bulgaria – branch Sliven	Съюз на учените в България – клон Сливен

manipulation of symbols related to concrete objects. Operational thinking develops (mental actions that are reversible). Egocentric through diminishes. [13]

Many pre-school and primary programs are modeled on Piaget's theory, which, as stated previously, provides part of the foundation for constructivist learning. Discovery learning and supporting the developing interests of the child are two primary instructional techniques.it is recommended that parents and teachers challenge the child's abilities, but not present material or information that is too far beyond the child's level. It is also recommended that teachers use a wide variety of concrete experiences to help the child learn e.g., use of manipulatives, working in groups to get experience seeing from another's perspective, field trips, etc. [13] The hallmark achievements of concrete operations are that children display logical thinking. They begin to think abstractly. Children this age are able to demonstrate abstract thinking. For example, they can understand shades of gray, wrestle with abstract concepts like love or justice, and formulate values based on thinking and analyzing as opposed to only by feeling or experiencing. This means that children in primary education need to see, to touch everything they hear doesn't mother of the education field - math, history, geography. Today we called this practice STEM(STEAM). STEM is an educational program developed to prepare primary and secondary students for college, graduate study and careers in the fields of science, technology, engineering and mathematics (STEM). STEM integrates multiple disciplines and trains students to use cross-disciplinary knowledge to solve problems. STEM programs promote a learn-by-doing approach. Students participate in real-world projects with real-world consequences. STEM in education teaches students to think critically, prepares them for careers and creates professionals that can work across scientific disciplines to solve challenging problems. STEM education make the connection between theory and practice.

Students' satisfaction is an important measurement for the education success.

Teachers through proper guidance and social support can define and design the future of the children. Teachers act as promoters of motivation and engagement of students. Positive teacher-student relationships will ensure students' satisfaction with their schooling experience, while Vieno et al (2007) identified that psychologically motivating and caring teachers could enhance the effectiveness of school for children. When classroom learning is organized in a cooperative environment by teachers, students will feel increased efficacy. Students become more engaged in the learning process when they find teachers attending to their social and academic needs. Generally, children studying away from their home countries are more observant of their teachers and rate them on factors including their commitment to the profession, and attitude towards students, that could subsequently influence students to see teachers as role models for their adult lives. Also, the school experiences of expatriate children help them to develop their abilities through the influence of friends and extra-curricular activities. Such studies suggest it is reasonable to assume that teachers' support would enhance student satisfaction with their schools, which in turn would result in better student engagement. [2]

The following hypotheses are proposed(Fig.2):

Известия на

Съюза на учените

Сливен, том 38 (1), 2023

H1: Teachers' support will have a positive impact on the school satisfaction of students.

H2: School support will have a positive impact on the school satisfaction of students.

H3: Peer support will have a positive impact on the school satisfaction of students.

H4: School satisfaction will lead to a positive impact on the engagement of students.

H5: Location of the school will moderate the relationship between school satisfaction and student engagement for students.


Fig.2 Students satisfaction

Teachers' Support

1. My teachers make my learning interesting and joyful.

- 2. My teachers & other staff treat me with respect.
- 3. I get feedback about my performance from my teachers.
- 4. My teachers help me to improve whenever I perform poorly.
- 5. My teachers encourage me.
- 6. My teachers recognize my good works in public.
- 7. My teachers really care about me.
- 8. When I have a problem I know whom to approach for help.

9. I feel comfortable about approaching teachers/counselors for discussing my troubles.

Organizational Support

10. My school provides opportunities for getting involved in sports, clubs, and other activities outside the class.

11. The grounds, buildings and outdoors are kept in clean & good condition.

12. I find classrooms at school excellent & well equipped with learning & teaching resources.

13. I find computer laboratories at school excellent & well equipped with learning & teaching resources.

14. I find science laboratories at school excellent & well equipped with learning & teaching resources.

15. I find library at school excellent & well equipped with relevant books.

School Satisfaction

16. I am happy at school.

17. I feel that the discipline in school is adequate.

18. I feel safe in school.

19. I feel proud of my school.

Peer Support

20. Students in my school treat others with respect.

21. My friends in school are mostly cooperative and work in teams.

22. My friends help me in completing my assignments.

Student engagement

23. I am actively involved in extra-curricular/co-curricular activities.

24. I am actively involved in sports activities.

In the organizational support we see 3 points connected with classroom, resource and equipped. This is the STEM education.

We have students and schools and it looks like everything is organized and properly working - We are managing the school system. But life has challenges for our education system. Some of those

challenges are: children living abroad; children living out of capital (Sofia); disabled people and health pandemic.

Provoked by the challenges of distance learning, that all students and teachers in EU faced during COVID-19 lock-down, the partners started a series of brainstorm sessions on how the technology can be utilized to provide relieve during social lock-down.

COVID 19 is not first health pandemic, but it's the first which provoked a big technology progress. We talked long time ago for new technology, new generation – technology generation, but our education only talked about preparation, but not realized any changes. Same private schools started to integrate technology in education, but in government schools it was a just a mirage.

The COVID-19 crisis once again outlined the importance of digitization of the social interaction. The most vulnerable groups are the students who have to explore the vast world of knowledge spending long hours in front of their computer screeens. But the digital transformation goes beyond the limits of the desktop computers, laptops and tablets. Robots are the logical next generation of digital tools that can be utilized to speed up the digital transformation of the educational systems all over EU and even all over the world. This key enabling technology introduces new digital capacity and opens new horizons for educational institutions on all educational levels.

The most wanted professions today did not exist fifteen years ago. In another five years, robots will do 65% of the work we do today. The EU Industrial Policy Strategy defines robotics as an integral part of the Key Enabling Technologies (KETs) with the most important share in the growth of the European industries. Therefore, greater attention must be focused on how robots can be better integrated into the lives of young people and their education.

3. MAIN RESULTS AND DISCUSSIONS

Unlike the traditional digitization approach using stationary computers and cameras, the robots provide independent mobility, thus overcoming the physical barriers imposed by the need of social distancing, socioeconomic disadvantages or special needs. They combine the advantages of a computer system with the excitement of human-robot interaction which inspires the imagination of all students thus promoting by example the benefits of STEM. The robot will be used to provide all students involved with access to the treasures of the cultural heritage, under the supervision of their teachers and the professional researchers from the partner museums. It will show-case how the technology can be used to overcome limitation and imposed boundaries in order to provide high quality educational experience, inclusion and non-discrimination via innovation. Robots have great potential in being utilized as an educational technology they add brand new digital capacity to the educational system. They can be used as a powerful edutainment platform - combining the traditional and innovative didactic methods and the educational content in mathematics, physics, computers, electronics, mechanical engineering, and even artificial intelligence, with the experience of gamified learning. The robot-based system can be powered by clean energy sources (sun-energy) and promote by example climate change awareness and prevention.

The consensus was reached that the dire need for new type of high quality educational content, innovative didactic approaches, and reliable means to provide students with cultural and educational experiences under the restriction of social distancing can be addressed with the help of robotics. Robots can't be infected by COVID-19 or other infectious diseases. They can be used as avatars of teachers and pupils so they can experience the excitement of the museum visits. Also they can support the museum researchers during the onsite guided tours, or during a distance class-room lesson.

The COVID-19 crisis fast-forwarded the process of digitization and emphasized the need of distance education, or rather the need of providing all students with high quality learning experience outside the confront of the classroom.

Tele-ROBCO robot will be created - an autonomous mobile robot (and the required software) for providing virtual presence visits of museums, as a part of the teaching curriculum or as an extracurricular activity for classes of students (pupils) and their teacher.



Известия на Съюза на учените Сливен, том <u>38</u> (1), <u>2023</u> Announcements of Union of Scientists Sliven, vol. 38 (1), 2023

This is a cost oriented autonomous mobile robot consists of mobile robot platform of differential type, PC and controllers, electro-actuating system including two 12V LiFePo batteries and recharging station and sensory system including: infrared, ultrasound, laser scanner, 3D sensor - "Real Sense" and integrated accelerometer, gyroscope and inertia sensor (Fig. 3)



Fig. 3 TELE-ROBKO

One robot functionality is School class telepresence mode (Fig. 4):

• Museum "Tele-visit" guided tour- The robot will collaborate with the museum tour expert guide and will provide an avatar of the visiting class (students), by following the thematic presentation of the museum expert. In front of each exhibit, the expert guide will conduct a talk, prepared and didactically in accordance with the curriculum for the subject. A tour is composed of a predefined sequence of exhibits, linked by a common theme. The robot will go from one exhibit to another, as directed from the museum tour guide (by a remote control, or through the WEB interface), based on his/her presentation. The robot will position itself at a predefined position in front of the exhibit which provides the best view of the exhibit.

• Teacher defined and controlled tele-visit tour – Prior to this type of visit, the teacher, using the WEB interface, creates a list of exhibits (from the ones available in the database). When the tour starts, the robot autonomously goes to the best viewing spot in front of the first exhibit, when requested by the teacher (over the WEB interface) goes to the next exhibit in the list.

• Teacher controlled "go to exhibit" tele-visit – In this type of visit, the teacher, in real time, dispatches the robot in front of an exhibit of his/her choice. The selection of the exhibit is made through the WEB interface, from the list of exhibits in the database.

Development of Methodology and Teachers' Toolkit. The academic institutions will provide additional expertise for the development of teachers' guides, videos, tutorials, and case-studies, while the schools will validate and adapt the content to the needs of the teachers, students and their parents. The WP demands understanding of the needs of a newcomers in the field of robotics, as well as profound knowledge in didactic methods.



Fig. 4 School class telepresence mode

Education innovation:

- Introducing new interactive learning tool in Bulgarian educational institutions
- Innovative exploitation of museum exhibits
- Creating the possibility of remote access to cultural institutions (museum exhibitions, etc.)

• Development of a robotic system for "tele-visits" of cultural institutions (museum expositions, galleries, exhibitions and other objects) "TELE-ROBKO"

• Development of a unique, web-based graphical user interface for managing the Robotic System for tele-visits - "TELE-ROBKO"

4. CONCLUSIONS

ST(R)EAM IT project will result in a robot-based hardware platform TELE-ROBKO for tele-visits (telepresence) and its pilot integration in the partner institutions. The hardware platform will be equipped with robot-control software sub-system (based on ROS - open-source Robot Operating System). The platform educational capacity will be enhanced by an add-on software package for robot-behavior, tuned to cultural events, guided tours, and museum exhibitions.

Inter-institutional cooperation, co-creating, knowledge sharing, and team building, all enhancing the cooperation and interaction between the partner institutions.

Strong multidisciplinary transnational diverse project team focus on closer institutional integration and cooperation for innovation.

TELE-ROBKO will contribute to the innovation in the VET education and training by implementing and piloting a robot-based tele-vision hardware system that will provide VET institutions with additional digital readiness and enhanced digital resilience by providing means for distance observation, interaction, and research. This high-tech approach will be piloted in our partner VET and secondary schools, universities, and cultural institutions, be it can be used in all educational levels for teaching natural science, technology, engineering. It will provide full indiscriminatory tele-presence access to events (sports, education, culture) and places, thus boosting the inclusion of large socioeconomic groups, overcoming the barriers imposed by disabilities, health problems, cultural differences.

5. ACKNOWLEDGMENTS

"The research leading to these results has received funding from the Erasmus + program", "Robo STREAM" № 2022-1-BG01-KA220-VET-000089434

REFERENCES

[1] Montiglio, D. (2009), "Guide To Understand The Bulgarian Educational System", Journal of Foreiner,

[2] Gokuladas, V. K., Sam, S.K., (2022), "Student Satisfaction In Secondary Education: An Empirical Study of Indian Expatriate Students", Journal of Research in International Education, 75 – 83.

[3] Bosworth K, Ford L and Hernandaz D (2011) School climate factors contributing to student and faculty perceptions of safety in select Arizona schools. Journal of School Health. 81(4): 194–201.

[4] Halachev, P. (2009), "Educational Challenges for e-Learning in Higher Education in Bulgaria", The International Journal of Learning Annual Review 16(6):737-746.

[5] Kostova, D., (2008), "The Bulgarian educational system and evaluation of the ISCED-97 implementation", 163 – 173p.

[6] Bieri, F., Imdorf., Ch., Stoilova, R., Boyadjieva, P., "The Bulgarian educational system and gender segregation in the labour market", Pages 158-179 | Received 08 Apr 2014, Accepted 21 Dec 2015, Published online: 19 Feb 2016

[7] Boyadjieva, P. (2012) 'Higher education and rating systems of higher schools in Bulgaria: Situation, problems, and outlook (published in Bulgarian)', Bulgarian Journal of Science and Education Policy 6: 5–84.

[8] Anthony, M., "Cognitive Development in 11-13 Year Olds. Children become increasingly competent at adult-style thinking during the "tween" years." https://www.scholastic.com/parents/family-life/creativity-and-critical-thinking/development-milestones/cognitive-development-11-13-year-olds.html, 2015 (accessed 15.05.15)

[9] Methodology for studying of students' satisfaction with the quality of education, Dimitar A. Tsenov Academy of Economics, https://wwwold.unisvishtov.bg/app/quality/CKO_DOCUMENTS/Metodologia_IAOKU.pdf (15.06.2019).

[10] Zsheliaskova-Koynova, Zsh., Mileva, (2019), E., "STUDENTS' SATISFACTION WITH PEDAGOGY TEACHING", Trakia Journal of Sciences, Vol. 17, Suppl. 1

[11] Fischer, K. W. (1980). A theory of cognitive development: The control and construction of hierarchies of skills. Psychological Review, 87(6), 477–531. https://doi.org/10.1037/0033-295X.87.6.477
[12] Anderson, M. (1992). Intelligence and development: A cognitive theory. Blackwell Publishing.

[12] Anderson, M. (1992). Intelligence and development. A cognitive development. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved [date] from

<http://chiron.valdosta.edu/whuitt/col/cogsys/piaget.html> [14] Collins, A., (1984), "Divelpment During Middle Childhood", National Academy press, Washington,

D.C. 1984

ENGINEERING EDUCATION IN THE AGE OF TECHNOLOGY - INNOVATIVE APPROACHES FOR ACTIVE STUDENT PARTICIPATION

Monika Simeonova-Ingilizova^{1*}, Yordanka Slavcheva²

¹ Technical University of Sofia, Faculty of Engineering and Pedagogy – Sliven Department of Pedagogy and Management, e-mail: monikaingilizova@gmail.com * - corresponding author

² Technical University of Sofia, Faculty of Engineering and Pedagogy – Sliven e-mail: yotoslav@abv.bg

Abstract:

This article examines the importance of engineering education in the age of technology and presents innovative approaches to active student participation through the use of computer-aided design, modeling, and drafting software. The modern world is experiencing rapid advances in information technology, automation, and robotics, necessitating the need to update engineering education to meet new technological challenges. Through successful examples and analysis of the challenges and opportunities associated with technology in engineering education, the article aims to promote the exchange of ideas and best practices. Engineering education needs to be adapted and changed to meet the new demands of the modern world by stimulating active student participation and developing their engineering skills and competencies. The aim is to prepare future engineers for successful careers in high-tech industries and to create innovations that will contribute to the public good.

Keywords: engineering education, technological challenges, innovative approaches, computer aided design software, modelling, drawing, technological progress.

INTRODUCTION

Engineering education is a process in which students' knowledge, skills and competencies in engineering are formed and consolidated. It aims to prepare them for professional careers in engineering science and technology. Engineers occupy an important place in public life through the design, development, construction and maintenance of various systems, machines, equipment and technologies.

The education of engineering professionals is critical to the development of technology, innovation and industrial progress. It plays an important role in creating new products and services, improving living standards and solving social and environmental challenges. It plays a key role in the age of technology, where the changing technological environment requires new skills and competences from future engineers. The modern world is characterised by significant advances in information technology, automation and robotics that are changing the way engineering solutions are designed, modelled and drawn [5].

Engineering education usually includes the theoretical study of basic sciences such as mathematics, physics and chemistry, as well as specialized disciplines such as electrical engineering, mechanical engineering, chemical engineering, information technology, etc. Students are introduced to the basic principles and concepts of their field and acquire practical skills through laboratory exercises, projects and internships.

Technologies such as computer-aided design, modeling, and drafting software offer innovative approaches and tools that can enhance students' active participation and prepare them for the real-world challenges that lie ahead in engineering practice. Training engineers not only develops technical skills but also encourages analytical thinking, problem solving, creativity and a team working approach. Students



learn to analyze complex cases, design and develop innovative solutions, work in teams and communicate effectively.

The relevance of the issue at hand is multifaceted and based on several key factors:

Change of technological environment – the modern world is experiencing rapid progress in information technology, automation and robotics. These changes are affecting the way engineers work and solve problems. It is therefore essential that engineering education is updated and adapted to these new technological challenges.

Industrial needs – changes in high-tech industries require engineers to possess a wide range of skills and competencies, including proficiency in computer-aided design, modelling and drafting software tools. Engineers need to be able to create innovative solutions and products, making up-to-date consideration of technology in engineering education of the utmost importance.

Student engagement – today's students were born in the digital age and have different expectations and preferences for the learning process. Interactivity, engagement and real-world experience are becoming key factors for successful learning. The use of software tools for computer-aided design, modelling and drawing can stimulate student participation and motivation, providing them with the opportunity to apply theoretical knowledge to practical realities.

Global Competitiveness – in a global economy where technology is central, competition between countries and industries is intensifying every day. To be competitive, countries need to develop highly skilled engineers who can adapt to changing technological demands and be innovators. Engineering education based on innovative approaches and the use of modern software tools plays a key role in developing such engineers and in preparing them for future challenges.

Public good – engineering has a significant impact on society and the environment. Engineers are responsible for creating innovations that can improve the quality of life and solve social, environmental and economic problems. By introducing innovative approaches to engineering education and actively involving students in technology-related issues, new solutions can be generated that will contribute to sustainable development and the well-being of society.

All of this defines the purpose of the research, which is to encourage the education community to rethink approaches to engineering education and integrate innovative methods that prepare students for the modern challenges and opportunities provided by technology.

REVIEW OF SCIENTIFIC LITERATURE

Popular software packages used in engineering education

In engineering education there is a wide range of software packages that are used for computer aided design, modelling and drafting. Here are some examples of popular software packages that are used in engineering education:

AutoCAD – one of the most well-known and widely used software packages for computer aided design and drafting. It provides powerful tools for 2D and 3D model creation, drawing editing and project visualization.

SolidWorks is a software package that is used for computer-aided design of 3D models. It offers a wide range of tools for creating complex mechanical and electrical systems, simulating model behavior, and creating technical documentation.

CATIA is one of the leading platforms for computer-aided design and modeling in engineering. This software provides a variety of tools for creating 3D models, designing products, and collaborating in teams.

MATLAB is a powerful engineering software that is used for mathematical calculations, data analysis, simulations and modelling. It provides a rich library of functions and tools for working with numerical and graphical data.

ANSYS is an engineering analysis software package used for simulations of various physical and engineering processes. It offers simulation capabilities for structural behavior, thermal and electrical properties, dynamic responses, and other aspects of engineering design.

	Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	43
--	---	--	----

Depending on the specific needs and area of engineering, other software packages such as **Pro/ENGINEER, Autodesk Inventor, NX** and many others can also be used.

It is important to note that the choice of software depends on the specific requirements of a project. These software packages play a critical role in preparing students by providing them with the tools and skills necessary to create complex and precise engineering models. They also help students become familiar with standard processes and practices in the engineering industry and develop their problem-solving, collaboration and team communication skills.

The most popular universities in the world that use AutoCAD in the education of engineering students: [6]

Massachusetts Institute of Technology (MIT) – one of the world's most prestigious universities, offering a host of engineering programs using the engineering industry's leading design, drafting and visualisation software.

University of Texas, Austin – offers a variety of engineering programs including computer systems engineering, mechanical engineering and electrical engineering. In many of these programs, the technology tool mentioned earlier is used as a design and visualization tool.

University of Birmingham in the United Kingdom – offers multiple engineering programs including mechanical engineering, electrical engineering and civil engineering. It is also used as a design and visualization tool in many of these programs.

University of California, Los Angeles (UCLA) uses the company's Autodesk engineering drafting and design program in various engineering programs such as electrical, mechanical, and civil engineering.

University of Alabama (UA) also applies the popular software to the mechanical engineering curriculum. University faculty summarized that this improves students' skills in creating designs and schematics for mechanical systems and devices.

University of Bristol in the United Kingdom uses engineering design and visualization software in the mechanical engineering program. According to university faculty, its use facilitates the design of machines and components and improves students' ability to create technical drawings and schematics.

Delft University of Technology, The Netherlands in various engineering programs, such as civil engineering and architecture the recognized computer aided design program is applied. Students use the software to create drawings, 2D and 3D models, and to analyze engineering structures.

Stanford University, USA in various engineering programs, students have the opportunity to create 2D and 3D drawings and models, explore spatial relationships, and conduct analyses of their designs using computer software.

University of Nottingham, United Kingdom in its engineering programs, uses it as a basic drawing and design tool. Students learn various features of the software and apply them to projects in various engineering disciplines.

METHODOLOGY

A methodological approach combining qualitative and quantitative methods is used to carry out this research.

A survey of existing literature and published sources was carried out to understand the current state of attitudes towards the use of AutoCAD in the educational process of future engineers in other parts of the world and in this country.

The following is a qualitative study that includes discussion and observations with faculty and students, respectively, who actively use AutoCAD in the learning environment.

After analyzing the criteria and indicators from the observation during the learning process, with effective use of AutoCAD, the results achieved are presented.

The final step in the methodology involves the collection and analysis of quantitative data, through evaluations, which will be used to assess the impact and effectiveness of the use of the popular AutoCAD design and drafting program in the learning environment.



RESEARCH RESULTS

The study was conducted with 62 engineering students, from two consecutive classes, respectively in two consecutive academic years



In the course of their studies, students develop course assignments that gradually introduce them to the material to be learned. This creates a smooth transition of adaptation, a gradual acquisition and

Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	45
---	--	----

assimilation of new knowledge, skills and habits. Each subsequent assignment reinforces and builds on the previous one. In the work of the students, mutual assistance, teamwork, sharing the knowledge learned with each other, solving situations created in the process of work are manifested and developed. This alone can inspire gratitude, pride and respect. Some of the tasks that students perform in the course of their engineering studies are presented in Table 1:

Results of the observation.

The observation took place during the learning process considering the following criteria and indicators mentioned in Table 2:

		Table
CRITERIA	LINKS	
<i>Criterion 1:</i> Technical skills in working with AutoCAD	<i>Indicator 1:</i> Ability to create and edit 2D objects such as lines, circles, polylines and text. <i>Indicator 2:</i> Ability to use sophisticated AutoCAD tools and commands, such as basic transformations, sectioning and cropping, or adding embellishments, etc. <i>Indicator 3:</i> Compliance with specified codes and standards for design and drawings	
<i>Criterion 2:</i> Creativity and design skills	<i>Indicator 1</i> : Ability to design and create innovative and functional designs in AutoCAD. <i>Indicator 2</i> : Ability to add details, textures and colors that enhance the visual aspect of projects. <i>Indicator 3</i> : Ability to develop different options and alternative solutions for a given task.	-
Criterion 3: Collaboration, team communication when working with AutoCAD and project management	<i>Indicator 1:</i> Ability to communicate and collaborate effectively with team members while working collaboratively with AutoCAD, including exchanging CAD files, coordinating tasks, and clearly expressing ideas and requirements. <i>Indicator 2:</i> Ability to create and manage projects in AutoCAD, including file structure organization and working with templates. <i>Indicator 3:</i> Ability to track deadlines and manage time effectively when working on projects in AutoCAD.	

Figure 1 presents the results of the observation, with the impression that the students have a desire to improve their professional skills, which is why they show great interest in working with AutoCAD and make the necessary voluntary efforts to master the knowledge and apply it in practical tasks.

In the first criterion "Technical skills in working with AutoCAD" 98% of the students show quick adaptation in the learning process, create and edit 2D objects using lines, circles, polylines and text. But the ability to use sophisticated AutoCAD tools and commands by making basic transformations, sections and cropping or adding decorative elements is shown by only 74% of students. Probably the fast pace at which the educational process itself takes place influences the indicated result. 83% of students are familiar with certain design and drafting codes and standards and comply with their application.





Regarding the second criterion "Creativity and design skills", in all three indicators students show average results - 49% have the ability to design and create innovative and functional designs in AutoCAD. To add details, textures and colors that enhance the visual aspect of the designs 52% of the students can do it. And 55% of future engineers develop different options and alternative solutions for a given task. Presumably, these results are because students are in their first year and have not yet mastered all the details of AutoCAD application in a practical sense.

The third criterion "Collaboration, team communication when working with AutoCAD and project management" is extremely important for today's engineering professionals and it is gratifying that 85% of the students communicate and interact effectively with their colleagues in the team where they work together with AutoCAD, and also exchange CAD files, coordinate with them the upcoming tasks they need to complete and clearly express their ideas and needs. Significantly fewer, 61% of learners, create and manage projects in AutoCAD as well as organize file structure and work with templates. And only 43% have the ability to track deadlines and manage their time effectively when working on projects in AutoCAD. According to the researchers, students' workload and the difficulty they have balancing their university studies, professional commitments, family obligations, and other commitments are the factors for the scores obtained on indicators 2 and 3 of the third criterion.

Results of discussion with teachers

The discussion held with lecturers from universities teaching future engineers to design, model and draw with AutoCAD included the following questions and their summary answers:

1. What difficulties do students encounter when working with AutoCAD?

Students may encounter various difficulties when working with AutoCAD, especially if they are beginners or do not have sufficient experience in using this software. The reasons for the typical difficulties experienced by students, according to the tutors, are:

Complex interface – AutoCAD has an extensive interface with many tools and options. New users can often be overwhelmed by the numerous menus and tools.

Complexity of commands and instructions – some commands and instructions in AutoCAD require precise knowledge and following certain steps, which appears as a challenge for beginners.

Spatial orientation – working with 2D models requires good spatial orientation, which not all students have and have difficulty creating accurate drawings and designs.

Lack of practical experience – students who do not have the opportunity to practice regularly forget certain techniques and need to start everything over.

Известия на	Announcements of	47
Съюза на учените	Union of Scientists	$\backslash 4//$
Сливен, том 38 (1), 2023	Sliven, vol. 38 (1), 2023	\sim

Compatibility and file formats – compatibility issues and different file formats are a prerequisite for data loss or difficulties in exchanging projects.

Solving these difficulties takes time, systematic learning and practice. The right teaching style, methods, and specific resources will greatly help students overcome these challenges and become good AutoCAD professionals.

2. What psychological qualities and skills do students need to acquire professional competencies and be successful with AutoCAD?

Patience and persistence – AutoCAD training requires multiple experiences and practice before students achieve a high level of proficiency with the software. Patience and persistence are important as not everything will always come easily and quickly.

Problem thinking and creativity – the ability to analyze problems and create innovative solutions is key when working with AutoCAD. Students who are creative and can think outside the box often achieve better results.

Ability to analyse and think logically – AutoCAD requires logical thinking and analytical skills, especially when designing and solving complex problems.

Ability for self-regulation – students must organise their time effectively and work independently, especially on AutoCAD exercises and projects.

Ability to learn from mistakes – mistakes and failures are part of the learning process, which is a good opportunity for students to learn from them and make corrections.

Ability to work in a team – it is common for students to work on engineering projects in teams and it is critical that they have the ability to communicate and collaborate with others.

Ability to overcome stress – workloads and deadlines cause stress and it is important that students are able to deal with this stress constructively.

Ethical conduct – working in engineering and design requires responsibility and adherence to ethical standards that students must understand and apply.

Interest, motivation and self-motivation to improve in the engineering field – it is of utmost importance that students have an interest and motivation in the engineering field in order to fully engage in the learning process. In addition, AutoCAD training is characterized by intensity, therefore self-motivation is important for students to achieve good results.

These psychological qualities are important success factors in learning and working with AutoCAD. Combining technical and psychological aspects is key to developing competent engineering and design professionals.

3. What are the key challenges educators face when teaching students using AutoCAD?

Educators who teach AutoCAD and similar software tools may also face a number of challenges. Some of these are:

In-depth expertise – it is necessary that the teachers have a high level of knowledge and skills in the field of AutoCAD, be specialists with a wide experience in using the software and understand the details of the different versions and functionalities of AutoCAD. They must be able to solve complex problems and provide expert training and guidance to their students.

Update of training materials – the technology environment is evolving very rapidly, and educators need to constantly update their teaching materials to reflect the new capabilities of AutoCAD.

Individual approach to students – students often have different levels of knowledge, experience and skills. It is important that educators find ways to provide instruction and support tailored to the abilities and needs of each learner.

Specific tasks and projects – engineering and design education requires students to solve specific problems and create projects, which requires educators to formulate appropriate assignments with challenges for future engineers.

Preparing for work in industry – educators should not only teach students how to use AutoCAD, but also prepare them to work in a real engineering environment, including introducing them to standards and practices that are common in their fields.

Evaluation and feedback – assessing students and providing feedback on their progress is an important part of the educational process, which in turn is time consuming for teachers and requires careful evaluation.

Maintaining student motivation – Learning CAD software is a challenge that requires educators to find ways and means to keep student motivation high throughout the course of study.

Opportunities for professional development – educators should have professional development and continuing education opportunities to stay informed of the latest industry trends and practices.

Overcoming these challenges requires faculty flexibility, lifelong learning, and a commitment to the development of their students. Active communication with industry and colleagues would also help educators be successful in passing on their AutoCAD knowledge and skills.

CONCLUSION

This analysis paper examines the important role of psychological and social aspects in the education and training of students using AutoCAD. The paper highlights the following conclusions and implications:

 \succ Engineering education and the use of AutoCAD requires a complex set of skills and to successfully meet the challenges in the learning process, students need to develop both technical and psychological and social skills.

> Psychological aspects are important for effective learning and working, respectively patience, creativity, problem solving ability and motivation are psychological qualities that assist students in learning and using AutoCAD.

 \succ Social skills are also important, which is why the ability to collaborate, communicate and work in a team is integral to engineering practice and the use of AutoCAD.

> Appropriate assessment and feedback are essential, requiring lecturers to provide these to students to help them develop academically, psychologically and socially.

> Learning AutoCAD is a lifelong process, and technological advances require constant updating and refinement of students' skills as well as their psychological and social aspects.

In conclusion, the paper highlights the need for an integrated approach to AutoCAD training that incorporates technical, psychological and social aspects. Developing competitive engineers and designers requires combining these different factors to prepare competent professionals for the engineering industry.

REFERENCES

1. Vasilieva, M., Cherdintseva O., Shevchenko O., (2006), Engineering Graphics. Geometric constructions of images of spatial models: textbook, Orenburg, 104 p.

2. Kaigorodtseva N., L.M. Leonova, (2007), Engineering Graphics.Initial data of calculation and graphic works, Omsk

3. Lapteva E., Yushina S.V., (2011), Educational-methodical complex of discipline, Engineering Graphics 1, Petropavlovsk

4. Talalai P., S. Galushkin, S. Ignatyev, D. Levashov, (2010), Engineering Graphics: General rules of execution of drawings. Textbook, St. Petersburg State Mining Institute, 70 p., UDC 622:744(075.83)

5. Oluwadare J. O., V. B. Adebayo, K. O. Olowe, (2015), Assessment Of The Use Of Autocad Package For Teaching And Learning Engineering Drawing In Afe Babalola University Ado-Ekiti, International Journal of Scientific & Technology Research, volume 4, issue 09, september 2015, 321-328, issn 2277-8616

6. Fallahi, A., (2022) What CAD package do the top 10 engineering schools in the world use in 2022 https://www.think-cad.com/post/cad-package-engineering-schools-2022

Union of scientists in Bulgaria – branch Sliven

TRAINING OF SOCIAL WORKERS FOR THE APLICATION OF INFORMATION TECHNOLOGY IN SOCIAL SERVICES

Vilislav Radev^{1*}, Tanya Vazova1*

¹ University of Plovdiv "P. Hilendarski", Bulgaria, e-mail: *vradev@uni-plovdiv.bg, * - corresponding author

Abstract

The article is aimed at the development of certain knowledge and skills, mainly related to work in an electronic environment, which will contribute to improving the quality of support provided to users. The introduction and use of new technological work models is also associated with the public's expectation of better information and access to services. After researching the skills and attitudes of social workers for the application of computer technologies in social work and comparing them with certain and theoretical frameworks in this field, a comprehensive approach to the use of digital tools in the social sphere is presented and will create opportunities for acquiring competencies and skills in real-life situations and a positive attitude towards working with ICT.

Keywords: information technology, social workers, competencies, digital tools.

1. INTRODUCTION

In modern society, information technology permeates our everyday life and changes the way we function in various spheres. Social services are no exception. Nowadays, social workers need to be familiar with and trained in the application of information technology in order to cope more effectively with the challenges they face in their professional activities.

The benefits of implementing information technology in social services are numerous. First, technology can improve the efficiency and accuracy of data recording and processing. Social workers can use specialized software applications to store and manage information about their clients. This can reduce errors and ensure better timely delivery of services.

Second, information technology can improve communication and collaboration between social workers and their clients. Social networks, e-mail and video communications are just some of the tools that can be used to improve the relationship between social workers and their clients. This can help to better understand customer needs and preferences and provide better support and advice.

Third, information technology provides opportunities for more efficient management of resources and planning of social services. Specialized software systems can help social workers analyze data and make better decisions about resource allocation and workflow optimization.

Despite the benefits that the application of information technology provides in social services, the challenges along the way should not be overlooked. Some social workers may feel apprehensive and resistant to new technologies due to lack of experience or fear of job losses. Therefore, training should also include strategies to overcome these challenges, emphasizing the importance and advantages of information technology for improving the quality of social services.

The training of social workers for the application of information technologies in social services is one of the important steps towards the modernization and adaptation of the sector to modern challenges and opportunities. It is an investment in the development and progress of social services that will have a positive and long-term effect in supporting clients and society as a whole.

2. DESIGNING A COMPUTER WORD PROCESSING COURSE TO ENHANCE THE DIGITAL LITERACY OF THE SOCIAL WORKER

Information is formed in the mind as a result of the sensory perceptions and mental activity of the person. Each information process is presented using the four main information activities (Figure 1):

• collecting information;



- processing;
- storage;
- distribution



The use of computer systems to automate information activities is called information technology.

Main IT of modern society are:

- preparation of text documents (word processing);
- working with tabulated data (electronic tables);
- creating and processing graphics images (computer graph);

• preparation of presentation materials in front of wide audience from listeners (computer presentation);

- organization of large volumes of data and
- their automatic processing (bases from data);

• communication services (electronic mail, software for work groups, software for work in global networks) etc.

In the training course, social workers will get acquainted with MS Word, including creating graphic and sound objects, writing on formulas, textual effects etc. Typical for similar genus systems is the availability on means for automated doing on different references, syllabification, verification on spelling , search and replace on texts etc. Word processors packages support different ways for rendering the text on the display.

Here are some basic topics that will be studied as a basis:

2.1. STRUCTURAL UNITS OF THE TEXT

• Symbol (character) – the smallest indivisible unit involved in the construction of the text document.

- Word A sequence of characters followed by a space or punctuation mark
- Sentence one or more words ending with a punctuation mark.

- Page physical division depending on the size of the sheet to be printed
- Section several consecutive pages with the same layout
- Document set from all sections laid out on several pages

2.2. RULES WHEN ENTERING TEXT

• the Enter key is only used to mark the end of a paragraph. The editor automatically moves text to the next line when the current line is full.

• punctuation marks are entered immediately after the preceding character, and a blank space is left after them. There are also exceptions to this rule:

- \blacktriangleright the opening bracket is pasted to the next, not the previous, character;
- leave one space on both sides of the long dash;
- \blacktriangleright the short dash is pasted to both the next and the previous character;

• when typing the text, you must not allow the entry of empty lines (paragraphs consisting only of the newline character) or unnecessary spaces.

2.3. STRUCTURAL UNITS OF THE TEXT

Hard a dash - at comparative or superb degree (yes no everything considers for place for hyphenation) CTRL+SHIFT+dash (figure 2)

Symbol			? 🛛
Symbols	Special Characters		
⊆haracter	:	Shortcut key:	
-	Em Dash En Dash	Alt+Ctrl+Num - Ctrl+Num -	^
7	Nonbreaking Hyphen Optional Hyphen Em Space En Space	Ctrl+Shift+ Ctrl+-	
° © ® ž s	1/4 Em Space Nonbreaking Space Copyright Registered Trademark Section	Ctrl+Shift+Space Alt+Ctrl+C Alt+Ctrl+R Alt+Ctrl+R Alt+Ctrl+T	2
1 	Paragraph Ellipsis Single Opening Quote Single Closing Quote Double Opening Quote	Alt+Ctrl+. Ctrl+`,` Ctrl+`,' Ctrl+`,"	~
AutoCor	rect Shortcut Key		
			Insert Cancel

figure 2

Hard interval – a combination from words Yes be always together on one row CTRL+SHIFT+ space (figure 3)

ymbol			2
≨ymbols	Special Characters		
Character	:	Shortcut key:	
	Em Dash En Dash Nonbreaking Hyphen Optional Hyphen Em Space 1/4 Em Space	Alt+Ctrl+Num - Ctrl+Num - Ctrl+Shift+_ Ctrl+-	Â
•	Nonbreaking Space	Ctrl+Shift+Space	
00 ž	Copyright Registered Trademark Section Paragraph	Alt+Ctrl+R Alt+Ctrl+R Alt+Ctrl+T	
	Ellipsis Single Opening Quote Single Closing Quote Double Opening Quote	Alt+Ctri+. Ctri+`,` Ctri+`,` Ctri+`,"	~

figure 3

2.4. TEXT INPUT MODES

Insert mode (Insert) - In this mode, each typed letter is added before the cursor without deleting any of the existing text. All characters after the current cursor position are automatically shifted to the right.

Overtype Mode (Overtype) - In this mode everyone introduced sign replaces the finder everything immediately after the pointer.

2.5. EDIT TEXT IN A TEXT DOCUMENT

One of the advantages of computer word processing is that changes can be easily made to computer documents. And changes in the text documents have to be made very often. Some parts of the text must be deleted or replaced with new text, others moved, others copied and pasted elsewhere in the document (Figure 4).

The application on these operations everything called editing the text document.

Find and Replace	? 🛛
Find Reglace Go To	
Figd what:	~
More >> Reading Highlight * Find In * Find Next Ca	ncel

figure 4

MS Word word processing program enables automatic execution of certain actions related to text formatting. Their purpose is to increase the readability of the text and to comply with some aesthetic requirements. Formatting changes the characteristics of an individual element or a group of elements of the text document - a character, a paragraph, a highlighted part of the text or the entire text.

Kinds formatting:

Известия на

Съюза на учените

Сливен, том 38 (1), 2023

- Text formatting;
- Paragraph formatting;
- Page formatting;

Text formatting

Each character of the text is characterized by certain properties (characteristics). The combination of feature values is called a font. Characteristics that determine the font of a text:

- fonttype (Font);
- character size (Size);
- style (Style), which can be bold, italic, underlined (Underline);
- color (Color).



figure 5 Text <u>formating</u>

Characteristic changes are made from the Font group of buttons on the Home tab (Figure 5). Another way to set formatting is by using a dialog box called Font. (figure 6).

Fog: Adjanced		Fugt Adjunct	6		
Fort: +Rody Hondy Hendrigs Aardwark Academy	Foet style: 2000 Regular 11 Date 0 Date 10 Red Take 10 Red Take 12 Red Take 12	Charache Spacing Sgale: 100% Spacing: Name Boaton: Name Ogening for for	i v Ka C	Bri Bg: Fgets and above	8
Fort giler: girderkre style: Automatic W (nore) Media Double stelentrough Double stelentrough Double stelentrough Double stelentrough	Childrifter salter Advanced (1) Stapel cape (1) gabben	OpenType Pastures Lipstures: Nagber spoong Namber (sens: Splitic sets:	Nore Defait Defait Defait	XXXX	
harden		Previous		-Booky	
This is the body theme fort. The current doc	unent theme defense which fort will be used.	This is the body t	are fort. The surrent	document theme	defens which ford will be use

figure 6 Dialog box Font¶



For the purposes of this study, a survey of 22 questions was compiled . For its compilation, two focus groups of a total of 8 experts were held. The questionnaires are attached on paper and are filled in by employees, users and experts working in the field of social services. When filling out the surveys, the participants indicated the need for training courses to build digital competencies when working with text documents, necessary for the effective performance of the work.

The data on the required competencies have been collected by the best performers, by experts in the field of long-term care (specialists from municipalities working on projects and providing such services, managers who supervise the work of employees in private organizations, specialists performing similar activities in foundations working in homes for the elderly, elderly, disabled and children) and users who are provided with this type of service:

57 people working in the position of "Social worker";

12 – specialists from municipalities;

9 - managers who supervise the work of employees in private organizations;

5 – specialists performing similar activities in foundations;

10 – working in homes for the elderly, people with disabilities and children;

46 – users of the services.

Surveys collected significant data quickly and easily. In order to encourage candid responses, surveys are anonymous. They are filled in at a time and place convenient for employees, users and experts and are handed over to the work team that analyzes the received data.

The data were processed on SPSS, and the level of significance of the use of digital skills by type of respondent was calculated. Competencies with an average score between 4.00 and 5.00 are considered to be of high importance.

Data on the average grades for the conducted research

- For employees 4.7
- For users -4.6
- For the experts 4.9

The research shows that the competencies related to improving the digital skills of employees are defined as significant, with an average rating of 4.73. These are competencies that are related to both information processing, communication, content creation and safety, as well as technical and organizational security when working in a digital environment.

4. CONCLUSION

The research conducted and the findings on it testify to the need to improve key digital competencies of social workers. They are dictated and imposed both by changes in the development of information technologies, the digitization of processes related to the provision of social services and the use of digital devices in everyday life.

The analysis suggests that if social workers improve their digital competences, the level of services offered will be increased, and consumers will receive a better quality service. The proposed course will provide social workers with the skills and knowledge to work more easily, quickly and efficiently in the processing of documents and the creation of electronic records of users (clients).

There is a positive emotional attitude towards computer games in a mathematics class to consolidate the acquired knowledge of recognizing the geometric figure triangle in the third grade, impressing the relatively small proportion of negative responses. 1. V. Terzieva, P. Kademova-Katsarova, MODERN ICT BASED METHODS OF TRAINING, 6th National Conference "Education in the Information Society", 2013

2. E. Todorova, St. Aneva, T. Terzieva, FORMATION OF REFLECTION IN COMPUTER EDUCATION THROUGH THE APPLICATION OF AN ADAPTED ALACT MODEL, Anniversary International Scientific Conference "Synergy and Reflection in Mathematics Education", October 16-18, 2020, Pamporovo, Bulgaria 311th Anniversary International Scientific Conference "Synergetics and Reflection in Mathematics Education", 16-18 October 2020, Pamporovo, Bulgaria

3. K. Garov, St. Aneva, G. Stoitsov, E. Todorova, D. Danailov, Information technologies for 9th grade, Izkustva publishing house, 2021

4. G. Stoitsov and G. Stoitsova, "Virtual Instrument for Supporting the Education in Primary School", National Scientific Conference Education and science - for personal and social development, pp 75-84, 2017.



STRESS MANAGEMNET AMONG PEDAGOGIGAL SPECIALIST, AS PART OF THE MANAGEMENT OF EDUCATIONAL INSTITUTION

Margarita Teneva*, Ivanna Hristova, Ivan Petrov

Centre for Personal Development and Qualifications, Faculty of engineering and pedagogy Sliven, Technical University – Sofia, Bulgaria e-mail: margaritateneva@abv.bg, * - corresponding author e-mail: as.ivanna.hristova@gmail.com e-mail: Aladina@abv.bg

Abstract

In the last decades a steady trend towards an increase in the level of stress in the socionomic professions, including the teaching profession, has been observed. There is also an increase in its most severe form – burnout syndrome. Effective strategies are being actively sought on a global scale and a number of good practices are already in place. The article presents results of research on stress levels and risk of professional burnout, conducted in 2023 amongst 91 teachers form the town of Sliven. Based on the obtained results and conclusions, specific measures and mechanisms for managing stress in educational institutions are proposed.

Keywords: Stress, teachers, levels, factors

1.INTRODUCTION

In 1996, the World Health Organization prepared an analysis of populations health needs, reaching the conclusion that in 2020 depression and anxiety resulting from stress related to work, will be highly prevalent, second only to ischemic heart disease [3]. Today's fast-paced and dynamic daily life confirms these predictions, putting stress resistance of the personality to the test. Scientific researches show that teaching profession has high level of stress and the percentage of professional burnout syndrome is above the average level compared to other professions. 46% of US teachers report very high levels of stress. According to SNF study among Swiss teachers from fifth to ninth grade, around a third of teachers feel "very stressed" [1].

These results are disturbing because the high level of stress among teaching professionals has multidirectional effects. The main ones are:

1. Economic – according to WHO data, losses to the world economy are estimated at US \$1 trillion, as a result of reduced work capacity and absence from workplace, due to a state of depression and anxiety [4].

2. Educational – Stress related emotional exhaustion, which is an initial symptom of burnout, negatively affects teachers' behavior respectively students' learning motivation and achievement [2].

3. Personal – the price, measured in health, paid by anyone exposed to stress over an extended period of time.

2. PURPOSE AND TOOLS OF THE STUDY

The article presents the results of a study conducted in 2023 among 142 participants. The aim is to determine the levels of stress, the risk of burnout syndrome among pedagogical specialists, as well as the main stressogenic factors in the workplace, on the basis of which to derive recommendations for more effective stress management.

Stress level is surveyed using a questionnaire (S.Ivanov) that contains 29 statements to which respondents must answer "Yes" or "No" whether the statements are valid for them, in the light of the psst 12 months. The allegations cover both personal and professional life. The study involved 91 pedagogical

specialists from the city of Sliven, with professional experience from 1 to 41 years, from primary and junior high school stages of education.

To study the risk of professional burnout syndrome, the questionnaire "Professional burnout" (N. Vodopyanova and E. Starchenkova) was used. The methodology was developed on the basis of the three-factor model of K. Maslach and S. Jackson. The questionnaire contains 22 statements about feelings and experiences related to professional activity. Responses are scored on a 7-point measurement scale and range from "never" (0 point) to "always" (6 point). The questionnaire consists of three subscales: "emotional exhaustion", "depersonalization" and "professional achievements". During the study, participants were given explanations about the manifestations of each subscale, then

were asked to self-assess and indicate which subscale they considered to have elevated levels. The purpose of this step is to establish the degree of correspondence between the results obtained from the test and those from the self-report of the respondents.

The study included 51 teachers from the city of Sliven with professional experience from 1 to 40 years, from elementary and junior high schools. The average age of the participants is 48 years, with the youngest being 25 and the oldest being 64.

The identification of the main stressogenic factors at the workplace was carried out by surveying 91 pedagogical specialists through a specially developed for this purpose card.

3. RESULT ANALYSIS

The survey, regarding stress levels, established high levels of stress among the respondents. More than half of the study participants (56.04%) have high levels of stress, 38.46% have medium levels of stress and only 5.49% have low levels of stress (fig.1).



The analysis of the risk of burnout syndrome shows that 35% of the surveyed teachers have a low risk of burnout syndrome, 41% have an average degree of risk, 18% are with a high and only 6% with an extremely high risk of developing professional burnout (fig.2). There is no direct relationship between seniority and the risk of developing burnout syndrome, but it is noticeable that there is a tendency to increase the risk of burnout syndrome after 10 years of work experience. Pedagogical specialists with experience of up to 1 year demonstrate interesting results. They have elevated results, both on the integral indicator and on the subscales. The initial stage of professional realization is associated with adaptation and inevitable tension, which should not be interpreted as a high risk of burnout syndrome.



The analysis of the results on the subscales: emotional exhaustion, depersonalization and professional effectiveness (motivation) are illustrated in fig.3.

Regarding the emotional exhaustion scale, which is characterized by the depletion of emotional and energy resources, 50% of the respondents have low levels, 26% with medium levels and 24% with high and very high levels.

Depersonalization or the so-called personal detachment, which manifests itself through increased irritability and intolerance in communication situations, has high values in 16% and very high values in 8% of the examined.

A reduction in personal achievements (professional motivation) in high values is observed again in 16% of the respondents, and an extreme feeling of own insolvency and indifference to work in only 6% of the respondents.



The comparative analysis of the results obtained from the test and those from the self-assessment of the pedagogical specialists shows that only 39% correctly assessed their condition and the risk of burnout syndrome. The conclusion should be drawn from this that it is necessary to increase knowledge, among specialists, about the risk factors, signals and symptoms of professional burnout.

The analysis of the results of the survey revealed the presence of 10 dominant stressors (fig.4). The leading ones stand out: discipline and low motivation among students, communication with parents, the

	Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	59
--	---	--	----

legal framework and documentation. These results correspond to the results of the national survey conducted in 2019. [6]



Fig. 4

1.	Students	Discipline, lack of study motivation	26,23%
2.	Parents	Conflicts with parents, indifference for own children	22,95%
3.	Documentation	Regulations and frequent regulatory changes	18,85%
4.	Coworkers	Communication and conflicts with coworkers	8,2%
5.	Short deadlines	Shortage of time to deal with some obligations	4,92%
6.	Management	Communication with upper management and RUO	3,28%
7.	Noise	Classroom noise	3,28%
8.	Additional	Additional work tasks	3,28%
	obligations		
9.	Audits		1,64%
10.	Others	Stressors dependent on personality characteristics	7.358%

Table 1 Severity in percentages and content of stressogenic factors

4. CONCLUSIONS AND RECCOMENDATIONS

- 1. The majority (56.04%) of pedagogical specialists have high stress levels.
- 2. The risk of burnout syndrome is at average level.
- 3. The trend among the leading profession stressors persists.

The conclusions of the conducted research, as well as of other national and international studies, regarding stress levels, bring to the fore the necessity of developing a national strategy for the prevention and overcoming work related stress. First of all, regular tests should be conducted in order to establish stress levels and the risk of developing burnout syndrome. Despite the consistent policy, in recent years, of increasing the income and prestige of teaching profession, additional stress prevention measures could be taken. Easier access or preferential conditions for recreational health services, as part of the KTD, would be a step in the right direction. In addition to the necessary political and regulatory changes, it is responsibility of each director to ensure the necessary material and technical base and a suitable working climate for his employees. The functioning of any organization, including educational institutions, requires good management. Weihrich and Koontz define management as process of creating and maintaining an environment within which individuals work in groups and effectively achieve set goals[**5**].

ISSN: 1311 2864, volume 38 (1), 2023 Union of scientists in Bulgaria – branch Sliven



Известия на Съюза на учените Сливен, том 38 (1), 2023

And while the main goal of any enterprise is profit maximization, that of educational institutions, especially schools, is to provide high-quality education and well-prepared personnel. In order to achieve these goals, in addition to the professional training of teachers, the good physical and mental condition of pedagogical specialists is also an important aspect. It is necessary to monitor stress levels at the local level as well. This would support the activity of directors in ensuring high quality of educational services. If necessary, training for pedagogical specialists on overcoming stress at the workplace can be arranged. And last but not least are the responsibilities of the teachers themselves. The essence of the profession requires continuous development of the professional and personal abilities of teachers. This necessitates the need to increase the qualification and along with educational courses, teachers should also plan trainings to increase their emotional intelligence.

REFERENCES

[1]Alexander Wettstein, Sandra Schneider, Martin grosse Holtforth and Roberto La Marca. "Teacher Stress: A Psychobiological Approach to Stressful Interactions in the Classroom." *Frontiers in education* 6, no. 6 (09 2021): 1.

[2] Klusmann, U., Richter, D., & Lüdtke, O. "Teachers' emotional exhaustion is negatively related to students' achievement: Evidence from a large-scale assessment study." *Journal of Educational Psychology*, 108, no. 8 (2016): 1193–1203.

[3] Murray, Christopher J. L.Lopez, Alan D.World Health Organization World Bank Harvard School of Public Health. "*The Global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020: summary / edited by Christopher J. L. Murray, Alan D. Lopez*". Geneva: World Health Organization, 1996.

[4] Organisation, World Health. WHO guidelines on mental health at work. Geneva: World Health Organisation, 2022.

[5] Weihrich, H., Koontz, H. Management. New York: McGraw-Hill, 1993.

[6] Yanakiev, Yuriy. "Diagnosys of burnout syndrome among pedagogigal specialists. Strategies for dealing with chronic work related stress." *Pedagogy*, 2020: 1181.

Georgieva-Hristozova V.

Dept. of Preschool and Primary School Education, Faculty of Education, Trakia University – Stara Zagora, Bulgaria, e-mail: violeta.georgieva@trakia-uni.bg

Abstract

The current theoretical framework is a concise reflection focused on the analysis and the description on the examination the attractiveness of voice assistants among university students majoring in pedagogical disciplines and their incorporation into educational self-preparation. The primary objective of that article is to introduce the scientific community to the topic of voice assistants, thus enriching the existing knowledge in the pedagogical domain. Additionally, the paper aims to show the underutilization of voice assistants by Bulgarian higher education students in their academic self-preparation. The research employs theoretical analyses and a concise questionnaire, acknowledging its limited representativeness, but aiming to make available insights into Bulgarian university students' attitudes, approaches, and willingness to engage with voice assistants in the context of university didactic. The author's viewpoint does not dismiss classical education and pedagogical traditions but performs a novel inspiration of enriching, support and, inspiring today's learners in the present post-digital age.

Keywords: voice assistants, university didactics, university students, pedagogy, education.

1. INTRODUCTION

In our contemporary world, human daily life is becoming increasingly dynamic, and technological assistance is becoming an essential part of it. In well developed societies, human everyday routines are decorated with numerous basic and trivial tasks that could be performed by an assistant, reminding and organizing these stereotypical activities. Voice assistants (VAs) have the potential to aid individuals in managing a significant portion of their time. These capabilities broadly encompass resolving a series of necessary but automatic actions, which may seem ordinary at first glance, yes demand attention and time. When individuals are disengaged from such routine tasks, they tend to have more time for creativity and personal advance.

For instance, driving is now assisted by VAs that shows the way and provides voice instructions whenever needed, whether from the phone or the car's built-in system. Other examples include organizing shopping lists, scheduling appointments with doctors, hairstylists, meetings with friends and family members, as well as personal celebrations, anniversaries, and others. Additionally, VAs may be helpful in supporting household maintenance, such as controlling lighting, washing machines, cleaning systems, and even locking the house/cars, among various others.

Among adults, VAs replace radios, while among children, they serve as companions for conversations when parents do not have the time and willingness to answer the same questions repeatedly. Moreover, individuals feel at ease expressing anything to the VAs that they might not be comfortable sharing with another person, depending on their emotional state – such as grievances, secrets, and other personal matters.

Education is a traditional field, but it also adheres to and adapts to the dynamics of societal reconstruction. Do VAs have place in university didactics, and do they offer assisting pedagogical process opportunities?

2. METHODS

Technologically adorned societies and the existing technological orientation of today's learners suggests novel thoughts for theoretical analyses and underscores the necessity for empirical research to investigate the relationship between "pedagogy" and "artificial intelligence-based Vas". A concise



theoretical review of the literature dedicated to the issue of VAs has been conducted, and a brief questionnaire was administrated among students. The questionnaire does not claim to be representative but provides insights into the attitudes and preferences of current university students regarding the use of voice assistants in university didactics.

3. MAIN RESULTS AND DISCUSSIONS

VAs are digital applications and devices that, through language models, are activated by commands in human speech and respond to those commands with human-like voice. They are industrial by key companies such as Google, Amazon, and others. Some of them include Amazon Alexa, Apple Siri, Google Assistant, Microsoft Cortana, Samsung Bixby, Celia, Socratic, Huawei HiVoice, among others. Cars manufactured in recent years also have built-in voice assistant systems, such as Hey, Mercedes.

The issue of VAs has been examined since the earliest days of cybernetics and information technologies, marketing, but over the last few years, it has also become of interest to the educational scientific community. The integration of VAs into the educational process makes them so-called teaching assistant, which "serve as a voice-enable helper capable of answering course-specific questions concerning curriculum" [1]. Thinking about the pedagogical interaction and communication, VAs have "transformative potential in revolutionizing contact" [2]. In recent years, they have been considered as new "educational tools...in different levels of education" [3]. The influence of VAs is being studied in preschool age [4], in the classroom [5], also VAs "can provide a fresh voice in the classroom by stating facts, telling stories, and presenting a new perspective" [6]. There is also an interest in studying in higher education [7]. VAs are indeed used to assist in the pedagogical activities with children with special educational needs [8]. The perception of VAs by digital natives and generation Z, is also being studied [9, 10]. An attempt was made to examine the usage and interest in VAs in self-preparation among Bulgarian students styling pedagogical specialties in higher education. A concise survey was conducted, acknowledging its limited representativeness but aimed to obtaining general insights into higher education students' attitudes towards an interest in using VAs for academic self-preparation in higher education. The data presented in Figure 1 reveals that 33% of the respondents are familiar with VAs. Among them, 7% report actively using VAs in their academic self-preparation, indicating a small yet notable group already embracing these technologies for educational purposes.



Fig. 1. Attitudes of Respondents towards VAs and Their Academic Self-Preparation

The low usage may be due to the fact that most of the **VAs are not available in the Bulgarian language**, which is likely the primary reason they are not widely used by Bulgarian students. It is also unclear what proportion of users utilize them for educational purposes, or if they are primarily used for entertainment and leisure activities. This aspect could be better assessed in another research.

Moreover, **60% of the respondents express a keen interest in learning how to effectively integrate VAs into their pedagogical practices for self-preparation**. This indicates a sustainable curiosity and enthusiasm towards incorporating VAs into the educational process, although some individuals may require guidance on how to integrate their usage. The most remarkable trend is the desire of students to be proficient in using VAs for their academic self-preparation and assistance in academia. However, this result could be interpreted as unsatisfactory given that the respondents belong to digital initiated generations, and their proportion should be much higher. The finding raise additional scientific question and provide directions for further theoretical and empirical research.

As VAs alleviate the stress of modern-day life for contemporary individuals, can they also facilitate the learning process for modern learners? The central issue under discussion is whether VAs have role in university didactics and whether they provide opportunities for assisting in the pedagogical process.

In order to attempt to answer this fundamental question (without claiming completeness in its satisfaction), we could start by identifying the perceived strengths and weaknesses of VAs, considering their incorporation into the educational process in education. Based on the theoretical review of specialized literature on the issue of VAs and the author's pedagogical experience and analyses, the following educational opportunities and barriers can be identified in the utilization of VAs in university didactics, without claiming the list to be exhaustive – fig. 2.



Fig.2. VAs' Educational Pros & Cons

The **educational opportunities of VAs** are linked to reading and writing proficiency, language enrichment, word knowledge development, easy access to learning applications, resources and material, translation services, which helps learning different language, increasing the motivation of learning caused by the interactive character of the VAs. They also help in verification of information authenticity and

fact-checking, aid in educational self-study, and others. **The educational obstructions of VAs** may be dehumanized interaction in the learning process, lack of emotional connection between the learner and the educational source, hindrance to critical analysis and constraint to creative ideas, and others.

4. CONCLUSIONS

In conclusion, the following can be drawn:

- A considerable number of **Bulgarian students are familiar with the essence of VAs**, **but they do not use them in their academic self-preparation due to various possible reasons**, such as the lack of support for the Bulgarian language or the absence of clear algorithm for effective academic practice with them.

- Further research is needed to identify the role of VAs in supporting the pedagogical process in higher education through observation, discussions with students and educators, experiments, and other methods. Clarifying their inclusion in modern education within the post-digital context of today, considering the learning styles of contemporary students, opens possibilities for incorporating VAs in students' theoretical preparation and academic practices.

When evaluating the strengths and weaknesses of VAs in pedagogical context, they should not be compared directly, but rather critically analyzed. In the pedagogical environment, emphasis should be placed on enhancing and developing the strengths, while recognizing the weaknesses and seeking ways to prevent the development of destructive learning practices.

The place of VAs in education should only **complement traditional education as an attractive educational tool** to increase students' motivation for learning, facilitate access to reliable and highquality academic information and support students' preparation.

We acknowledge that society is dynamic and evolving, and modern students require new styles of learning. However, it should not be forgotten that learning is not entertainment but hard work that is effective only through conscious and organized efforts and nothing can replace the role of the educators and their qualities, pro-social attitude, pedagogical expertise, and mastery.

REFERENCES

[1] Sajja R, Sermet Y, Cwiertny D, Demir I., (2023), Platform-Independent and Curriculum-Oriented Intelligent Assistant for Higher Education, https://arxiv.org/abs/2302.09294 (accessed 05.08.23).

[2] Gabriel Dr. T. Malathi, Kumar H. P., Mathew B. P., Rajkumar M., (2022), *Voice Assistance-Future of Contact*, Royal Book Publishing.

[3] Tsourakas T., Terzopoulos T., Goumas S., (2021), Educational use of Voice Assistants and Smart Speakers, *Journal of Engineering Science and Technology Review*, **14** (**4**), 1-9.

[4] Oranc C., Ruggeri A., (2021), Alexa, let me ask you something different. Children's adaptive information search with voice assistants. *Human Behaviour and Emerging Technologies*, **3** (4), 461-644.

[5] Dousay T. A., Hall C., (2018), Alexa, tell me about using a virtual assistant in the classroom. *Proceedings of EdMedia* + *Innovative Learning*, 1413-1419.

[6] Machajewski S., (2018), Using Amazon Alexa as a Classroom Teaching Assistant, *Blackboard Blog*, https://blog.blackboard.com/using-amazon-alexa-as-a-classroom-teaching-assistant/ (accessed 05.08.23).

[7] Sharma S., Singh G., (2021), Comparison of Voice Based Virtual Assistants fostering Indian Higher Education – A Technical Perspective, *International Conference on Technological Advancements and Innovations (ICTAI)*, 162-167.

[8] Weir A., Panesar-Aguilar, S., (2022), Using Alexa to Differentiate Instruction in the Special Education Classroom, *International Journal of Multidisciplinary Research and Analysis*, **5**

Известия на	Announcements of	
Съюза на учените	Union of Scientists	65
Сливен, том 38 (1), 2023	Sliven, vol. 38 (1), 2023	
		v

[9] Mittal M., Manocha S., (2022), Alexa! Examine privacy perception and acceptance of voice-based artificial intelligence among digital natives, *Journal of Information and Optimization Sciences*, **43** (7), 1679-1692.

[10] Dogra P., Kaushal A., (2021), An Investigation of Indian Generation Z Adoption of the Voice-Based Assistants (VBA), *Journal of Promotion Management*, 27 (5), 673-696



CHALLENGES FOR EDUCATION IN A CHANGING DIGITAL SOCIETY

Krasimir Kostov

Faculty of Education Studies and the Arts, Sofia University "St. Kliment Ohridski", Bulgaria, e-mail: savkov@uni-sofia.bg

Abstract

The article presents the current environment in which various digital technologies are increasingly being used in both public life and education. Digitalization leads to the need for educational institutions to adapt to new changes by using modern methods and technologies, thanks to which young people can achieve the necessary educational level for life in a digital environment. In such a virtual space, society is increasingly asking questions related to the cause-effect relationships between familiar existence and the challenges resulting from the new digital use of various digital technologies.

Keywords: digitalization, educational technologies, generative artificial intelligence, innovation methods, digital technologies

INTRODUCTION

The modern environment is filled with many changes that are the result of the rapid development of digital technologies. These innovations are changing the way we live, learn and teach and this, in turn, is leading to changes in both public life and education. Adaptation is therefore necessary, affecting both the individual, with the need to acquire new competences, and society, and in particular education, which prepares the younger generation for the challenges of tomorrow.

The aim of the paper is to analyze the challenges facing education in the new environment of rapidly evolving digitalization in societal activities, and to synthesize ideas for possible solutions without claiming to be exhaustive. The tasks are aimed at explaining and reviewing the current state of education in a setting of digitalization in all spheres of society, as well as highlighting the possible challenges that arise in education that uses new technologies as didactic tools. The method of analysis of the available literature is used, synthesizing ideas about the advantages and disadvantages of teaching methods and technologies in the increasing digitalization in the public services. Some theoretical and practical issues related to supporting educators in teaching in a predominantly information environment are brought to the fore.

The epidemic environment that was created by COVID-19 accelerated the use of new technologies as a means to enable multiple activities to be carried out remotely. New solutions had to be sought to meet the isolation needs of the population. This has created a need for students to move to a remote interaction environment, which has highlighted the importance of the accelerated development of the communication technologies used. Various methods, tools and practices were introduced and used to hold the attention and interest of learners, with new issues related to motivation for learning emerging.

EXPOSITION

The transition from traditional face-to-face to distance learning has presented the education system with many challenges. Achieving the desired results was therefore linked to setting goals that responded to the new circumstances of digitisation of public services.

Good practices were discussed and presented in the public domain to be used and incorporated by teachers and educators in the learning process. J. Fiona and L. Handley from the University of Brighton, UK, in their article on "Developing digital skills and literacy in UK higher education: recent developments and a case study of the Digital Skills Framework at the University of Brighton, UK", present a study carried out in this direction. It examines the use of digital competences in UK higher education, highlighting various national initiatives. These focus on the acquisition of digital skills by students in order to increase the effectiveness of learning, which also allows for adaptation to changing

career conditions. The authors emphasise the need to incorporate innovative methods and technologies into the curriculum and the acquisition of digital competences by academic staff. They note not only the positive aspects, but also highlight various obstacles and difficulties that result from the institutional changes introduced. Despite administrative difficulties, many technologies are being improved and provide opportunities for their use in practice. Through them, people learn and work, and secondary and higher education institutions try to adapt, ensuring that pupils and students receive a modern and competitive education. This puts pressure on learning institutions and the need to incorporate a variety of innovative practices in learning related to new technological challenges [9]. For example, the use of online learning platforms, virtual and mixed reality, artificial intelligence and other advanced technologies that can improve the efficiency of the educational process and prepare students for future challenges in the world of new technological transformations.

Известия на

Съюза на учените

Сливен, том 38 (1), 2023

In response to the changes, the University of Brighton is developing a Digital Skills Framework, encouraging academic staff to develop digital competencies. The project has been initiated against commitments to digital transformation, with a focus on developing the skills required to work in a digital environment. The framework "consisting of 38 literacies divided into four categories: Learning and Teaching, Research, Communication and Collaboration, and Administration" [9].

The "digital divide between the haves and have-nots" has grown from the fact that technological progress is creating an imbalance between generations as older people feel unprepared to use the new technologies that emerge after their training [7]. This can lead to insecurity and missed opportunities for professional and personal development. Therefore, it is important that educational institutions provide opportunities for both the younger generation and older people to acquire the necessary competences. This can be achieved through the use of new teacher training programmes and methods as well as the development of online educational resources. Providing access to technology and learning materials is essential for the successful functioning of educational institutions, and it is important to focus on the development of key competences needed to adapt to modern changes. In addition, innovative educational technologies can be used to improve the educational process, and all students and teachers should have the necessary didactic tools such as digitised technologies, computers, internet connection, software, educational resources, etc.

For the effective use of digital technologies in the learning process, digital training is needed for both students and educators, which is aimed at learning new methods and approaches to be used for educational purposes. This includes skills such as handling various web-based tools and software applications, developing online lessons and materials, working with interactive whiteboards, etc. In order to achieve this, academic staff need to be aware of the latest trends and developments in innovation for education, as well as being trained to use these technologies in an effective way. In addition, they need to understand what the students' needs are and "be able to create a positive emotional background", as well as be able to support them in the learning process using appropriate methods, approaches, tools and technologies [6]. To this end, educational institutions and government bodies must provide teachers with the necessary resources and training tools to enable them to develop their skills and competencies in the field of technology for education. Measures should also be taken to attract and retain talented teachers in schools who are willing to commit to the development of digital education.

Various services based on new digital technologies such as Kahoot, Particify, Quizizz, AhaSlides, etc., have started to be introduced in training, with the aim of increasing learner interest. Moodle, Google Classroom, Microsoft Teams are other online platforms that provide the ability to create, store and use digitized educational resources, and along with that, allow distance learning. Recently, there has also been talk about the use of ChatGPT, which is based on machine learning, which is currently the most popular technology in the field of artificial intelligence (AI) **[8]**. It can be used for a variety of purposes, including information retrieval, by analyzing a large amount of data that resides on the web to provide answers to the questions asked. In addition, it can offer a large number of design options for different products, images, music, and text, which can be used by learners to solve the given learning tasks.



Известия на Съюза на учените Сливен, том 38 (1), 2023

RESULTS AND DISCUSSION

Following the changes that have arisen from COVID-19 related to isolation, which is considered a major "contributing factor to student attrition, particularly at the master's degree level." More and more academic institutions are introducing new technologies as a didactic tool in the learning process in order to "limit the effects of social isolation and promote social integration in the academic community" [1]. Thus, changes are emerging in society that will be triggered by the introduction of generative artificial intelligence. The advent of language models such as ChatGPT provide the ability to generate content not only on set questions but also enable the performance of set tasks, including educational ones. Such tools need to be used very carefully, and their application can be incorporated into both primary school and vocational training

It is necessary to emphasize that the role of AI is not to replace the teacher in school, but to be used as a tool to support the learning process by correcting spelling, punctuation and grammatical errors in the primary and high school stages of education. Also, the benefits can be targeted at children with special educational needs to assist them in understanding text, with generative artificial intelligence translating foreign languages into spoken language. It can be used to explain parts of the text (for younger pupils), and for older pupils it is possible to generate questions to the content and have pupils attempt to answer and reflect on them, and then compare their answers with the suggestions provided by the AI. In this way, they will develop their critical thinking as well as practise drawing analytical conclusions and then synthesising the information into generalisations that address the specific task at hand.

All of this can benefit students if they do not resort to the ability of artificial intelligence to generate textual content that is directly related to solving the problems set by the teacher. This is because when students have difficulty with these tasks, it is possible for them to take advantage of the generative problemsolving capabilities of AI models without working independently. This is a disadvantage that is difficult to overcome because it is virtually impossible to distinguish between text constructed by self-learning systems and text that is independently written by the student. However, language models are primarily a tool that can be useful to both teachers and students, through their ability to demonstrate, step by step, the solution to a specific problem, and in a coherent and logical order, can explain and provide examples to illustrate the solution to the problem.

Due to the specific nature of higher education, it is necessary to pay particular attention to the use of AI. In general, the benefit is focused on personalized learning, which is difficult to implement in a school or university environment. Individual work can be oriented towards analysing a completed assignment, highlighting strengths and weaknesses, and what to focus on to improve the work for the next assignment. This can be achieved by having "students write queries in ChatGPT and use the Regenerate response feature to consider alternative answers" to expand the realm of possible solutions, thus deepening their knowledge [8]. Such work allows to progress according to the individual learners' abilities, as each individual has his/her own specificity of learning content, which is difficult to accomplish in traditional teaching.

Another example of the use of AI in higher education relates to the capabilities of generative AI to create structured content on a given topic and reference list. Thus, educators can see sample models for developing an entire course, rejecting or accepting elements they want to emphasize in their teaching. Also, ChatGPT and other similar models are capable of generating assignments with questions to them, and can engage in individual discussions, in self-paced preparation, which more or less predisposes students as they feel more at ease asking questions in such an environment. This is difficult to do in a traditional face-toface setting because many of them are embarrassed about looking foolish in the eyes of other colleagues.

The emergence of generative artificial models in public services has sparked much discussion related to both the positive impact and the possible negative outcomes of their use. Providing easy access to ready-made information as well as demonstrating ready-made solutions is a prerequisite for undermining critical thinking and loss of self-assessment and subjectivity in choosing a particular solution. Yes, the likelihood of a high likelihood ratio for the options presented is a very tempting possibility for anyone. But don't errors provide us with options for a variety of possible options that would be applicable in one case or another, depending on the indirect factors of influence? While AI-generated responses are, primarily, patterns that are selected from a set of, already known, options, the one presented has the highest probability of possibility, and if it has produced a result, by this point, that choice is already established and repeated many times. All this would create a matrix and predictability devoid of chance, and history shows us that most discoveries have come about due to careless mistakes made by researchers. So, the frequent use of generative artificial models to create content can lead to the deterioration of individual decision-making abilities.

The paper, entitled "Using Kahoot as a Game-Based Learning Medium as a Form of Learning Variation", explores the possibilities of using games in the learning process, finding that innovative programs can be useful for learners [3]. The introduction of new technologies in education can have many positive effects on the learning and development of students and learners, with the creation of online materials that can be accessed at any time and from any location being an opportunity that is highly valued by all. Through them, learners can improve their knowledge and acquire communication and collaboration skills, and by creating more engaging and interactive lessons, greater flexibility and individualisation of learning is provided.

Not only innovative technological solutions are used, but also new approaches of thinking to cope with the challenges of the present and the future. One way to achieve this is to promote design thinking in the education system, aiming to generate useful and practical ideas to solve real problems in education. This does not preclude the traditional epistemology of science, but design thinking enables a constructive approach to problem solving and to achieving various educational goals [4]. As increasing effectiveness in learning is essential for the development of students' behavior and creativity. In this regard, Wave Education Design (WED) is a very successful and well-liked learning method that uses interactive platforms to practice programs, consultative and interactive practice. It is important to note that although the tasks to be completed are related to formal assessments, the main objective should be focused on providing feedback. Through this, learners will understand their level of progress and how their test results relate to the specific knowledge and skills they are expected to acquire [5].

These are some of the issues related to the use of neural networks, and society must approach the new challenges responsibly, especially when introducing them into the education system. Innovative solutions have their place in the learning process, making it more exciting and engaging. The need to engage the attention of both pupils and students is an issue that excites many contemporary researchers, with various good practices increasingly finding their supporters. For example, online learning platforms such as Moodle and Google Classroom can be used to create, store and present learning materials and assignments. These platforms provide pupils and students with the opportunity to learn and communicate in real time, which contributes to their better mastery of learning content and the development of collaborative skills.

"New technologies are no longer new" and if online communication and participation in "participating in virtual activities was new in the 1990s", the new generation is so used to digital technological tools that they take them for granted [2]. Therefore, instead of trying how to avoid the new challenges associated with innovation, it is necessary to develop our competences that allow us to adapt to the rapidly changing social reality. This gives us reason to pay attention to existing good practices and to those that can be changed and seen as new. When something new is used for the first time, in most cases, people resort to familiar old practices and through creativity modify and transform them into something new that has improved functional capabilities. Thus, in practice, the established old becomes an innovation that has an extended application and is considered an innovation.



CONCLUSION

Society is in a phase of change that is brought about by the use of generative artificial models. They are reshaping the face of public activities related to content creation, whether verbal or visual, which raises questions for both public and educational institutions.

These patterns resemble human thought activity, but it is still an exaggeration to claim that they are about intelligence, because their power lies in their fast processing of information and their ability to access this global information. Self-learning systems are a tool that is based on algorithmic processing and attempts to predict a certain outcome that is comparable to a similar pattern that already exists, and then for each similar question or task, they respond against the already validated and presented, previously, outcome. This is not intelligence, as it lacks the creative impulse that allows people to be creative in their activity, i.e. - creators.

REFERENCES

[1] Ali, A., & Smith, D., (2015), Comparing social isolation effects on students' attrition in online versus face-to-face courses in computer literacy. Issues in Informing Science and Information Technology, 12, 11-20. Retrieved from http://iisit.org/Vol12/IISITv12p011-020Ali1784.pdf

[2] Barton, D., & Lee, C., (2013), Language online: Investigating digital texts and practices. London, UK: Routledge.

[3] Bunyamin, A. C., Juita, D. R., & Syalsiah, N., (2020), Penggunaan Kahoot Sebagai Media Pembelajaran Berbasis Permaianan Sebagai Bentuk Variasi Pembelajaran. Gunahumas, 3(1), 43–50. Https://Ejournal.Upi.Edu/Index.Php/Gunahumas/Article/View/28388

[4] Koh, J. H. L., Chai, C. S., Wong, B., & Hong, H.-Y. (Eds.)., (2015), Design thinking for education: Conceptions and applications in teaching and learning. Springer.

[5] Lang, Nathan D., Marzano, Robert J., (2019), The new art and science of teaching mathematics. ISBN 9781945349652

[6] Monica D. Simeonova-Ingilizova., (2019), The role of emotions in the classroom. ISSN: 1311 2864, Vol. 34(1)

[7] (3) "The Net Generation: A Strategic Investigation" Syndicated Research Project, nGenera, (2008), Survey of 1,750 respondents aged 13–29, September–October 2006, www.ngenera.com. - https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.471.3033&rep=rep1&type=pdf . 17.04.2023

[8] UNESCO (2023), ChatGPT and Artificial Intelligence in higher education Quick start guide., https://www.iesalc.unesco.org/wp-content/uploads/2023/04/ChatGPT-and-Artificial-Intelligence-inhigher-education-Quick-Start-guide_EN_FINAL.pdf, 07.05.2023

[9] Fiona J. L. Handley., (2018), Developing digital skills and literacies in UK higher education: recent developments and a case study of the Digital Literacies Framework at the University of Brighton, UK. Publicaciones, 48(1) -. pp. 109 – 126 – https://cris.brighton.ac.uk/ws/files/502573/7327-19998-1-PB.pdf. 14.04.2023

UNCONVENTIONAL MATERIALS AND TECHNIQUES IN TEACHING VISUAL ARTS

Marietta Savcheva^{1*}, Diana Bankova²

 ¹ DIUU, University of Sofia, Bulgaria, e-mail: msavcheva@diuu.uni-sofia.bg
 * - corresponding author

² Dept. of pedagogy and management, Faculty of Engineering and Pedagogy of Sliven, Technical University – Sofia, Bulgaria, e-mail: diana_bankova@abv.bg

Abstract:

The report examines an interesting and current issue in artistic theory and practice – drawing, design, and object construction with unconventional materials and techniques, transforming them into original works of art. Innovative approaches, methods, and forms of work are applied to increase students' interest in art and creative activities, stimulate their imaginative thinking, and encourage belief in their own abilities and talent. Special attention is given to the unique creative achievements of the students, creating a lot of mood and beauty with a wealth of colors and forms.

Keywords: carving, decoration, creativity, ebru, land art, body art, performance, happening, intuitive painting, creativity, etc.

Unconventional materials and techniques in the visual arts pose a challenge for both beginners in their education and professionals who are already established artists. On one hand, applying such an unconventional approach offers an inexhaustible palette of possibilities for artistic interpretation, and on the other, it provides a basis for creating original artistic works by activating imaginative thinking and the creative potential of the individual. Some of the most popular forms of non-standard creative activities have found a place in the educational process: carving, ebru, land art, intuitive painting, body art, performance, happening, installation, etc.

Carving (from the English word "curve") means "carving, carved ornament, or cut figure." It involves carving figures of people, animals, or battle scenes on the surface of various materials such as wood, stone, ice, soap, fruits, and vegetables, etc.

The decoration of fruits and vegetables is an ancient practice originating from Asian countries but quickly gaining popularity beyond the East. For Thailand, Japan, and China, carving is an essential element of every formal dinner and is one of the symbols of Asian cuisine. In the 20th century, this type of art became very popular in Europe as well.

Carving tools are diverse. A small sharp thin knife, called "Thai knife" for decoration, is needed, with a cutting edge thinner than that of standard knives. V-shaped, square, circular, wide and narrow or engraving knives are also used. It is desirable for the blades to be made of stainless steel; otherwise, there is a risk that the fruits and vegetables will change color. The fine edges of the products are shaped with scissors. More experienced culinary artists also use spoons to hollow out the inside of the fruit, wooden skewers around which they wrap spirals of vegetables, and knives of various sizes to create various forms. Carving stimulates interest in creativity while preparing food.


Известия на

Съюза на учените Сливен, том 38 (1), 2023

Fig.1 Carving - educational product

Ebru – The word "ebru" or "abru" in Turkish means the technique of painting on the water surface and transferring the created colorful image onto paper or fabric. The oldest preserved ebru dates back to 1554, and the oldest work on ebru in Turkish is from 1615. The technique involves precise scattering of colors onto a bath of water mixed with a plant resin solution called "kitre." The liquid is viscous and dense, and with various brushes and tools, the artist creates various shapes and patterns. The colors are mineral-based from colored stones, soil, and plants. The products are ground into fine powder and mixed with water and bile juice to aid in the process. Brushes are made from rose bushes and horsehair, with different thicknesses and lengths. The paper used has high absorption and a rough surface. The image floating on the water's surface is transferred onto the paper by placing the paper carefully on the liquid in the bath. Contemporary materials for ebru are diverse, allowing for the creation of original artworks with creativity, light touch, and patience. The motifs and colors are unique.



Fig. 2 Ebru – technical execution

Land art (from English "Land art") is a relatively new art movement that emerged in the 1960s in the USA. It is characterized by its natural connection to the environment, literally integrating with it. Authentic natural materials like sand, rocks, stones, branches, shells, and more are used in creating these artworks. The artistic pieces are situated directly in the natural environment and correspond with it. Their ephemeral nature is a characteristic trait, as they naturally decay over time and become part of the landscape. Well-known representatives of this movement include British artist Andy Goldsworthy and Americans Robert Smithson, Richard Long, Walter de Maria, and more. Land art is often associated with sculptural installation forms that become an integral part of the surrounding landscape. In this context, works by artists such as Christo and Jeanne-Claude, who literally reshape reality, stand out. One of their most famous works is the installation of floating pink fabric around the Biscayne Bay islands in the USA. These and other avant-garde works can be classified under the category of situational art. Land art evokes significant interest from students, who, through play and entertainment, create unique works of art during nature trips or in the schoolyard itself.



Fig. 3 Kristo Yävashev and Jean-Claude, "Surrounded Islands," 1980-83, cloth (12 small islands), Miami, USA

Intuitive painting – a relatively new direction in art, emerged in the mid-20th century. It develops dynamically thanks to the proven psychotherapeutic benefits it offers. Today, it finds wide application in the treatment of various mental disorders, as well as with children with special educational needs. Intuitive painting is one of the art therapy forms for reducing stress, tension, and fatigue, allowing complete freedom for creative self-expression, relying solely on intuition. The priority in this approach is the creative process itself. The created artwork is not judged by its aesthetic value. The most essential aspect is whether the individual has managed to abstract from their problems and achieve spiritual, emotional, and physical balance. The necessary materials to start working are cardboard or canvas, brushes, and chosen paints – watercolors, tempera, acrylics, oils, etc. Sometimes, the need for a brush is eliminated, as it's possible to paint directly with fingers. Finger painting is a form of expressive behavior that can reveal significant personality traits. This is typical for this type of painting as well as other forms of artistic self-expression. However, the uniqueness of this expressive form lies in its ability to help children overcome suppression, conquer their fears, and gain greater self-confidence. In other cases, paints may be replaced by ready-made paper elements that are cut out and glued onto the cardboard. The resulting collage can later be further enhanced with colored contours and spots. Special attention is given to preparing the workspace – it should be bright, cozy, and inviting. For this purpose, it can be arranged with flowers while playing suitable music. Scented candles and air fresheners can also be used. When working with children, reading a story or performing a children's song is practiced. Intuitive painting reveals deep emotional issues and helps to address them in a creative way. This technique activates the right hemisphere of the brain, responsible for spatial and imaginative thinking. The first person to propose the idea that art can be used for therapeutic purposes was the British Adrian Hill. In his research, he emphasizes the inseparable connection between art and mental health.



Известия на

Съюза на учените Сливен, том 38 (1), 2023

Fig. 4 D. Kavrakov, Memory of the Sea Unknown Shores and Much Love

Body art (from Eng. Body – body and art - art) is a movement in avant-garde art that uses the body as a means of expression and self-expression. It emerged in the 1960s and 1970s of the 20th century. It quickly became a distinct direction in art and became extremely popular. Some artists like Mikhail Tau and Gezina Marwindel turn their models into paintings. Body art includes all kinds of tattoos, piercings, scalpel art, and body drawings.



Fig. 5 Body art - Michael Rosner, Los Angeles

Performance and happening emerged almost simultaneously as avant-garde movements in the 1960s of the 20th century. The term "performance" literally means "art of action" (from English performance). Most often, the artist chooses an idea or concept and presents it "live". Performance is an interdisciplinary art form where various arts such as music, dance, theater, etc., interact. The location, duration, and realization are entirely spontaneous. The term "happening" refers to planned events that take place in a specific time and space. It involves purposefully engaging the audience and drawing them into the artistic environment. Recently, media performances and happenings, as well as those in the form of educational theatrical productions and shows, have gained popularity.

The use of non-traditional materials and techniques in classroom and extracurricular activities contributes to building the innovative profile of the Bulgarian school. In combination with non-standard, avant-garde pedagogical approaches, students acquire knowledge, skills, and competencies necessary for their realization in the global, multicultural environment. These are related to forming values, behavior, and attitudes in several key points:

Positive attitude towards nature, society, and humanity.

Formation of identity and tolerance towards different cultures.

Aesthetic attitude towards reality and the cultivation of artistic taste.

Encouraging behavioral attitudes related to promoting creativity, concentration, diligence, humanity, patience, and precision.

Acquiring ethical and value aspects of knowledge such as empathy, morality, and ethics.

Self-expression, experimentation, and fine motor skills development through art therapy forms and techniques.

Ability to analyze and evaluate creative activity.

All of these are vital for personal career development, resilience, and adaptability in the dynamically changing intercultural, information-technological, and axiological unstable modern world.

REFERENCES:

Zhechev, J. Art therapy. Motivation for social activity of children through art. UI "Bishop Konstantin Preslavski", Shumen, 2020. Savcheva, M., Panayotova, E., Tsolovska, A., Papazov, B. Textbook of Fine Arts for 9 grade, Pedagog 6, S., 2018. Rasheva-Merdzhanova, Ya. Competence innovation in education. UI "St. Kliment Ohridski", S., 2023. Savcheva, M. In: Education and Art. T. 3. Art and Art Education. Konstantin Preslavski", 2004, p. 448. Ebru - painting on water https://lihtaryk.com.ua/ebry-zivopis-ru/?lang=ru Turkish art. Ebru - dance of colors on water. https://dzen.ru/a/XwbJP_N9PF-Op6iR?utm_referer=www.nigma.net.ru https://lihtaryk.com.ua/ebry-zivopis-ru/?lang=ru https://gerganageorgieva.com/news-articles/art-terapiq.html https://diuu.bg/emag/7174/ https://bg.billing4.net/articles/iskusstvo/bodi-art-ot-hudozhnika-mihaila-tau.html http://ps.alos.bg/dictionary/%D0%BF%D1%8A%D1%80%D1%84%D0%BE%D1%80%D0%BC%D0% B0%D0%BD%D1%81/

https://www.moreto.net/novini.php?n=450276



Announcements of Union of Scientists Sliven, vol. 38 (1), 2023

SURVEY ON EMPLOYERS ATTITUDE TOWARD EDUCATION AT EUROPEAN UNIVERSITY OF TECHNOLOGY AND EUT DIPLOMA

Dimitrov L.^{1*}, Tomov P.², Belcheva K.³

 ¹ Faculty of Mechanical Engineering, Technical University of Sofia, Bulgaria, e-mail: lubomir_dimitrov@tu-sofia.bg
* - corresponding author

² Faculty of Mechanical Engineering, Technical University of Sofia, Bulgaria, e-mail: pkt@tu-sofia.bg

³ Engineering and Pedagogical Faculty - Sliven, Technical University of Sofia, Bulgaria, e-mail: kbelcheva@tu-sofia.bg

Abstract

The paper presents employers' attitude towards their general view and understanding of European University of Technology and EUT diploma along with the advantages enhanced by the collaborative and participative approach adopted at EUT and graduates career prospects. Supporting European educational values and based on co-construction vision, European University of Technology aims at high quality of education, practical approach and academic skills alike. An online survey, including defining research objectives, designing the survey, and analyzing the data, was carried out among a number of leading international and national employers and the findings have been subjected to qualitative and quantitative analysis. Whether the advantages of EUT education and diploma would be recognized by them and whether they would prefer to hire EUT graduates compared to the ones from national technical universities is of utmost importance not only for EUT graduates but for all parties directly involved and indirectly impacted, who work for the success of making a difference: direct, measurable and impactful.

Keywords: European University of Technology, EUT diploma, employers ' attitude.

1. INTRODUCTION

Europe requires top-quality education for diverse professional groups, where talents translate into ability to act and react, experiment and invent, anticipate and transform. European University of Technology empowers students to become technologically literate professionals and active European citizens. It guarantees that they are well-qualified to enjoying rewarding careers playing a fruitful role in society, aware of the broader implications of technological development and of their responsibility towards global challenges. Everybody, regardless of background, is able to study and succeed at EUT. It prepares the future of Europe by building a pioneering institutional model for developing a radically human-centered model of technology. [3]

EUT+ is a European commission initiative having been launched since 2020 with the strategic goal to establish confederation of universities, strengthening it and creating a federation of European technical universities. First steps towards reaching the ambitious goal include establishing common activities, increasing integration among the members of the confederation, coordination of management and strategy harmonization. Technical university of Sofia is one of the eighth partners of the confederation, part of the EUt+ alliance and shares the same vision towards a human-centered approach to technology, the same ambition to establish a new type of institution on a confederal basis so as to create the technological university of the future.

EUt+ draws on the strengths of each of its partners since it relies on study and traineeship mobility among the partners. The eighth members of EUt+ alliance are as follows: University of Technology of Troyes (France), Technical University of Sofia (Bulgaria), Cyprus University of Technology (Cyprus), Technological University Dublin (Ireland), Technical University of Cluj-Napoca (Romania), Polytechnic University of Cartagena (Spain), Hochschule Darmstadt, University of Applied Sciences (Germany), Riga Technical University (Latvia). Students and staff of EUt+ are provided an opportunity to participate in blended study programmes, lecturing or experience exchange as part of mobility throughout the confederation based on the mutually signed agreements by all partners of the alliance. Mobility is an indispensable part of EUt+ modern and innovative university, providing students and teaching staff with needed experience exchange, promoting the university and facilitating the expansion of the cooperation network of the confederation. It is in compliance with the idea imposed by world practice of linking theory and practice, as practice does not simply follow theory, but runs parallel to it. Implementing constructivist approach, the theory-practice gap has been closed by promoting experimental learning, which encourages EUt+ graduates to become active participants by applying professional and interpersonal knowledge acquired into real practice.

2. PRELIMINARY NOTES

Since the beginning of the EUt+ project a lot of ideas have been suggested some of which have been implemented, others – rejected. Partners found a variety of differences in national requirements connected with rules and regulations in conducting the teaching/learning process of engineers-to-be, as well as in established routines and practices, however, they managed to unite along similarities and as a result what the EUt+ partners have come to is a completely innovative model of education based on:

- final learning outcomes for all technical courses
- practice-oriented and research-oriented learning
- combination of teaching, research and development through all stages of university education
- flexibility of structure, mode and place of contents delivery to suit evolving global landscape
- mobility incentivized
- quality assurance level
- higher education European area reinforced.

EUt+ students benefit from exchanges with various types of professionals and public via lifelong learning, develop new learning experiences in line with 50% student mobility targets, benefit from inclusiveness and access policy, take advantage of extensive collaborations with external stakeholders (internships), leverage high quality facilities and HR resources jointly, achieve a joint European degree with a single academic regulation.

3. DESIGN/METHODOLOGY/APPROACH

The purpose of this paper is to investigate employers' attitude towards their general view and understanding of European University of Technology, its priorities to be oriented to specialization and research as a competitive European university across the globe and their opinion of issuing joint EUt+ Diploma. More specifically, it is to find out employers' assessment as well as intentions whether they would prefer to hire EUt+ graduates compared to the ones from national technical universities. The opinion of employers matters since they are the intermediary between academia and labour market.

The study used an online Likert survey questionnaire as a tool to collect data. It was chosen because it is a 5-point scale used by respondents to rate the degree to which they Strongly agree or Strongly disagree with a statement. It is assumed to have equidistant points between each of the scale elements thus making the results valid, reliable and verified. The survey was conducted on leading international companies and enterprises anchored in Bulgaria and some national ones. The total number of enterprises entering the online questionnaire was 25 and they were grouped into three categories depending on the company size. The first group comprises large enterprises with more than 250 employees, the second one



refers to small and medium-size enterprises (SME) while the third one consists of microenterprises. Hence, qualitative and quantitative analysis was carried out by comparing the three groups and the total lot. [2]

Key informants were the heads of human resources departments since they are responsible for recruiting the staff as well as managers of the companies. (Table 1)

Table 1. Respondents of the Elkert survey questionnance. Categories					
Large Companies, over 250	Medium-sized Enterprises, less than 250	Small Enterprises, less than 50	Micro Enterprises, less than 10		
employees					
10	4	6	5		

Table 1. Respondents of the Likert survey questionnaire. Categories

To construct the survey scale questionnaire two dimensions were selected. The first one referring to the perception of what European University of Technology (EUt+) was about based on the innovative model of education, graduates' career prospects, etc. (the first 9 statements from Likert rating scale questionnaire) and the second one dealing with employability of EUt+ graduates, i.e. employers' preferences to hire them compared to the ones from national technical universities (from 10th to the 21st statement). The answers provided covered both dimensions. The total number of statements was 21 and the ratings uncovered degrees of opinion that made a real difference in understanding the feedback. (Appendix).

Survey results were statistically analysed using Microsoft Excel statistic functions which provide significance level range from 90 to 99 percent. In such manner fundamental similarities between respondents' opinions for each item from the questionnaire was proven to be unbiased. Hence, the average and standard deviation coefficients of three sets of data were compared according to the three categories of enterprises, followed by overall average and standard deviation coefficients. These specific indicators have been chosen because they summarise main features and measure central tendency as well as how close the values or responses are to central tendencies.

4. MAIN RESULTS AND DISCUSSIONS

The results from the survey are shown by descriptive statistics using average and standard deviation coefficients.

Average coefficient

The values obtained for the average indicator represent the typical score for each item from the questionnaire. The average coefficient values are homogeneous for the sample and the measures are really close. This is valid especially for the two groups of large and SME enterprises. They vary from 3,50 to 4,30 for large companies; 3,70 - 4,50 for SME, values in the higher range. Microenterprises rank the two dimensions for EUt+ (general view and understanding of EUt+ and advantages of EUt diploma on labour market) from 3,80 to 4,60, measures higher than those of the previous two groups. All these values can be compared to the ones for the total lot (3,84 - 4,32) and the juxtaposition of all serves to show that the employers' attitude toward EUt+ is *highly favourable* meaning positive assessment of all respondents towards their general view and understanding of European University of Technology, its priorities to be a competitive European university across the globe and their opinion of issuing joint EUt+ Diploma.

Analysing the two dimensions of the rating scale questionnaire based on EUt+ education and advantages of EUt+ diploma on labour market the values are as follows:

First dimension: large companies -3,99; SME -4,01; Micro -4,07; total lot -4,02

Second dimension: large companies -4,02; SME -4,09; Micro -4,03; total lot -4,04.

Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	79

All these average values are close and *rank employers'agreement with all 21 statements in the highest level of approval.* Some differences can be observed among the groups, namely the expectations and the approval of microenterprises referring to the general view and understanding of what EUt+ is about ranks first, while considering the second dimension – employability of EUt+ graduates and advantages of EUt+ graduates compared to the ones from national universities - SME group scores the highest results. (Table 2)

Coeffficient	La	rge	SN	Æ	Mi	cro	Tota	al lot
	1st dimension	2 nd dimension	1st dimension	2nd dimension	1st dimension	2nd dimension	1st dimension	2nd dimension
AVG	3,99	4,02	4,01	4,09	4,07	4,03	4,02	4,04
SD	0,85	0,83	0,82	0,80	0,75	0,81	0,82	0,84

Table 2. Average and standard deviation values of the sample

Some high average values refer to key statements included in the first and in the second dimension of the questionnaire. They refer to:

Statements 2 and 9 from the first dimension of the questionnaire (Practical training at the European University of Technology would allow for better practical skills and competencies; EUT graduates will definitely succeed in the labor market.) could be considered as key characteristics for EUt+ education. Respondents' opinion on them is really high - 4,12 and 4,04 respectively. Integration of soft skills integrated in EUt+ curricula is ranked 4, which means that employers agree with the statement that communication, digital competence, team work, effective interaction, conflict resolving, trust building are important not only for career development but for positive work environments.

Statements 13 and 14: the same high assessment is provided (4,04 and 4,28, respectively) concerning employers' preferences of EUt+ graduates employability to the ones from national technical universities. Respondents rank very high EUt+ graduates' effectiveness in the workplace compared to employees, graduates from national technical universities.

Statements 17 and 19 (EUT Diploma would give graduates the opportunity to be preferred by international companies located in Bulgaria; EUT Diploma provides greater opportunities on the labor market compared to the one of national technical universities.) mark one of the highest averages, namely 4,32 and 4,28.

Summary of results of the study is presented graphically in Figure 1:



Announcements of Union of Scientists Sliven, vol. 38 (1), 2023

Fig. 1. Summary of results

Standard deviation

Известия на

Съюза на учените Сливен, том 38 (1), 2023

Understanding the standard deviation of a set of values is connected to the degree of dispersion of these values, i.e. how much variation there is from central tendency. What is more, it is considered to be a precise measure of dispersion, because it provides a specific range of values that captures a specific percentage of the data. [1]

The values obtained for SD indicator vary from 0,67 to 1,06 for large companies; 0,57 - 1,1 for SME. The range for the last group of microenterprises is from 0,45 to 1,10. All these values can be compared to the ones for the total lot (0,652 - 0,999).

Analysing the two dimensions of the rating scale questionnaire based on general view and understanding of EUt+ and advantages of EUt+ diploma on labour market SD average values are taken into consideration. [4]

SD average values are as follows:

First dimension: large companies -0.85; SME -0.82; Micro -0.75; total lot -0.82

Second dimension: large companies -0.83; SME -0.80; Micro -0.81; total lot -0.84.

Obviously, SD measures describe the spread of the data. What is being analysed is mean and range deviation. The values are more or less the same for all three groups of respondents outlining that there is no statistic difference in employers' attitude. What is more, they express the same degree of certainty about the main characteristics of EUt+ as well as its advantages in comparison with national technical universities because SD values are less than 1, indicating that data points are close to central tendency. Clustered values round 1 for about 2/3rds of SD values indicate that respondents share the same opinion on the statements, no matter the companies are different sizes and from different professional areas, which points to validity and reliability of findings.

SD values show that there is small variance from central tendency to *rank employers' attitude toward EUt+ characteristics and its advantages in high level of approval.* The data points tend to be very close to the mean, and to each other, exemplifying that respondents have high expectations and opinion about EUt+ education and EUt+ Diploma.

5. CONCLUSION

Employers' attitude toward EUt+ is highly favourable both to EUt+ education based on practice and research-oriented teaching and learning process as well integration of soft skills in the curricula. They recognize the competitive advantages of EUt+ at a high degree in terms of EUt+ graduates' employability and opportunity to be preferred by international companies located in Bulgaria. Respondents have high expectations and opinion about EUt+ and EUt+ Diploma. They seem to be in complete agreement about the statements in the two dimensions of the designed Likert scale questionnaire referring to EUt+ main characteristics of education as well as its advantages in comparison with national technical universities.

Findings from the study display no statistically significant difference in employers' opinion, assessment and expectations from the three respondent groups, namely large companies, small and medium enterprises, microenterprises in reference to EUt+ perspectives and desired business outcomes.

APPENDIX: Likert scale questionnaire

This questionnaire aims to assess employers attitude on education at the European University of Technology and EUT Diploma. The survey is anonymous, and the data obtained will be analyzed and published so as to evaluate and improve education quality at EUT.

Thank you for participating! Please, rate your opinion from 1 to 5, where: 5 is strongly agree; 4 – somewhat agree; 3 - neither agree nor disagree; 2 - somewhat disagree; 1 - strongly disagree

Part 1. General opinion on European University of Technology

1. Theoretical training included in the European Diploma, issued by the European University of Technology, would provide the necessary knowledge and skills necessary for professional roles.

2. Practical training at the European University of Technology would allow for better practical skills and competencies.

3. Soft skills, such as communication, digital competence, team work, effective interaction, conflict resolving, trust building, integrated in EUT curricula, are important for professional development.

4. Academic knowledge and competences obtained from the European University of Technology would meet the challenges of the 21st century.

5. The integration of too many different concepts in the learning process leads to confusion for EUT graduates.

6. EUT alumni would be able to build and maintain a positive atmosphere in the workplace.

7. EUT graduates would have a positive attitude and motivation for rapid professional career and development.

8. EUT alumni would be able to demonstrate professionally significant qualities such as activity, initiative, accuracy, flexibility, creativity, tact, discretion.

9. EUT graduates will definitely succeed in the labor market.

Part 2. Advantages of European University of Technology

10. The level of training and competitiveness of young specialists from EUT would be higher compared to employees, graduates from national technical universities.

11. EUT alumni would possess and demonstrate knowledge, skills and high professional competence with a real impact at local and European level.

12. I would hire European University of Technology graduates in my company/organization/enterprise.

13. I would prefer European University of Technology graduates to other job candidates.

14. EUT graduates would be more effective in the workplace compared to employees, graduates from national technical universities.

15. I would recommend European University of Technology graduates to other colleagues or employers.

16. ETU alumni, educated in a multilingual and multicultural environment with harmonized European curricula, can find a job at local, national and international level.

17. EUT Diploma would give graduates the opportunity to be preferred by international companies located in Bulgaria.

18. EUT diploma means quality education, professional competences, behaviour and personality traits integrated with 21st century skills for solving problems, accomplishing tasks successfully and overcoming workplace challenges.



19. EUT Diploma provides greater opportunities on the labor market compared to the one of national technical universities.

20. EUT graduates have learned and gained experience, developed professional competences in certain technical fields that reflect the best European practices.

21. Based on harmonized European study programmes, EUT diploma provides knowledge transfer and industry support, facilitates transfer and building of capacity for local and national economic environment.

REFERENCES

[1] Andrade C. (2020), Understanding the Difference Between Standard Deviation and Standard Error of the Mean, and Knowing When to Use Which, New York: Sage Journals. Volume 42, Issue 4. https://journals.sagepub.com/doi/full/10.1177/0253717620933419> (accessed 05.07.23).

[2] Enterprises by business size. OESD Data https://data.oecd.org/entrepreneur/enterprises-by-business-size.htm, 2023 (accessed 03.07.23).

[3] European Technology: Mission Statement. https://www.univ-tech.eu/mission-statement>, 2023 (accessed 09.07.23).

[4] Tarver E. (2022), *The Difference Between Standard Deviation and Average Deviation*. Investopedia. https://www.investopedia.com/ask/answers/021215/what-difference-between-standard-deviation-and-average-deviation.asp, 2014 (accessed 28.04.14).

EXPLORING VALUES, ATTITUDES AND SKILLS THROUGH AN ENVIRONMENTALLY FOCUSED EXTRA-CURRICULAR ACTIVITY

Lyubka Atanasova

Faculty of Pedagogy, South-West University Neofit Rilski, Bulgaria e-mail: <u>liubka_81@swu.bg</u>

Absrtact:

This report represents a comparative analysis of results from the ascertainment and control stage in the Experimental and Control group. The object of the study is the extracurricular activity in the Bulgarian school. The subject of the study is the educational opportunities of extracurricular activities in the field of natural sciences in junior high school. The purpose of the study is the possibilities of extracurricular activities with an ecological orientation for the formation of values, attitudes and skills in students from the junior high school stage of education. After an in-depth analysis of the results, the connection between targeted environmental education and the formation of values, attitudes and sciences attitudes and sciences are sciences.

Keywords: *education, environmental education, extracurricular activities, values, attitudes, beliefs*

Introduction

Extracurricular activities are an integral part of the general educational process. By their nature, they have a very large educational potential. If the education process is brought to the fore in general education lessons, then in extracurricular activities the educational process is the leading one. This does not mean that there is no educational process in the extracurricular activities, on the contrary, along with the educational process, the educational process inevitably takes place, but education remains the leading function. Through purposeful activities during the extracurricular forms, values, attitudes, and various skills are formed in the students. One of their main tasks is ,,the formation of views, beliefs, traits and qualities, norms and rules of behaviour" [2]. It is characteristic of extracurricular activities that they are organized by the school institution and take place in the free time of the students [1, 2]. One of the goals, which is the basis of ecological education, is to "form intellectual, moral and aesthetic qualities and master appropriate ways of interacting with nature" [4]. In an extracurricular activity with an environmental focus, students get to know various environmental problems primarily at a local level, but also in a global aspect. In particular, in this type of activity, various excursions and hikes in nature are organized with the students, taking care of artificially created ecosystems by the students, mainly leads to a positive attitude towards the natural environment, an attitude towards, a healthy lifestyle, in particular towards healthy and ecologically clean food products, stimulates the formation of moral values, aesthetic taste, hard work, the ability to work in a team and listen to other people's opinion is formed. In this line of thought, we can say that extracurricular activities with an environmental focus have an important role in forming social skills and competencies in students. For students who have developed a positive attitude towards nature and its resources, aggressive behaviour will decrease.

Preliminary notes

The study was conducted in two groups, which we will conditionally call Experimental and Control. An experimental group includes students from two schools on the territory of Radomir Municipality, where regular and purposeful extracurricular activities are held to form environmental attitudes, attitudes and behaviour. The control group includes students studying at a school in the territory



Известия на Съюза на учените Сливен, том 38 (1), 2023

of the Municipality of Pernik, in which extracurricular activities with an environmental focus are not carried out. The research was conducted in two stages. The first stage was conducted in the fifth grade (the beginning of the junior high school stage of education). Or this is the stage in which the level of formation of environmental attitudes and attitudes is established. A total of 100 students took part in the research at the establishing stage - 51 from the municipality of Pernik, of which 25 boys and 26 girls - Control group; 49 from Radomir Municipality, of which 24 boys and 25 girls – Experimental group. With the same students, the surveys were conducted after a three-year period, with the aim of establishing the changes that occurred as a result of the extracurricular activities. In this report, I will present a comparative analysis of the results of the first and second stages. Both surveys were conducted in person. Students take their seats in the classroom. They need to be calm. Question cards are distributed (first one, then the second). The condition is that they write their first-signal reaction (in the Rosenzweig test), respectively, to complete the sentence with a first-signal phrase (in the second survey).

Main results and discussion Rosenzweig test

"Rosenzweig Frustration Test. The test was created in 1945 by Saul Rosenzweig based on his theory of frustration (frustration from the Latin "fraud", "frustration"), it has a significant distribution among projective methods. Description: The Frustration Tolerance Method (modified by N.V. Tarabrina) is designed to examine responses to failure and ways of getting out of situations that impede activity or the satisfaction of individual needs. The examiner is offered 16 situations in which an obstacle is created (stopped, discouraged, insulted, and confused) and 8 situations in which the subject is accused of something. Rosenzweig's Frustration Drawing Technique stimulus material consists of 24 drawings that depict people in a problematic situation. One of the characters says a phrase that describes the essence of the problem. Above another is an empty square. The subject must give all the answers that come to mind for him. Their content is analysed to identify the type of resentment (aggression and its orientation – towards oneself or towards others). The type of aggression differs in what appears to be more significant for the person being tested (obstacles, blaming others, seeking constructive solutions to problems)" [3].



Fig. 1. Distribution of Rozenzweig test responses by response type, gender and age in the obstacle situation and the accusation situation

The results of Fig. 1 show that all students in the three years - fifth, sixth and seventh grade - undergo a change. The most pronounced change is in girls from the Experimental group. It can be seen

that the change in them is most pronounced when a reaction of self-defence changes to a problem-solving reaction. This tendency is both in the obstacle situation and in the accusation situation. In them, the self-protective reaction in a situation with obstacles decreases by 43%, and the problem-solving reaction increases by 41.10%. The difference is between fifth grade girls and seventh grade girls' Experimental group. In an accusation situation, the picture is similar – the self-protective reaction decreases by 23.05%, and the problem-solving reaction increases by 25.00%. In other words, it can be said that the problem-solving response increases is approximately equal to the percentage by which the self-protective response decreases. For boys from the Experimental Group, the picture is different. Increasingly, in a situation with an obstacle, responses with an obstacle-dominant reaction appear, and less often responses with a self-protective reaction. The change is insignificant, only 1.02% and is not of interest. While in the accusative situation the change is, as in girls from the Experimental group. The self-protective response decreased by 14.30% and the problem-solving response increased by 15.50%. The change observed is from self-protection to the ability to resolve problem situations.

In boys from the Control Group, both in the obstacle situation and in the accusation situation, increasingly frequent positions with an obstacle-dominant reaction were observed. It decreases both the self-protective response and the problem-solving response. In the case of an obstacle-dominant reaction in seventh graders, it increased by 8.67% in an obstacle situation, and in an accusation situation by 2.81%. The self-defensive reaction decreases in both situations, respectively - in a situation with an obstacle by 2.23% and in a situation with an accusation by 2.48%. The differences are almost close. It also decreases the problem-solving response by 6.53% in the blame situation, while in the obstacle situation it can be said to be unchanged, as the increase is only 0.33%, which is not statistically significant. For girls from the Control group, the picture is more dynamic. They also see an increase in the position with an obstacle-dominant reaction, with an obstacle situation of 4.43% and an accusation situation of 4.92%. Both boys and girls from the Control Group, the position of the self-defensive reaction decreases – in the situation with an obstacle -9.20%, and in the situation with an accusation – by 10.87%. In contrast to boys, a position with a problem-solving reaction appeared more often in girls -4.87% more in seventh graders compared to fifth graders in a situation with an obstacle and by 7.95% in a situation with an accusation. Boys in the Control Group can be said to focus on the obstacle in a situation of frustration.

The obtained results give reason to assume that significant changes have occurred in the students of the Experimental group. They are especially pronounced in a situation with an obstacle. Both girls and boys in the Experimental Group increasingly, in an obstacle situation and in a blame situation, turn to a problem-solving reaction in which they admit their responsibility and undertake to correct the situation or compensate for a loss. This, in turn, speaks of emotional and social growth. Everything said so far shows that the educational interactions carried out, within the framework of specially organized extracurricular activities, have a strong influence on students becoming more confident, more resilient as a person, more secure in their abilities, with a clearly expressed position, ready to take decision and take responsibility for it.

Test "Completing the sentences"

The test was created entirely for the needs of the present study. It includes 22 items that respondents have to complete. The sentences are worded so that the answers can be summarized by four factors. First factor – "He has no conscious connection with nature, does not appreciate natural laws"; second factor – "Satisfaction of needs", third factor – "Appreciates natural regularities" and Fourth factor – "Has an emotional connection with nature". The items are worded from the general to the specific, i.e., from general about nature to items about specific natural components.



Известия на Съюза на учените Announcements of

Union of Scientists

Fig. 2 Analysis of results for fifth and seventh grade boys Experimental and Control group

From fig. 2 it is evident that in the fifth grade Experimental Group two of the criteria prevail -"Satisfaction of needs" and "Evaluates natural regularities". While in the Control Group has one more criteria - "Emotional connection with nature". The percentage according to the criteria "Evaluates the natural regularities" in the Experimental and Control group is high, respectively 70.83%, and 64.00%. In my opinion, this is due to the fact that until this moment in the classes on Man and Nature in the initial stage of education, the students have become familiar with the basic laws of nature. I assume that in the Experimental Group according to the "Satisfaction of Needs" criterion, the percentage is higher (29.17%), compared to the Control Group (12.00%), because a part of the students who participated in the study are residents of villages. Whereas in the Control Group the students are from a large urban school and in my opinion a significantly smaller proportion associate the natural elements with their needs. After the purposeful extracurricular activities with an environmental focus, the change in the attitude of the boys from the Experimental Group can be seen. In the seventh grade, the criterion "Emotional connection with nature" sharply displaces all other criteria, and the criterion "Satisfaction of needs" is absent. With a very low percentage is the criterion "Evaluates natural regularities". In the Control Group no such trend was observed. In percentage terms, there is almost no change comparing fifth and seventh grade.

From fig. 3 shows that the girls from the fifth grade Experimental Group, unlike the boys of the same age, also have the Emotional connection with nature criterion (10.00%) and a very low percentage of the "Satisfaction of needs" criterion - only 8.00%. While for boys of the same age, according to this criterion, the percentage is almost four times higher. (Fig. 2) In my opinion, this is more due to the fact that girls are more emotional than boys. In the Control Group, fifth grade girls have the three criteria – "Satisfaction of needs", "Evaluates natural regularities" and "Emotional connection with nature". Compared to the Experimental Group, the percentage of the "Satisfaction of Needs" criterion was slightly higher in the Control Group. There is a significant difference between the fifth graders in terms of "Satisfaction of needs" and "Emotional connection with nature". According to the first criterion, in the Experimental group it is greater (72.00%) compared to the Control group. It is interesting that according to the criterion "Emotional connection with nature" the percentage in the Control group is higher than in the Experimental group. For comparison Experimental group 20.00%, Control group 34.62%. But it's in

|--|

the fifth grade. If we compare the results shown in Fig. 2 and fig. 3, it can be seen that both girls and boys from the Control Group have the same trend for the three criteria. Comparing fifth and seventh grade girls, the same trend is observed as for boys. In the Experimental Group, the criterion "Emotional connection with nature" supersedes the other two. From 20.00% in the fifth grade, in the seventh it is already 88.89%. According to the criterion "Evaluates natural regularities", only 11.11% remain, at 72.00% in the fifth grade, while the criterion "Satisfaction of needs" completely disappears. In the Control Group, there is no significant change in the three criteria when comparing the fifth with the seventh grade.



Fig. 3 Analysis of results fifth and seventh grade girls Experimental and Control group

In the fifth grade of the Experimental Group, both in girls and boys, and especially in boys, the presence of the "Satisfaction of Needs" criterion is noticeable. Regarding the students from the school in the village of Izvor, I can say that they help at home and maybe that is where such answers come from the fifth graders. With them, responses such as "Birds give me eggs", "Birds give me meat" or "The forest is firewood" are observed. While in the Control Group, the highest percentage is observed according to the criterion "Evaluates natural regularities" in both sexes and in both age groups. When processing the empirical data, it struck me that some of the sentences were supplemented with memorized phrases from the teaching material on Man and Nature and Biology and Health Education.

Conclusions

From the Rosenzweig test conducted with the Experimental and Control Group, the obtained results give reason to assume that significant changes have occurred in the students of the Experimental Group. They are especially pronounced in a situation with an obstacle. Both girls and boys in the Experimental Group increasingly, in an obstacle situation and in a blame situation, turn to a problem-solving reaction in which they admit their responsibility and undertake to correct the situation or compensate for a loss. This, in turn, speaks of emotional and social growth.

It can be seen from the results of the Sentence Completion test in the presented graphs that boys and girls from the Experimental group undergo a strong change. Criterion "Satisfaction of needs", which is present in fifth graders, has been replaced by criterion "Emotional connection with nature". No such trend was observed in the Control Group. Which in turn speaks of emotional growth and realization that nature is not only resources to satisfy wants and needs, but also has an emotional impact on the students of Experimental Group with its beauties in all seasons of the year.



REFERENCES:

[1]Gospodinov, V., (2016), Protsesat na vazpitanieto v izvanuchilishtna sreda, V: Vazpitanieto, Sofiya, UI "Sv. Kliment Ohridski", 284-301.

[2]Popov, At., (1994), Izvanklasna i izvanuchilishtna deynost s uchenitsite, Blagoevgrad, UI "Neofit Rilski".

[3]Rosenzweig's frustration test, Tarabrino's modification, adult version (method of drawing frustration/ methodology of frustration tolerance / questionnaire of aggressiveness — reactions to offense: https://psycabi.net/testy/419-frustratsionnyj-test-rozentsvejga-metod-risunochnoj-frustratsii-

modifikatsiya-tarabrinoj-metodika-frustratsionnoj-tolerantnosti-reaktsii-na-obman-diagnostika-obidy-agressivnosti-vzroslyj-variant (Viewed on 04/30/2017).

[4]Vakleva, Zl., (2011), Ekologichno obrazovanie – viziya za badeshteto, Plovdiv, Markos

Dimitrova M.

Faculty of Engineering and Pedagogy - Sliven Technical University – Sofia, Bulgaria e-mail: marina_dimitrova@mail.bg

Abstract

The demands of modern society regarding university education require contumacious actions across from the traditional model of teaching, which aims on mainly acquiring good theoretical knowledge. The continuing professional development of each teacher going ahead from the student bench to becoming a person who undertakes the challenge to ignite the spark of science and eagerness to learn knowledge among the scholars is a process of growth and self-improvement. The article focuses on the workflow steps that a university teacher goes through and the skills ones must acquire for purposes of being successful.

Keywords: teaching, university teacher, skills, professional workflow

"Education is one of the things which leave a deep mark on our lives." *Ken Robinson*

1. INTRODUCTION

Higher education has the responsible mission of educating, disseminating knowledge, promoting intellectual and critical thinking, conducting high-level scientific research and implementing innovation. The dynamically changing educational environment requires a new learning model. The provision of specialists with competencies and successful opportunities for career development is directly dependent on the quality training offered by higher education institutions. The new educational paradigm, in turn, requires rapid adaptation by students and teachers, combining traditions and innovations in the offered education. Successful monitoring and management of the learning process is a mandatory indicator of the quality of learning.

The approach to training and training of engineering and pedagogical personnel is changing. Strategies are used that best influence the formation of competences and the readiness of future specialists for the development and implementation of innovations. The educational system faces many tasks and problems related to its role in social development.

According to McGrath, P., "Globalization will force educators to relinquish their role as lecturers and to determine the outcomes, methods and conditions of learning themselves. The leading role will be that of the trainees, and the teacher will only be a consultant." [6]

2. PRELIMINARY NOTES

As a teacher at the Faculty of Engineering and Pedagogy - Sliven, I believe that it is our responsibility and mission to leave a mark in the lives of our students. Over the years, teachers have gradually changed their duties and roles. They are not the main source of information and do not provide ready-made knowledge, but teach students how to search for, analyze and use data, facts and phenomena on their own. Academic teachers are expected to possess not only psychological, pedagogical and methodical competences, but also a number of personal qualities. Being a mentor, motivating, encouraging and activating students is a responsible and difficult task.

The report highlights the steps that a university professor goes through and the skills he must have to be successful. In the time in which we live, every teacher must find his way to reach the students. Provocations of students' creativity and critical thinking are necessary, making them partners in the learning process. The creation of a positive appropriate learning environment combined with interactivity, accessibility and flexibility. The application of modern information technologies and the availability of relevant digital competences are a mandatory element in higher education. According to Kostov K.: "The modern socio-cultural environment is characterized by dynamic changes that are caused by the use of the Internet and numerous technical means. They create an information space with society that tries to rationalize both personal and professional activity." **[5].** It is required not to follow the traditional model of teaching, oriented only to good theoretical knowledge regarding the educational content.

According to Ilieva M., teaching is the result of various activities, and in purely didactic terms it is defined as:

➤ action, way of teaching, of imparting knowledge;

> a human activity that places another in a learning situation;

➤ teaching and learning;

> an activity /type of work/ with a specific essence, having meaning only in indivisible unity with learning;

> teaching the other how to learn, teaching the learner to think. [4]

In order to respond to the new reality in education, teaching must be in line with modern pedagogical trends:

➤ use of interactive learning models;

➤ reducing the distance between trainer and trainee;

> integrative and digital competences, etc.

A competence approach is applied, and its application is directly related to various skills intellectual, social and practical. In this approach, educational goals are practically oriented, develop the personality and skills of the learner. Interactivity in education includes a variety of activities in which learners are involved in the learning process and have the opportunity to observe their own activity and behavior. The teacher guides the activity of the learners by developing a complex of interactive exercises and tasks. The system of interactive learning methods aims to:

➤ activation of learners;

- ➢ motivating learners;
- > independent initiative and creative learning of the learning material;
- ➢ interaction and mutual learning;
- critical thinking, solving complex problems;
- development of research skills, etc.

Teaching at a university is different from teaching at a school. According to Gyurova V., university education has the characteristics of the andragogic process (education of adults). [3]

The role of university professors has changed over the years, and teaching is taking on new dimensions. Formation of creativity in students, creation of prerequisites for career development, teamwork skills, tolerance, relationships, competencies, motives and others are essential.

3. MAIN DISCUSSIONS

The workflow traveled by each teacher from the student bench to a person who accepted the challenge to ignite the spark of science and knowledge among the young is a process of growth and self-improvement. Everyone who has devoted himself to this profession is about to or has traveled this professional workflow. /fig.1/



Fig. 1. Professional workflow of the university teacher

Student

The role of a student has also evolved over the years. From an object of the learning process, he becomes an active participant. Learners have their own expectations and capabilities. Higher education institutions offer training that is in sync with student needs. Social and economic conditions force a large number of students to work during their studies. Everyone with their rights and obligations, critical thinking, engaged and responsible for the results of the learning process. This undeniable fact implies a new model of learning and teaching, rapid adaptation and at the same time an individual approach to students.

The mandatory components of the training, for the educational process to be effective are presented in Fig.2.



Fig. 2. Mandatory components of training

Through various activities, the aim is to make the training interesting, diverse, i.e. not monotonous, dynamic. Students should be encouraged and willing to participate in the training offered, emphasizing the need for mastery and practical application of the various knowledge and skills or expected outcome. According to Bobeva S.: "The motivation students for learning may be related to their needs, ranging from finding employment for example, to the need of proving themselves in front of their family, colleagues and friends, getting a promotion etc." [1]

The involvement of students in research activities - at the university and international level is a mandatory component of modern higher education.

The practice of European universities to seek, respect and take into account the opinion of students is increasingly applied in Bulgaria. They are equal partners in evaluating the results of the activities of the



teachers and universities in general. At the Technical University - Sofia, the existing System for evaluating and maintaining the quality of education and scientific research /SOPKONI/ is fully adequate to the new realities.

Doctoral student

The educational and scientific degree "doctor" is recognized all over the world and is the second step in the professional workflow of academic growth. The term "dissertation" means "workflow". Every young scientist chooses the workflow of research and development of a new thesis. "Doctorate", we can translate as "teach", "train".

In the Regulations for the terms and conditions for acquiring scientific degrees at the Technical University - Sofia, Art. 2. (2) it is mentioned that "Training for the acquisition of the educational and scientific degree "doctor" is carried out in full-time, part-time, independent or distance learning." **[8]**

PhD students expand their scientific knowledge and interests. During their studies, they learn to recognize problems and apply modern methods to solve them; demonstrate critical thinking, precision and mastery of a research approach.

The activities that every doctoral student goes through are the following:

- Passing exams and enrolling in doctoral studies;
- Selection of supervisor and topic of the dissertation work;
- > Implementation of all activities included in the individual study plan;
- Research and analysis of literary sources on the topic of the dissertation;
- Conducting original in-depth scientific research;
- Work on scientific publications;
- > Teaching activity conducting seminar or laboratory exercises;
- > Writing, designing and presenting the dissertation work;
- Successful defense of the dissertation before a scientific jury.

Assistants, chief assistants and head teacher

These are lecturers who carry out research and teaching work. They have responsibility for a number of activities such as:

- Intermediaries between lectures and exercises;
- Planning the learning process and being responsible for it;
- Selection of forms, methods and means of training;
- Evaluation and monitoring;
- Orientation to growth and learning;
- Conducting scientific and applied research and their implementation in practice;
- Administrative tasks.

Every teacher remembers with trepidation and excitement the first lesson in front of students, when he is already in another role - that of a teacher. It's different and exciting, taking your first steps in your university career. No one gives us ready-made recipes for how to be successful teachers. The criteria for a successful lecture or exercise are constantly changing - to hold attention, to communicate positively with students, to achieve fruitful results in teaching and research activities - this is a difficult task.

Associate professor, professor

These are teachers who have gained experience, knowledge and behavior. They possess many competencies: professional, pedagogical, methodical, communicative, research, managerial, managerial and others. They are distinguished by:

- Teaching experience;
- ➢ Erudition;
- ➤ Skills;
- ➤ Self-esteem;
- Personal example;
- Competencies.

According to Gyurova, V., part of the way to being a successful teacher is to keep asking yourself questions: What?, How?, Who?, Whom?, Why? and seek their answers. [3] Whether he has developed a skill for pedagogical reflection is an extremely topical issue. Reflection is a mandatory element of the process of self-improvement. This is a way to improve and perfect the teaching activity. It supports everyday pedagogical activity and has structural components: self-monitoring; self-evaluation and self-improvement.

Self-evaluation is a tool that helps to grow and increase the competences of every teacher. By applying various self-analysis tests, self-actualization is present.

4. CONCLUSIONS

How can I improve my teaching activity?

- Implementation of innovation;
- Understanding the needs of students;
- > Application of modern interactive methods;
- > A positive learning environment has been created;
- Learning from experience;
- Seeking feedback;
- Responsibility for own development and training;
- Request the opinion of colleagues;
- Continuous improvement of practical skills;
- Professional growth.

Regardless of the step on which the teacher is, he must not for a moment forget the workflow he has walked. His mission is to share and pass on his experience to younger people. The pursuit of improvement and development should excite every university teacher.

"Teaching is based on knowledge and experience, of talent and hard work, but always his product is the future" *Marijana Ilieva*

REFERENCES

[1] Bobeva, S., (2011), A concept of project-oriented learning in microelectronics engineering, *Announcements of the Union of Scientists - Sliven*, ISSN 1311-2864, vol. 19, p. 315.

[2] Vaisilova E., (2018), The challenges of the 21st century for higher education and in particular for VTU "T. Kableshkov", *Scientific journal "Mechanics, Transport, Communications"*, ISSN 1312-3823, volume 16, issue 1

[3] Gyurova V., G. Dermendzhieva, V. Bozhilova, S. Varbanova, (2006), The educational process adventure, Guide for university teachers, Europress Agency, Sofia, ISBN 954-91890-1-5

[4] Ilieva M., University teaching as a didactic phenomenon, https://uctm.edu/downloads/seminars/%D1%83%D0%BD%D0%B8%D0%B2%D0%B5%D1%80%D1% 81%D0%B8%D1%82%D0%B5%D1%82%D1%81%D0%BA%D0%BE%20%D0%BF% D1%80%D0%B5%D0%BF%D0%BE%D0%B4%D0%B0%D0%B2%D0%B0%D0%BD%D0%B5%20

%D0%9C.pdf

[5] Kostov, K., (2022), Using Google electronic forms as a digital resource in the educational activity of students in the conditions of online learning, Proceedings of the Ninth National Conference Electronic Learning in Higher Education, ISBN 978-954-21-1126-9, p. 49

[6] McGrath (2004), Globalization and its Impact on Higher Education on a Planetary Scale



[7] Doctoral Student Handbook, (2018), Edited by Victoria Sarafyan, Medical University- Plovdiv, ISBN 978-619-237-007-7

[8] Regulations on the terms and conditions for acquiring scientific degrees at the Technical University - Sofia http://konkursi-as.tu-

 $sofia.bg/rabotnidoc/\%\,D0\%\,9F\%\,D0\%\,A3\%\,D0\%\,A0\%\,D0\%\,9F\%\,D0\%\,9D\%\,D0\%\,A1\%\,20\%\,D0\%\,B2\%\,20\%\,D0\%\,A2\%\,D0\%\,A3\%\,D0\%\,A1\%\,20-\%\,202021-v2.pdf$

[9] Teacher's Guide, (2019), Medical University - Plovdiv, ISBN 978-619-237-034-3

APPLICATION OF NEUROSCIENCES AND NEUROTECHNOLOGIES IN SPECIAL EDUCATION

Mitko Shoshev

Plovdiv University "Paisii Hilendarski", Faculty of Education, Bulgaria, e-mail: mitkosh@uni-plovdiv.bg

Abstract:

Over the past two to three decades, the knowledge gained from neuroscience has permeated many other scientific fields. Special pedagogy, as a specific part of pedagogical science, occupies a special place among them. Its specificity as a medico-pedagogical science brings out the need for the mandatory knowledge of pedagogues and psychologists about data obtained from neurosciences about the work of the brain of a child with mental dysontogenesis. Modern applied neurotechnologies are also entering the psychologist's practice. They have a particularly beneficial impact on the learning process of children with special education needs by significantly improving their general psycho-physical and psycho-emotional condition.

Keywords: *Educational neuroscience, neuropedagogy, special education, neuroplasticity, neural connections, sensitive periods.*

Special pedagogy as a science for the education and upbringing of children and persons with special educational needs occupies a special place among pedagogical sciences. One of the prominent researchers and practitioners in this field, Zlatko Dobrev, defines special pedagogy as "... a complex science for studying the peculiarities in the development of children with special educational needs, for revealing the regularities of their upbringing, training and education and preparing them for active work activity".

Like any science, special pedagogy has its object and subject. The object of special pedagogy are children with various forms of psychophysical dysontogenesis, and these children can be trained both in specialized educational institutions and in general education schools. These are children with various forms of deviation in intellectual development, children with visual and auditory disorders, children with speech disorders, with motor deficits and as a special form of dysontogenesis - children with autism spectrum disorders. Regardless of where these children are educated, they are the main object of special pedagogy. Depending on the type, severity and degree of deviation in their psychophysical development, these children are approached individually, differently and qualitatively different strategies are used in the process of their education and upbringing. In a broader sense of the term "object", it also includes adults with similar forms of psychophysical dysontogenesis.

The subject of special pedagogy is the various forms of systematic and specifically organized educational and educational impacts and relationships in the process of teaching children with special educational needs.

Due to the complexity and complexity of the process of teaching such children, special pedagogy uses knowledge from other sciences, with which it interacts very closely.

First of all, special pedagogy interacts very closely with special psychology, a branch of psychological science that studies mental processes and phenomena in a person that occur under the influence of pathological factors. V. M. Sorokin defines the subject of special psychology as "...studying the process of mental development under narrowed circumstances. The disturbed development itself, which is a consequence of the effects of these circumstances, represents a sustainable change in the parameters of the actual functioning of the psyche and the rates of its age dynamics, reliably different from the average values for the given age". The main goal of special psychology is to detect, diagnose and remedy disorders in the mental development of children with special educational needs. **[8]**

For special pedagogy and special psychology, the concept of "development" is of fundamental importance. Development is understood as a continuous progressive process of forming qualitatively positive changes in the psyche, improving its reflective and regulatory capabilities. Ontogeny is not stable and not static: in it the stages of reaction and functioning of the brain change, and new reactions do not displace the old ones, but change and subordinate them. In children with a deviation in psychophysical development, however, a process of mental dysontogenesis is observed.

Dysontogenesis is a process of mental development disorder under the influence of pathological factors, which can occur at any age, and this disorder affects either the psyche as a whole or its individual parts.

Lebedinsky identified six main forms of dysontogenesis in children

1. Underdevelopment, which refers to a general persistent delay in the development of all mental functions due to early organic brain damage (in medical terminology - intellectual development disorder).

2. Arrested (delayed) development - slowing down the pace of any mental development, which occurs most often as a result of brain dysfunction (delay of intellectual development).

3. Impaired mental development, represented by organic dementia due to brain damage of neuroinfections, hereditary diseases in children after 2-3 years. Organic dementia can be progressive (for example, in severe forms of epilepsy).

4. Insufficient (deficient) mental development. It is observed when the systems of analyzers are insufficient, for example, vision, hearing, muscle kinesthetic system.

5. Distorted mental development - various variants of complex combinations of underdevelopment of some components of the psyche, retention of others, accelerated third and damaged fourth. The reasons for this are some procedural hereditary diseases, for example, schizophrenia.

6. Disharmonious mental development associated with impaired formation of the emotional and volitional spheres of the personality, the character (in medical terminology – pathocharacterological formation of the personality, psychopathy). [4]

Given the specificity of the two sciences dealing with children with developmental disabilities, they make extensive use of knowledge from many other sciences that study the brain and brain activity, united under the general term "neurosciences".

Studies of the nervous system in their modern version began in the middle of the 19th century. Neuroanatomists study the shape of the brain, its cellular structure, and its circuitry; neurochemists study the chemical composition of the brain, its lipids and proteins; neurophysiologists study the bioelectrical properties of the brain; psychologists and neuropsychologists study the organization and neural substrates of behavior and cognition.

The term neuroscience was coined in the mid-1960s to mark the beginning of an era in which each of these disciplines would work together, sharing a common language, common concepts, and a common goal to understand the structure and function of the normal and abnormal brain. The neurosciences today encompass a wide range of research efforts from the molecular biology of nerve cells (i.e., the genes that code for proteins necessary for the function of the nervous system) to the biological basis of normal and abnormal behavior, emotion, and cognition (i.e., mental properties, with which individuals interact with each other and with their environment). One of the main tasks in neuroscience is related to the study of processes at the neuronal level, and especially at the level of neural networks, which take part in various mental processes, such as attention, memory, thinking, emotions.

The emergence of educational neuroscience was born out of the need for a new discipline that makes scientific research practically applicable in an educational context. Turning to the broader field of "mind, brain, and education" Kurt Fischer (states, "The traditional model will not work. It is not enough for researchers to collect data in schools and make that data and the resulting research available to educators", as this method excludes teachers and learners from contributing to the formation of appropriate research methods and questions. [3]

The National Academy of Sciences of the United States published an important report in which it emphasized that "Neurology has advanced to the point where it is time to think critically about the form in which scientific information is available to educators so that it is interpreted appropriately for practice - identifying research results that are ready for implementation and which are not."

In their book The Learning Brain, researchers from the Center for Educational Neuroscience in London, Blakemore & Frith outline the development of the neurophysiology of the human brain that has led to many theories about educational neuroscience. One of the main pillars supporting the relationship between education and neuroscience is the brain's ability to learn. Neuroscience advances and increases our understanding of early brain development and how these brain changes may be related to learning processes. [2]

The key task of educational neuroscience is to inform "how the brain learns", to optimize learning and teaching, taking into account data from neuroscience, psychology and education. And this is of particular importance when it comes to teaching and learning children with special educational needs, where organic or functional brain impairments are present.

Taking into account the connection of special psychology and special pedagogy with modern neurosciences, A. Semenovich [6] created a neuropsychological classification of deviant development, dividing the deviations into six main groups:

1. Functional underdevelopment of the prefrontal (frontal) lobes of the cerebral cortex.

- 2. Functional malformation of the left temporal lobe.
- 3. Functional insufficiency or lack of interaction between the two cerebral hemispheres.
- 4. Functional underdevelopment of the right hemisphere.
- 5. Functional deficiency of the subcortical structures of the brain.
- 6. Functional deficiency of brain stem structures.

In this aspect, in special pedagogy and special psychology, the application of neurotechnologies is increasingly entering, with the aim of improving the functioning of the brain and supporting the learning process of children with special education needs.

Neurotechnology is a specialized medical technique and technology that studies the mind, brain activity and various aspects of consciousness, thought and higher mind activity, and so neurologists have the ability based on the research and conclusions made to influence, positively influence and heal. This includes technologies that are intended to improve and repair brain function, and that allow researchers and clinicians to visualize the brain and brain activity.

In 2010, Tommerdahl created a theoretical model that combines neuroscience (and the application of neurotechnology in particular) and learning and distinguishes several basic levels of this synthesis. [9]

The basic or first level consists of studies of the brain at the cellular level, including the study of various physiological and biochemical processes in nervous tissues.

The second level is formed by cognitive neuroscience, in which the object of study is the structural and functional organization of neurons in a network in order to form mechanisms that are responsible for certain actions, such as speech perception, word retrieval or working memory [5]. For cognitive neuroscience, questions about how the brain learns, what makes our experience conscious, and what underlies the unique cognitive abilities of the human brain relative to other simple organisms are essential [10]. The probable reason for raising these questions was the role of training in the operation of the neuromodulatory mechanisms of the brain. However, the detailed neuromodulation and timing need further research. How brain activity leads to conscious cognitive performance is currently not fully understood.

The third level represents the connection between psychological mechanisms and cognitive neuroscience and reveals how, based on the neural organization of the brain, the processes of attention, memory, thinking, etc. arise and proceed.

The fourth level is formed by the development and refinement of learning theories based on the results of neurocognitive and psychological research. At this level, data from neuroscience, psychology

and specialized pedagogical knowledge about the learning process are combined. At the same level, it is necessary to evaluate the effectiveness of pedagogical practice in the context of established cognitive and neurophysiological mechanisms, to carefully study the developed theories in order to evaluate the effectiveness of new methods in comparison with existing ones.

Finally, at the fifth level, in the classroom, evidence-based methods and technologies must be tested and applied. The developed programs are tested there for their effectiveness [9].

Modern neurotechnologies allow the learning process to be considered in the light of psychophysiology, which allows not only its monitoring, but also timely correction.

According to the type, neurotechnologies are divided into measuring, modulating and visualizing, as a direct application in the work of the special psychologist and the special pedagogue, the measuring and partly the modulating take place.

Of the measuring neurotechnologies, EEG-based neurofeedback technologies, as well as various assistive technologies based on the brain-computer interface, find direct practical application in the work of the special psychologist and the special pedagogue. The term biofeedback was coined in the 1960s to refer to laboratory procedures used in research to improve brain activity, blood pressure, heart rate, and other physiological functions that can be measured and lack conscious control. . Even then, researchers discussed the idea of using this method to control the human body, such as training people to consciously control or change the brain's bioelectrical wave activity. The definition of the neurofeedback method defines it as a method by which quantitative and qualitative measurement of brain waves is carried out, and the resulting signal serves as feedback for training and self-regulation of brain function. As such, the method is widely used to self-regulate and direct brain activity in a desired direction in order to improve existing or suppress pathological brain activity, and therefore to modulate mental activity in children with special education needs.

Another measurement methodology is based on the monitoring of psychophysiological indicators related to changes in the activity of the autonomic nervous system. These are relatively easy-to-use technologies tracking skin-galvanic conductance and its changes, mainly related to stress reactions.

Today, in clinical and psychological practice, the method of mathematical analysis of heart rhythm or the analysis of heart rate variability is increasingly used. [1] This method is based on considering the heart rate as a random process that consists of a series of heart intervals and to which various methods of statistical processing can be applied. Such a series of cardiac intervals contains information not only about cardiac activity, but also about the work of higher-level regulatory systems that govern multiple functions of the entire organism. In this way, an idea can be obtained about the adaptation capabilities of the organism as a whole, but also about the functions of the autonomic nervous system, as well as about behavioral adaptation. The analysis of heart rate variability obeys the model of neurovisceral integration, which suggests that this variability is controlled by the parasympathetic division of the autonomic nervous system and represents the psychophysiological index of inhibitory control by the brain, thus also being related to one's capacity to regulate and manage one's emotions. Research data indicate that heart rate variability is a new marker of a person's ability to read and be aware of emotions and social deviance in others. Changes in heart rate variability are also associated with emotional stress Changes in heart rate variability are often associated with social interaction. The polyvagal theory suggests that these changes may act as a sensitive marker of a person's ability to recognize and respond to social cues.

Of the modulating technologies, audio-visual entrainment systems are increasingly used. These are very interesting technologies, using sound and light with precisely defined frequencies, with which the brain can be successfully "entrained" and start producing brain waves of the same frequency.

David Siever explores the effects of implementing such technology, concluding: "We conceptualize AVE as achieving its effects through several mechanisms simultaneously (Siever, 2000). These include: 1) dissociation / hypnotic induction, 2) increased neurotransmitters, 3) possible increased dendritic growth, 4) altered cerebral blood flow, and 5) normalized EEG activity." [7]

A technology that has common roots with neuroscience and neurotechnology is already being used in the practice of the special educator, regardless of the fact that at first glance it appears as an assistive technology. As such, eye-tracking systems are already successfully applied in assisting in communication with children and adults with various forms of communication disorders and severe disorders in speech and social development. It should not be forgotten, however, that the movement of the eyes, the direction of the gaze, is directly related to the processes of attention. In this case, such assistive technologies can enter the role of measuring and support the management of attention in children with various forms of dysontogenesis, following the basic principle in the development of mental processes - from outside, through the control of the gaze by the adult, through the process of internalization, attention becomes a process well controlled by the child himself.

Of course, the variety of neurotechnologies with application in the field of special pedagogy and special psychology is not limited to those listed so far. Their spectrum has been expanding more and more, especially in recent years, when practical research in the field of educational neuroscience has gained greater application in the practice of specialists working with children with SEN. In Bulgaria, a campaign to inform and train specialists to work with such technologies is increasingly being carried out, and more and more educational institutions are including them in the arsenal of methods for supporting children with various forms of psychophysical dysontogenesis.

REFERENCES:

1. Daniel S. Quintana, Adam J. Guastella, Tim Outhred, Ian B. Hickie, Andrew H. Kemp, Heart rate variability is associated with emotion recognition: Direct evidence for a relationship between the autonomic nervous system and social cognition, International Journal of Psychophysiology, Volume 86, Issue 2, November 2012, Pages 168–172

2. Bransford, JD; Brown, AL; Cocking, RR (2000). How people learn : brain, mind, experience, and school (Expanded edition). Washington, DC: National Academy of Sciences: Committee on Developments in the Science of Learning and Committee on Learning Research and Educational Practice 3. Fischer, KW (2009). "Mind, Brain, and Education: Building a scientific groundwork for learning and teaching".

4. Lebedinskiy V. V. Disturbances of psychic development in childhood. M., 2003.

5. Roser, Matt & Gazzaniga, Michael. (2004). Automatic Brains - Interpretive Minds. Current Directions in Psychological Science. 13. 10.1111/j.0963-7214.2004.00274

6. Semenovich A. Neuropsychological diagnosis and correction in childhood, M. Academy, 2002

7. Siever, D. (2007) Audio-visual entrainment: history, physiology, and clinical studies. Handbook of Neurofeedback: Dynamics and Clinical Applications, Chapter 7 (pp. 155-183) Binghamton, NY: The Haworth Medical Press.

8. Sorokin V. M. Special Psychology: Textbook. manual / Under scientific row L. M. Shipitsynoi. — St. Petersburg: "Speech". 2003. ISBN 5-9268-0214-8

9. Tommerdahl, Jodi. (2010). A Model For Bridging the Gap Between Neuroscience and Education. Oxford Review of Education. 36. 10.1080/03054980903518936.

10. Usher, M., & McClelland, J. L. (2001). The time course of perceptual choice: The leaky, competing accumulator model. *Psychological Review*, *108*(3), 550–592. https://doi.org/10.1037/0033-295X.108.3.550



INNOVATIVE EDUCATIONAL TECHNOLOGIES - A NECESSITY OF THE XXI CENTURY

Maria Kazakova¹

¹ Dept. of Pedagogy, Faculty of Applied Informatics and Statistics, University of National and World Economy – Sofia, Bulgaria email: maria_kazakova@unwe.bg

Abstract:

A significant part of the progress of modern societies in the 21st century is due to innovation. They are also one of the driving forces and root causes of educational development in our time. The report focuses on the deployment of innovative ICT-based educational technologies. The aim is, through their use, to make the learning process adequate to the "new times" and to meet the increasing demands of the learners. The various educational innovations not only improve the way the material is delivered and absorbed, but also develop learners' digital skills and competencies.

Keywords: education, digital technologies, ICT, learning, teaching

1. INTRODUCTION

The introduction of digital education can be said to be essentially a modern invention. Digital transformation is an integral part of the education system. This article attempts to provide insightful reflections on the future potential and challenges of information and communication technology (ICT) and digital education as they relate to the adoption of the latest technological advances in the digital age and the widespread availability of open online courses. With the increasingly rapid development of the internet and technology, we are witnessing major changes in every aspect of our lives, from the way we communicate to the way we perceive the world around us. The digital revolution that began at the end of the last century has facilitated and at the same time provided unlimited access to information worldwide.

In today's world, where communication, whether real or virtual, has been elevated to a pedestal and other social activities are going digital, the development of digital competences is essential. They constitute an important prerequisite and a necessary condition for a successful professional realization of the trainees. This requires the introduction of educational innovations related to information and communication technologies.

2. PRELIMINARY NOTES

Importance of innovation in education

Already in the embedded understanding of "innovation" in the dictionary **[8]**, giving us the definition of "innovation", makes us make an association with the development of the activity of people. It could be viewed from any aspect of human development - in industrial terms, product terms, improvements in the production process, the provision of goods and services, etc. An innovation is such when it is proven in practice to be successful and can be established to be so **[1]**. They can be aimed at reducing effort and increasing speed to get results, improving the quality of learning, meeting new needs and demands of today's students, etc.

The purpose of any innovation, or educational innovation, is to lead to improvements in the ways, methods and means of teaching. At the national level, awareness of the need to provide more ICT-based opportunities is reflected in the Strategic Framework for the Development of Education, Training and

Известия на Съюза на учените Сливен, том 38 (1), 2023	Announcements of Union of Scientists Sliven, vol. 38 (1), 2023	101

Learning in the Republic of Bulgaria (2021-2030) **[7]**. The priorities set out in Area 6 of the normative document clearly show the country's targeted policy in this area, which are:

- promoting and developing a culture of innovation;
- innovations in the educational process;
- innovation in the educational environment;
- development of education in digital environment and through digital resources;
- education for sustainable development;
- modernising education infrastructure for sustainable development.

The efforts are aimed at forming a cloud-based educational environment and upgrading the education system towards digitalization by introducing specialized software solutions. In the context of the implementation of these policies, close cooperation in the field with the Digital Education Action plan 2021-2027 adopted by the European Commission [2] supports the sustainable and effective adaptation of Member States' education and training systems to the digital age.

3. MAIN RESULTS AND DISCUSSIONS

Innovative educational technologies

Institutions have invested significant resources over the past three years in improving facilities and accelerating the acquisition of knowledge and skills for working in a digital environment [3]. An example of this is the replacement of blackboards with innovative interactive ones and the construction of STEM Centres across the country, which started in 2020, and the number of 300 so far [5]. The ultimate goal is to reach 2243 STEM centres by 2026, with more than \in 500 million in funding. lv. from the Recovery and Sustainability Plan [4]. Their construction will have the following beneficial effects:

- modernising the educational environment;
- upgrading the qualifications of teachers in the direction of teaching in a modern way;
- increasing student interest through digital learning;
- development of digital skills of the learners.

The modern social environment and the requirements of the "new time", imply that the implementation of educational activities and the acquisition of competences should be conditioned by the understanding of tradition, innovation, effectiveness and efficiency. The emerging need for innovation in learning is determined by the following related components:

• globalization and environmental change, and in parallel, putting the learner at the centre of educational activities;

• the increased demands of learners to receive modern, up-to-date, flexible and relevant to the labour market education through the possibility of "lifelong learning";

• the increasing role of different educational institutions in the successful development of new approaches.

Some examples of the use of innovative educational technologies can be found at [3]:

• turning the smartphone into a virtual personal assistant - this is an opportunity to turn it into a positive tool that helps and accompanies the learner in the learning process;

• gamification of learning - the use of gamification approaches has been shown to increase outcomes regardless of the age of the learners. It is predicted that its rational use in the education system will have a high added value. Not surprisingly, the confirmation of this is set as one of the priorities in the OP "Science and Education for Smart Growth" [6] - "ICT approaches in engineering, entertainment and educational games";

• networked learning - the focus of practice-oriented learning through ICT between learners, teachers, learning resources and learners themselves is not on direct face-to-face contact, but on interaction using the capabilities and resources of the network;

• use of cloud technologies - higher reliability, security and dynamic resource allocation can be achieved through cloud computing. This allows the efficient use of resources and the creation of a unified educational and scientific environment;

• use of robots in teaching – various unsophisticated robots are currently used in some educational institutions, but in the future they may replace or partially assist teachers;

• creating virtual schools and universities – the high costs associated with education and the fact that a large part of the time, students spend remotely, suggests the foreseeable future for the creation of virtual educational institutions.

The innovative educational technologies listed above show us that the future of learning will only be possible if a number of interconnected components are in place, such as: interactive presentation systems, multimedia and video files to deliver materials, every teacher and learner should have a laptop and all participants should have a fast internet connection. The aim is to adapt the education system to the digital generation through the use of ICT innovative educational technologies, and thus to improve the quality of the education system.

4. CONCLUSIONS

The implementation of information and communication technology in education proved its usefulness and added value as early as 1920, when Sidney L. Press created the automated exam testing machine. It can be said that a significant part of the development of a society, be it a developed or a developing country, is due to technology. Progress is needed to meet the demands of an ever-changing world in the process of globalisation.

Innovative educational technologies, which for some countries - champions in their use, such as the United States, Japan and the Republic of Korea – have been introduced, for others - like us - are yet to become more widespread. This would be possible if an innovative university centre is established at each educational institution to adapt our education system to the digital generation (Generation $,,Z^{\circ}$).

REFERENCES

[1] Boyadzhieva N., (2021), Prilozhenie na inovativni metodi v uchilishtnoto obrazovanie, Sofia: Godishnik na Sofiyski universitet "Sv. Kliment Ohridski". Fakultet po nauki za obrazovanieto i izkustvata. Kniga pedagogicheski nauki, tom 114.

[2] Digital Education Action Plan 2021-2027 https://education.ec.europa.eu/focus-topics/digital-education/action-plan, 2023 (accessed 27.03.23).

[3] Ivanova, A., V. Stoykova, G. Ivanova, E. Ibryamova, S. Smrikarova, Tsv. Hristov, Tsv. Georgiev, Tsv. Vasilev, Yu. Aleksiev, (2022), Narachnik po inovativni obrazovatelni tehnologii, Ruse, EA AD-Pleven

[4] Natsionalen plan za vazstanovyavane i ustoychivost <https://nextgeneration.bg/14>, 2023 (accessed 28.03.23).

[5] Natsionalen STEM tsentar https://stem.mon.bg/news/, 2023 (accessed 28.03.23).

[6] Operativna programa "Nauka i obrazovanie za inteligenten rastezh" 2014-2020 g. https://www.eufunds.bg/bg/opseig/node/527>, 2023 (accessed 28.03.23).

[7] Strategicheska ramka za razvitie na obrazovanieto, obuchenieto i ucheneto v Republika Bulgaria (2021-2030) https://web.mon.bg/bg/143, 2023 (accessed 27.03.23).

[8] Talkoven rechnik < https://rechnik.chitanka.info/talkoven>, 2023 (accessed 27.03.23).

INNOVATIVE PEDAGOGICAL TECHNOLOGIES. THE GAME AS AN INNOVATIVE PEDAGOGOCAL TECHNOLOGY FOR EFFECTIVE AND AESY ACQUISITION OF GERMAN

Yankov N.

Dept. of Theacher Qualification and Professional Development Sliven Technical University – Sofia, Bulgaria, e-mail:yankov.n1@gmail.com

Abstract

This report examines the application of the game as an innovative pedagogical technology in learning German and its role in the easier acquisition of language units and structures.

Keywords: game, innovative technologies, acquisition, German language

1. INTRODUCTION

Learning German is really not child's play, but with games, learning German becomes definitely easier. Learning German with games is fun. So you can easily learn nouns, adjectives, expressions, important information about countries where German is spoken.

The term "innovation" comes from the Latin novatio, and literally translated, innovatio means "in the direction of change." An innovation is an innovation or a change in a given phenomenon that distinguishes it from some initial state. It is the application of new ideas. Pedagogical innovation is a process of development, implementation, testing, evaluation of innovations in education that contribute to achieving the goals effectively. Innovations in higher education institutions represent a system that consists of many components: learning goals, learning content, motivation, means of training, participants in the process /students and teachers/, results. The technology includes two interrelated components: Organization of student activity and management of the educational process. Students gain knowledge and develop their skills at the university. In addition to students' knowledge, their ability to react to changes, to be flexible, to handle emotions and to be able to select the right information is important.

What is innovative pedagogy?

The term is mainly associated with the use of digital aids during learning, in fact its meaning is much broader. (Chemi et al., 2017; Paniagua, 2018; Paniagua & Istance, 2018; Peterson et al., 2018). Innovative pedagogy refers to a large number of teaching and learning methods that are served exclusively, but not exclusively, by computer-assisted methods and aim to teach us competencies such as critical thinking and problem solving, communication, creativity and ability to innovate. In addition, they should stimulate self-regulation and self-organization. What unites them is a constructive understanding of learning, that is, learning is understood as an active, self-directed, constructive, situational and social process. The personal activity of the learner is in the center of attention (Hartmut, 2004). We can talk about innovation only when a large number of existing ideas, practices and tools lead to a new understanding of learning and teaching (Dimai, 2012). Only when the changes are carried out with a common understanding at all levels of the system and are permanently established, then we are talking about pedagogical innovations. This means that changes are needed not only in the sphere of the educational system, the school and teaching, but also in the people who are responsible for it, in order to establish pedagogically innovative ideas.

Innovative technologies are new ways and methods of interaction between students and teachers. They ensure the effective achievement of the result of pedagogical activity. They are a system of methods, ways, methods of training, educational means aimed at achieving a positive result due to dynamic changes in personal development in modern conditions. The use of modern educational technologies ensures the flexibility of the learning process, increases the cognitive interest of learners, and stimulates creative activity.

Pedagogical technology is a well-thought-out model of modern educational-pedagogical activity in the design, organization and implementation of the learning process with unconditional provision of comfortable conditions for students and teachers.

Innovative pedagogical technologies contribute to: professional development of teachers, to the application of pedagogical experience and its systematization, to the improvement of the quality of education, to the improvement of the quality of education and upbringing, to the use of computer technologies.

Pedagogical technology is a set of techniques. It is a construction of the teacher's activity, in which all the actions included in it are presented in a certain sequence and completeness, and the implementation includes the achievement of the desired result. Today there are more than a hundred educational technologies. These technologies are introduced in a complex way. When choosing the technology, the method and the working methods, we teachers must take into account the personal qualities of the students, their inclinations and needs. Innovative technologies make it easy to regulate learning and steer it in the right direction.

There are 10 established methods of teaching a foreign language, but also opportunities to upgrade them with modern technologies: grammar-translation method; direct method; audiolingual method; audiovisual method; communicative approach; silent manner; overall physical response; counseling training; cugestopedia; natural approach.

The process of German language learning changes over time, the labor market places new demands on future workers and specialists for German language proficiency, training is transformed to adapt to new goals, for which new pedagogical methods, techniques and technologies are needed. New nontraditional innovative methods find a special place in foreign language learning. In the teaching of foreign languages, innovative technologies are new ways and methods of interaction between teachers and students, which ensure the effective achievement of the result of the pedagogical activity.

The most important innovative teaching methods in German language learning:

- 1. Project-based learning
- 2.Technology-assisted learning
- 3. Teaching German during the entire training
- 4. Dramatic education
- 5. Field teaching
- 6. Games, songs and poems

7. Other innovative teaching activities are: portfolio, parallel teaching of two foreign languages, correspondence with a German-speaking friend, the learner in the position of the learner.

In this report, I present the game as an innovative technology in the German language classes. It is used as an element of a comprehensive technology, as part of the training. The game has a clearly formulated goal, which is presented in the form of a game task. All participants in the game follow preprepared and pre-specified rules. The game is an effective learning tool that activates the mental activity of students, makes the learning process attractive and interesting, makes students excited. This is a powerful incentive to master the language. D. B. Elkonin believes that the game performs four most important functions for a person: a means of developing the motivational-need sphere, a means of cognition, a means of developing mental actions and a means of developing voluntary behavior. The game is always about making a decision – how to act, what to say, how to win. It sharpens mental activity. It is in the game that social functions and norms of behavior are learned. The developmental importance of the game is in its very essence, because the game is always an emotion, and where there are emotions, there is activity, there is attention and imagination, there thinking works Play, along with work and study, is one of the activities not only for children, but also for adults. The game recreates the conditions of situations, some kind of activity, social experience, and as a result, self-management of behavior is formed and improved. Modern institutes focus on activating and intensifying the learning process, game activities are used in the following cases:

- as an independent technology;
- as an element of pedagogical technology;
- as a form of lesson or part of it;
- as extracurricular work.

The place and role of game technology, its elements in the educational process largely depend on the teacher's understanding of the function of the game. The effectiveness of didactic games depends first of all on their systematic use and secondly on the purposeful construction of their programs, their combination with conventional didactic exercises. Game activity includes games and exercises that form the ability to identify the main characteristics of objects, compare, contrast; games that develop the ability to distinguish real phenomena from unreal ones, develop the skill of self-control, reaction speed, musical hearing, ingenuity and others. In the role-playing game, tactics of behavior, actions, performance of functions and duties of a specific person are worked out. For such games, a situation scenario is developed, the roles of the actors are distributed among the students.

Here the condition is to use different motivating forms of exercise through interesting and fun ogres. Educational games are an important addition in this. Different types of games should be used for foreign language learning.

These are:

- learning games, for example guessing games, language games, word games
- games related to performance / for example skits, stage plays /
- interactive games
- simulation games
- role games

Unlike games in general, a pedagogical game has an essential feature, a clearly defined learning goal and a corresponding pedagogical result. The functions of the game in the educational process are to provide an emotionally elevated environment for the reproduction of knowledge, which facilitates the assimilation of the material. In the learning process, the game simulates life situations or conditional interactions of people, things, phenomena.

Games in German language learning: The games used in German language learning have the following functions: educational, entertaining; therapeutic; diagnostic; social. Games are a popular and well-loved form of work in German language learning. Innovative games occupy an increasingly large place in the process of perceiving new material, in the process of consolidating knowledge. Learning foreign languages is at the forefront of training, through which games as a form of exercise could be of great importance.

In foreign language learning, in addition to exercises as a form of reinforcement, games are also used precisely in order to obtain greater applicability of what has been learned in the language. According to Hans Aebli, "Practice means repetition." This maxim is especially true for language learning. Forgetting must be counteracted, what has been learned must be reinforced. And to automate. In order not to end up only with teething, it is necessary to perform the exercise in a variety of ways. This typology also contains a didactic progression. Educational games are simple, plannable, and skill-building oriented, while interactive games are complex, unplannable, and problem-oriented. Exercise through learning games has a great advantage, since almost all learners, or at least the majority, actively participate in the events. Boredom and reluctance can be avoided. The learning situation does not require much effort. In addition, learners are familiar with many of the game's forms, and variety is very well received by them. Finally, single groups can work effectively because learners can try to achieve the game's goals, given the right conditions, in their own way. Learning games should be fun. With them, there must be a task to be done or a problem to be solved. There has to be a winner. It is important that educational games are held regularly and not as something to fill time. It is necessary that they are related to what has already been learned and practiced.

Learning games in German language learning are primarily used to reinforce learning material. They can repeat and negotiate words, expressions and short grammatical structures. Along with the typical games for practicing the four language skills: reading, writing, listening and speaking, there are games that can train these skills in combination. They are primarily reproductive in nature. However, it is always important to get the attention of the participants.

Innovative games used in German language learning:

Game Name: "Domino Variante 1" /Domino Variante 1/

The aim of the game is to consolidate knowledge of connected speech, students must form as long a line of words as possible.

Rules of the game: Students form the longest domino row of words. The last letter of the word is the first letter of the next word.

For example: /Zug-gehen-nicht-trennen/

Game Name: "Domino Variante 2" /Domino Variante 2/

The aim of the game is to reinforce concepts of the thematic tasks.

The rules of the game are pre-prepared interactive cards that are arranged in a sequence with the same rule: the last letter is the beginning of the next word. It is also used in a competitive version, when students are divided into teams.

Game Name: "Dice Game" /Würfelspiel/

Purpose of the game: The purpose of the game is to consolidate knowledge of grammar /names of numbers and numerals, personal pronouns, verb conjugation/ and new vocabulary

Game Rules: Each player rolls two dice. It counts in German. The number from the first dice indicates in which person to conjugate the verb, and from the second which verb to conjugate.

Game Name: "Memories"

The aim of the game is to exercise memory and visual thinking as well as the correct spelling and pronunciation of words

Rules of the game: To write as many words as possible from already seen objects correctly

Description: Students place objects on the table and observe them for one minute. Then the objects are hidden. Students should write on a piece of paper or on the board all the subjects they remember. After a few minutes, the results are compared. The winner is the one who wrote the most words. The objects are then discovered.

Name of the game: "Kettenspiel - use the second word again"

Goal of the game: To consolidate complex words/compositions/

Rules of the game: To invent new words from the second compound word

Description: A student writes a word that consists of two simple words. For example Fahrrad. The second compound word appears first for the new word Example: Radfahrer.

Name of the game: "My name says who I am" /Wer bin ich?/

Purpose of the game: practice vocabulary and grammar rules.

Rules: Use descriptions of a person that lead to guessing that person's name.

Description: A student presents a famous person from a German-speaking country. The others ask questions to which he answers yes or no. For example: What does this person do? /Womit besägt sich diese Person? Where does he live? /Wo wohnt er?/

Game name: "Find out who I am!"

Purpose of the game: To consolidate the adjectives related to the description of the appearance and qualities of persons.

ISSN: 1311 2864, volume 38 (1), 2023 Union of scientists in Bulgaria – branch Sliven

Известия на	Announcements of	
Съюза на учените	Union of Scientists	
Сливен, том 38 (1), 2023	Sliven, vol. 38 (1), 2023	

Rules of the game: To give the most data describing someone present

Description: A student describes what one of the students present in the hall looks like externally. /He is tall, has brown hair, draws very well/ /Er ist groß. Er hat braunes Haar. Er malt sehr gut./ The others guess who this description refers to - the one who guesses, he describes the next colleague.

Name of the game: "Think of more words!" /Denke mehr Wörter aus/

Goal of the game: To improve vocabulary

Rules: Make up as many single letter words as possible.

Description: Students must come up with as many words as possible starting with the same letter. The letters are chosen from pre-prepared letters. This is done by indicating in advance how long the game lasts.

Game Name: "Find the Objects"

Purpose of the game: to consolidate prepositions and spatial relations

Rules: to determine the position of a given object in relation to a wire and in relation to itself.

Description: Objects located in different parts of the room are used. Each participant finds an object and describes the spatial arrangement of the objects. / rechts, links, oben, unten, in der Mitte/.image cards can be used instead of objects.

Name of the game: "Let's put in the suitcase" /Koffer packen/

Purpose of the game: targeted practice of certain language structures.

Rules: To select items necessary for travel

Description: Each participant to take as many objects and things as possible. Names them, placing them in a suitcase.

The preparation of educational games requires a lot of effort on the part of educators. It is necessary to select the appropriate game that corresponds to the level of knowledge of the learners, to the topic of the lesson, to prepare the learning material, to provide the appropriate language tools, to clarify the rules of the game, to explain them also in the native language, to relevant didactic and electronic materials are being prepared. Practice shows that there is an active cognitive interest in groups where game situations are used. In such groups there are elements of creativity and free choice. Teamwork skills are developed. Achieving the goal depends on everyone's personal efforts.

Using one method in German language learning usually does not lead to satisfactory results in language acquisition. A universal method that replaces all others does not yet exist. The German language teacher must use a combination of different innovative methods and approaches to suit the teaching and learning process. Teachers must be able to combine different methods in their practice, using innovative pedagogical technologies, in order to achieve the set goals more easily and to integrate students in foreign language learning more successfully.

REFERENCES

[1] Dimai, B. (2012). Innovation macht Schule. Eine Analysis aus der Perspektive der Aktuer-Netzwerk Theorie. Wiesbaden: Springer.

[2] Hartmuth, J. (2004). Aspekte einer neuen Lehrkultur. In Schumacher, F. (Hrsg.), Innovativer

Unterricht mit neuen Medien. Ergebnisse wissenschaftlicher Begleitung von SEMIK-Einzelprojekt (S. 9-33). Grünwald: Institut für Film und Bild in Wissenschaft und Unterricht.

[3] Miroslava Čáslavová, Abschlussarbeit Innovative Methoden im Deutschsprachenunterricht, Südböhmische Universität in Budweis

[4] Schlafzimmer, H., Arten innovativer Technologien in der Bildung. Moderne Innovationen in der Bildung. Examples Innovation potential einer Bildungseinrichtung
FACTORS THAT AFFECT CURRENT PEDAGOGICAL PRACTICE TRENING AT EDUCATIONAL FACULTIES

Habibe Hasan Nuri

Faculty of Engineering and Pedagogy – Sliven, Technical University – Sofia, Bulgaria e-mail: bsbhabibeozgur@gmail.com

Abstract:

The report studies factors that are important for improving the efficiency and quality of educational services of educational faculties and students' knowledge and assessment allows them to figure out the shortcomings and gaps that led to a decline in the level of education, work in digital environment.

Keywords: circumstances; effectiveness of the educational process; the curriculum; curriculum and learning materials; learning process management; teacher's qualification, digital environment work.

INTRODUCTION

The problem of education occupies an important role in the development of modern society. The effectiveness and quality of education in Higher Education Institutions is of essential importance in the development of students. Knowing the factors affecting this allows analyzing, identifying gaps and eliminating the shortcomings that can serve as reasons for the decline in the level of education. [1]

I. Factors affecting education in Higher Education Institutions in Current Pedagogical Practice

The success of studies in higher education institutions and interest in the discipline is influenced by a number of factors:

- desire to learn and develop professionally;
- a well-developed curriculum;
- positive motivation of students, teachers and basic teachers;
- well-equipped material and technical base;
- qualified teachers and basic teachers.

Well-qualified teachers, basic teachers and motivated students are an influencing factor in Current Pedagogical Practice training. A well-equipped school is a great motivation for primary teachers, students and pupils. The quality of the curriculum is a high priority. To which much attention is paid. The level of requirements for the quality of education is determined by the state educational standard - norms and requirements, which determine the mandatory minimum content of the basic educational programs for general education, the maximum volume of the students' study load, the level of training of the graduates of the educational institutions, as well as the basic requirements for ensuring the educational process. The high quality of education in schools has a great impact on the implementation of Current Pedagogical Practice.

Compiling a curriculum and choosing educational programs presupposes the availability and provision of a teaching-methodical kit to students (up to 7th grade) and teachers, which may include a textbook, a workbook, a teacher's book, reference literature, etc. The textbook occupies a central place among all types of educational literature. At the core of management in educational institutions are directors/school board/public council/methodologists/teachers/teaching staff, etc. The main guidelines for the implementation of this function are: personnel policy, increasing the qualification and social motivation of teachers and students, development of communication and feedback. Management is necessary to create favorable external and internal conditions for the effective activity of teachers working in this educational institution.

The teacher, his personality and professionalism have a decisive influence on the effectiveness of the educational process. In the conditions of a general education school, the main role in the transmission of knowledge, social and cultural experience belongs directly to the teacher. The qualification, dedication and commitment to the work of teachers/educators affect the effectiveness of the learning process in schools and Higher Education Institutions. In addition, the creative attitude of the teacher to the work can help

to optimally use the existing real conditions of the educational process. [2]

II. Factors that limit the effectiveness of learning during Current Pedagogical Practice classes:

- low attendance – Attendance matters. A teacher cannot do his job if a student is not there. Although the student may learn the course material, the probability of learning less is greater than he would have learned if he had attended class;

- excessive tardiness/early leaving – Junior high school and high school students are often late or routinely leave school early every day, reducing the effectiveness of school learning;

- student discipline – Every school faces different types and levels of discipline problems. Schools can create policies that are firm and strict, but they will probably never be able to completely eliminate discipline problems; Education is built in the home or the environment in which the pupil or student lives. It is being developed in a school and academic environment;

- lack of parental support - Many parents do not value education, do not support the development of the student;

- students' lack of motivation – Their motivation to go to school comes from being in school because they have to. Learning should be the number one motivation for all students, but it is rare for a student to go to school primarily for that purpose;

- bad public perception – Today there is negativity towards schools and teachers. This public perception affects the work a school can do. When people and the community talk negatively about the school and teachers, it undermines their authority and makes them less effective;

- lack of financial opportunity – Money is a crucial aspect when it comes to success in school or academic growth;

- too many tests – An overemphasis on standardized tests limits schools in their approach to education;

- lack of respect – lack of respect undermines the teacher's authority, minimizing and often eliminating his effectiveness in the classroom;

- nutritional factors – Taking a balanced meal and eating separately throughout the day leads to quality learning. Food rich in important vitamins and minerals increases the quality of learning;

- natural environment for learning and living – The temperature and climatic influence in the classroom, school or higher education institution increases or decreases the quality of education; Each pupil or student has different abilities, so it is necessary to determine the requirements according to their abilities;

- practices and upbringing – The way in which parents are raised by parents has a great influence on our educational environment and our habits;

- geographical factors – We have students and pupils who are very far away from where they live. This means that pupils or students have to spend long hours walking or travelling. This situation can make them tired and lack the necessary strength and energy to pay attention during classes;

- cultural factors – Vary from one society to another and affect student or student learning. In Bulgaria, school education is compulsory until the age of 16. Education at the university is not mandatory, if the person himself has decided to develop himself, he can continue his education at a higher educational institution.



Negative factors affecting education at the University of Current Pedagogical Practice are:

- poor internet connection (for distance learning);
- difficult variation between work and study (especially for working students);
- difficulties of parents, working and students who have small children;
- old equipment and equipment in students' homes (for distance learning);

- external factors affecting the training in Current Pedagogical Practice, such as unfavorable weather conditions;

- poor concentration and attention when getting into the essence of the topics to be studied by the students;

- negative mental attitude towards education;

- fear and inexperience of working with technology, especially among older students;

- the low quality of education (low writing culture, etc.);

- low classification of teachers;
- lack of knowledge about working with Interactive technology;
- negative attitude of the teacher;

- reluctance to develop on the part of the student (enrolled to study in order to obtain a diploma for higher education);

- insufficient respect for the teacher and others.

Internal positive factors influencing the learning process in Current Pedagogical Practice:

- positive learning atmosphere;

- teaching the student in a digital/hybrid environment;
- work, education and more free time;

- during distance learning, students from different parts of Bulgaria and the world also have priority;

- highly qualified teachers;

- highly motivated teachers and students;
- students can also study after school working hours;
- consultations with lagging students;
- arrangement with the teacher to conduct training also on weekends;
- well-equipped material and technical base;

- the possibility of material remuneration for the teachers and receiving scholarships and rewards for the high success achieved by the students;

- activation of the educational process for foreign students;

- increased interest in training candidate students for the professional field of "Pedagogy and Management";

- motivated work with developing students;

- management of high quality training.

Conclusion:

Factors have a high impact on the development of students' learning. Lecturers, basic teachers and students have a high priority in the factors influencing the learning in higher education. The professionalism of the teacher and the basic teacher shape the success of the students. Good management of the learning process has a positive effect on student success. External negative factors affect student performance and success. Learning weaknesses can be overcome with a positive effective attitude on the part of teachers, core teachers and students. The ability to critically examine knowledge (either alone, or together with the teacher, or together with the base teacher).

[1] https://web.snauka.ru/issues/2021/01/93800

[2] https://superinf.ru/view_helpstud.php?id=2478

[3]https://bg.thpanorama.com/articles/cultura-general/10-factores-que-influyen-en-el aprendizaje-denios.html

[4]https://www.greelane.com/bg/%D1%80%D0%B5%D1%81%D1%83%D1%80%D1%81%D0%B8/%D0%B7%D0%B0%D0%BF%D1%80%D0%B5%D0%BF%D0%BE%D0%B4%D0%B0%D0%B2%D0%B0%D1%82%D0%B5%D0%B8/factors-that-limit-school-effectiveness-3194686

[5] Bellıh H. Karl, Svede H. Hans, str. 144., Tehnika na u4eneto 1 na umstveniya trud, Dirjavno İzdatelstvo Narodna prosveta, Sofia. 1987

[6] Colov Valentin., Pedagogi4eska psihologiya, st.24., Sofia 2000.

[7]https://tuj.asenevtsi.com/EL09/EL01.htm?fbclid=IwAR0eV5gP1FsPfZPUFivEaM-

iFeyDV9tXEycNnKYO3eWGTbtbuNdOd8UqqHA

CAUSES AND CONSEQUENCES OF STRESS IN NOVICE TEACHERS

Monika Doichinova Simeonova-Ingilizova

Technical University of Sofia, Faculty of Engineering and Pedagogy – Sliven Department of Pedagogy and Management,

e-mail: monikaingilizova@gmail.com

Abstract:

This article focuses on the study of stress experienced by novice teachers at the beginning of their professional career. The study included two groups of participants - directors of educational institutions and novice teachers. The purpose of this study is to clarify the underlying causes and consequences of stress and to understand how mentoring in educational institutions influences stress management in novice teachers. The first part of the study focused on novice teachers and their perspectives on the causes through a projective "Finish the Sentence" methodology and the consequences of stress through focus group work. The second part of the study analyses the opinions and views of principals on the mentoring support provided to novice teachers. The results show that mentoring plays a key role in the adjustment of novice teachers and helps them cope more effectively with the challenges of their new professional role. Principals recognize the importance of support and encourage the active participation of beginning teachers in supportive programs.

Keywords: stress, novice teachers, mentors, causes of stress, effects of stress

INTRODUCTION

The teaching profession is one of the most exciting and responsible professions that requires dynamism, flexibility and continuous adaptation to changing educational requirements. According to M. Mihova "The teaching profession, which is the basis of all other professions, is an "eternal" profession." The role of teachers in society is invaluable and incomparable. They not only impart knowledge but also act as a bridge between different generations, carrying the experience and wisdom of past times to future generations.

In their qualitative role as educational leaders, they are responsible for shaping the character and values of young people, as well as their learning and personal development. They not only convey facts, but also help students develop social skills, critical thinking and the ability to learn independently, thus influencing society as a whole (*M. Mihova, 2018*).

Beginning teachers have high expectations for their professional success, including establishing good relationships with students, with members of the parent community, providing quality education, and developing habits of learning.

K. Kostov stresses that "In a school environment, not only is the value system of children developed, but also the potential for the development of the overall culture of society is created. This is directly related to the professional realization of those of them who in the future manifest themselves as subjects changing the common cultural identity, refracting it through their own developed self" (K. Kostov, 2021).

They need support and guidance to adapt to the complexity of the teaching profession and to develop the necessary skills to manage stress effectively, helping them to achieve success and job satisfaction.

For many beginning teachers, this career path can be exhausting and challenging. Stress in beginning teachers is widespread and can have serious consequences for their professional growth as well

as their personal lives and well-being. In his extensive research Y. Yanakiev informs the public about ,,the need to derive and implement algorithms for coping with chronic stress in at-risk groups" (Y. *Yanakiev*, 2019).

This article focuses on the study of stress in novice teachers (1-5 years of professional experience), analyzing the causes that contribute to this stress, the effects it can have on them, and strategies that can help them cope more effectively with this challenging aspect of the profession. The aim is to explore current theories and research in the field that contribute to a better understanding of the causes and consequences of novice teacher stress, and to propose concrete strategies and solutions that can be implemented in educational institutions.

The topic regarding stress in beginning teachers is extremely important and relevant to research today for several reasons:

Retaining beginning teachers in the profession. Statistics show that beginning teachers face high levels of stress and experience difficulties, leading to high rates of leaving the profession. With global statistics showing up to 50% teacher attrition in the first five years, there is a need for more detailed information on retention methods. Although in some contexts the percentage of teachers remaining in the profession may be higher, the question is why?

This can depend on many factors - both professional and personal. It is important to clarify whether the departure is the result of dissatisfaction with working conditions, insufficient support from educational institutions or lack of professional development. In addition, personal factors such as worklife balance can also play a significant role.

The analysis should also explore the possibility of a combination of these factors. Perhaps the interplay between professional and personal aspects is what ultimately influences teachers' decision to stay or leave the profession.

Understanding the reasons behind teacher attrition statistics is key to developing effective teacher retention and support strategies that will, ultimately, positively impact the educational environment and student success. (*Thelma M. Gunn, Philip A. McRae, 2021*)

Quality of education. The stress faced by novice teaching professionals can have a negative impact on the quality of education provided. If teachers are dissatisfied, feel burnt out in the profession and ineffective in managing their stress, this affects their interactions with other teachers, with students and their learning. A team of specialists has implemented a study and added to the evidence base by examining the links between teachers' years of experience and teaching quality. The results show no evidence of lower teaching quality for novice teachers (0-3 years of experience), but they do find evidence of a decline in teaching quality for teachers with 4-5 years of experience (*Linda J. Graham, Sonia L.J. White, Kathy Cologon, Robert C. Pianta, 2020*).

Beginning teachers' health and well-being. Stress in novice teachers has serious negative consequences for their physical and mental health, as well as their general well-being. "The measured increase in stress among teachers in a study of Icelandic professionals is of great significance as the results showed that poorer mental and physical health, as well as mental and physical symptoms, were significantly associated with perceived stress, after controlling for other factors in the models." This shows the importance of doing everything possible to improve work-related well-being among teachers. (*Hjordis Sigursteinsdottir, Gudbjorg Linda Rafnsdottir, 2022*)

Professional development and growth. Researching novice teachers' stress and developing coping strategies also contributed to their professional development and growth. They improve their skills

through continuous training in a variety of qualifications and through independent professional learning. When they embrace continuous professional development as a key part of their careers, teaching professionals not only acquire new competencies, but also incorporate the latest and most interesting methods into the learning process, stimulating students to achieve maximum results, taking into account their potential.

Through continuous professional development, teachers become more effective in the learning process, create more relevant and quality educational design, and inspire their students to achieve (*Tsokov, G., D. Levterova, L. Africanov, 2022*).

In conclusion, examining novice teacher stress and developing coping strategies are essential for improving the quality of education, retaining novice teachers in the profession, improving their health and well-being, and supporting their professional growth and development.

This topic has widespread application and relevance in today's education system and requires ongoing research and discussion to find optimal solutions and approaches to address the challenges of novice teacher stress.

It is critical to recognize that novice teacher stress is not only a problem for the individual teacher, but also a challenge facing educational institutions and the system as a whole. It is therefore necessary to pay special attention to the support and training of novice teachers and to the creation of a stimulating and supportive working environment.

THEORETICAL FRAMEWORK OF THE STUDY

The theory of the teaching profession and stress, developed by Christine Kyriacou (Kyriacou), is one of the leading theories addressing the relationship between teaching and stress. This theory is based on research and observations that highlight the influence of the professional environment in schools and the factors that contribute to stress in teachers, especially novice teachers.

According to Kyriacou, novice teachers are exposed to more stress for a number of reasons:

Insufficient preparation – novice teachers often face the challenges of the profession without having been sufficiently prepared in their education. Many of those starting out in teaching experience insecurity and a lack of confidence in their ability to cope with the duties, the curriculum and the students.

Adverse working conditions – teachers face many challenges in the school environment, such as workloads, limited budgets, discipline problems and complex relationships with students and parents. These conditions contribute to the accumulation of stress.

Interpersonal challenges – working with students with different needs and abilities, as well as interacting with colleagues and management, can be sources of stress for novice teachers. Insufficient support from colleagues and a lack of clear guidance increase feelings of stress.

Kyriacou's theory of the teaching profession and stress provides valuable guidelines for understanding the problem of stress in beginning teachers. It highlights the importance of professional learning, support and the development of self-esteem as means of improving the well-being and success of beginning teachers (*Chris Kyriacou, 2001*).

The theory of mentoring, developed by Richard Ingersoll and Karen Kralik, is concerned with the importance of mentoring in the context of the teaching profession. This theory focuses on the role of experienced teachers as mentors and the support they can provide to novice teachers.

The main idea of the theory is that mentoring occupies a significant place in the development and retention of novice teachers in the profession, providing them with support, guidance and opportunities

for development. According to this theory, mentoring helps novice teachers to adapt more easily to the professional environment and to cope with the challenges of teaching.

In the context of mentoring theory, some of the key aspects are:

Известия на

Съюза на учените

вен, том 38 (1), 2023

Development of professional skills – mentors are tasked with helping novice teachers develop and improve their skills and competencies. They can provide guidance and feedback, share their professional experiences and help beginners develop in their profession.

Psychological support - mentors should engage with novice teachers and provide emotional and psychological support. They can help beginners cope with stress, build self-confidence and successfully adapt to the teaching profession.

Providing information and resources - mentors should provide novice teachers with the information, materials and resources they need to help them prepare and deliver lessons. By sharing good practice with them, beginners will find it easier to navigate the curriculum and choose the most appropriate teaching methods and strategies.

Establishing trust and support in the professional community - mentoring also has a social component, encouraging novice teachers to get involved in the professional community and connect with other teachers. Mentors assist in building networks of support and collaboration, which is essential for the successful functioning and retention of beginning teachers in the profession.

Mentoring helps to reduce stress and improve the well-being of novice teachers, facilitating successful adaptation to the teaching profession and the development of their professional skills and competencies (*Ingersoll, R., J. Kralik, 2004*).

The theory of self-efficacy, developed by Albert Bandura in 1997, is a theoretical model that focuses on the role of a person's beliefs and confidence in influencing their own ability to achieve success in a particular domain. In the context of the teaching profession, this theory has significant application to the study of novice teachers' self-efficacy and their ability to cope with stress and challenges.

According to self-efficacy theory, beliefs and confidence in one's own abilities have a direct impact on one's motivation, persistence, and achievement. Novice teachers who have a high degree of selfefficacy believe that they are able to cope with the challenges of the teaching profession and achieve success. They have positive expectations about their skills and believe they can control and influence the situations they encounter.

Novice teachers with high self-efficacy tend to actively engage in the learning and development process, seek out new resources and strategies, and are more likely to engage in interaction with colleagues and seek support. They cope better with stressful situations, have greater perseverance and resilience, and are more likely to stay in the profession and succeed in it.

Self-efficacy theory has significant application in educational contexts and provides valuable guidance for understanding the interplay between novice teachers' beliefs, confidence, and achievement. The development of self-efficacy has positive effects on novice teachers' stress, professional development, and retention in the teaching profession (*Bandura, A., 1997*)

The theory of stress and coping, developed by Richard Lazarus and Susan Folkman in 1984, is one of the leading theories for understanding stress and coping mechanisms. This theory focuses on the interaction between the individual and the environment and how this influences stress responses and experiences.

The basic idea of the theory is that stress is not directly related to events in the environment, but to the meaning and evaluation that the person attaches to them. According to Lazarus and Folkman, stress

arises when one perceives an event or situation as a challenge or threat to his or her well-being and does not have sufficient resources to cope.

According to the theory, effective coping with stress involves adaptive cognitive processes, such as reframing, reappraising situations, and focusing attention on the positive aspects. The importance of social support and the use of effective coping strategies are also highlighted. Novice teachers can benefit from the support of mentors, colleagues and other professionals who have experience in the field of education.

Lazarus and Folkman's Stress and Coping Theory provides a framework to help beginning teachers understand and manage their stress reactions. It supports the development of practical coping skills and encourages a more positive and adaptive approach to stressful situations in the teaching profession. (*Lazarus, R. S., S. Folkman, 1984*)

METHODOLOGICAL FRAMEWORK OF THE STUDY

The development of a methodology for the purpose of research on the perceived and experienced stress of novice teachers at the beginning of their professional career is necessarily done in the context of the theoretical concepts presented.

Object of the study is stress in novice teachers, and the subject of the study explores the causes and consequences of stress as well as mentor support as a factor in reducing stress levels, increasing personal resilience and effective adaptation to a new professional role.

Excerpted from – 49 teachers with 1 to 5 years of teaching experience and 25 principals participated in the study. The working environment of all respondents was schools in a district town and rural schools in the South-East. About 50% of them work with students and parents from multicultural backgrounds. Inclusion of the respondents in the study was random and by expressing informed consent to participate.

Procedure – the study was planned, organized and conducted between October 2022 and May 2023.

Toolkit – for the purpose of this study, a combined methodology including two methods was used - projective methodology "Finish the sentence" and work in focus groups.

The first method is aimed at getting closer to the inner world of novice teachers, giving them the opportunity to express their thoughts, feelings and views on the causes and consequences of the stress associated with starting their teaching career.

The second part of the methodology is carried out by working in focus groups and analysing the views and shared practices of headteachers on supporting new teachers in the schools they lead. This method allows for an in-depth exploration of the experiences and views of key figures in educational institutions who provide beginning teachers with support early in their careers. Through this aspect of the research, a complex understanding of the role of mentoring and the ways in which it influences novice teachers' coping with stress and adjustment is developed.

This combined research approach allows for a focused and detailed analysis of both the internal perceptions and feelings of novice teachers and the external context and influence of mentoring in educational institutions.

Presentation and analysis of study results

Analysis of the results of the research with novice teachers

According to novice teachers who are exposed to stress, some of *the main reasons*, which they indicated by completing the sentences provided to them are reflected by percentage in Figure 1:

Известия на Съюза на учените Сливен, том 38 (1), 2023



Figure 1

By the largest percentage, 78% of novice teachers cited insufficient practical training at university. This affects their confidence, self-esteem, respectively, and the manifestations of stressful situations and experiences.

69% of respondents have difficulty managing the classroom - ensuring a calm climate, good discipline and dealing with challenging student behaviour. These circumstances increase the stress of carrying out their professional duties.

More than half of the novice teachers surveyed (54%) reported that they did not have the support of school leadership to provide mentors (experienced educators who are senior teachers). Although mentoring as a good practice exists in the Bulgarian education system, it has not been systematised within a common programme or a structured approach to support newly recruited teachers. Despite the existence of mentoring, it does not have a positive impact on the effective adaptation and retention of teachers in the teaching profession.

Time management by novice teachers during the all-day school day for 43% of the individuals surveyed also emerged as a cause of perceived and experienced stress.

Probably the lack of communication culture and skills in novice teachers is the reason for the fact that 32% of the respondents reported difficulties in interacting with students, parents and colleagues, which causes stress, especially in conflict situations.

These reasons, mentioned by novice teachers themselves, represent the perspective of people who perceive and experience stress in their professional path. Understanding these reasons is important in order to develop appropriate support strategies and resources to help beginning teachers cope with stress and achieve greater well-being in the teaching profession.

Stress has *various consequences* on the lives and personalities of novice teachers. On completion of the researchers' proposed sentences, they stated the following implications presented in Figure 2:



Figure 2

Analysis of the results of the survey with principals

Organisation and participants – the focus groups were conducted with data collection in two smaller subgroups composed of principals from different educational institutions. Respondents were divided into groups of 12 and 13 to ensure active discussion and dialogue.

Moderator – each group is led by an experienced moderator who encourages and facilitates directors to share their views and experiences.

Structure of the discussion – for the introduction to the topic, the moderator introduces the subjects to the context and objectives of the study.

Participants are encouraged to share their views, opinions and experiences on the two specific questions that are put before them.

Discussion – respondents have the opportunity to share their experiences, opinions and recommendations in small groups on the following questions:

• Do the new teachers in your school have a mentor and what is their role in supporting the new teachers?

• What challenges do you face in appointing a mentor and supporting beginning teachers?

The varied answers include concrete examples, personal observations and views.

Recording and analysis – focus group discussions are reflected in the form of notes taken by the moderator. The moderator presents the conclusions summarised in the large group and these are complemented and enriched with concrete suggestions.

Interpretation of results

1. All principals participating in the survey said that the school they lead has teachers with 1 to 5 years of experience.

2. Only 28% of the respondents have assigned mentors to the novice teachers, with the normative justification of Regulation 15/22.07.2019.

3. Principals noted the following key points on which mentors work with new teachers:

• Provide leadership and guidance on curricular and methodological issues.

- Help manage classroom dynamics and manage student behavior.
- Support for stress resilience and professional development.

4. School principals face a number of challenges related to mentoring and supporting novice teachers. The summary results are presented in Table 1:

Table 1

N⁰	CHALLENGES
1.	Organisation of the mentoring programme – principals need to create and organize a mentoring program that includes finding appropriate mentors, assigning novice teachers to them, and establishing clear roles and responsibilities.
2.	<i>Selection of appropriate mentors</i> – designated mentors must be competent and prepared to support novice teachers. Choosing the right mentors can be challenging, especially if there are insufficient opportunities to train and prepare mentors.
3.	<i>Time management</i> – principals must deal with limited teacher and mentor time. Arranging training sessions and meetings between mentors and novice teachers requires good time management. Mentoring needs to be for at least 3 years.
4.	Definition of resources – principals it is important to provide the necessary resources to train mentors and novice teachers. This may include financial resources, materials and appropriate organisation and infrastructure.
5.	Performance evaluation – principals need to evaluate the effectiveness of the mentoring program and support for beginning teachers. This requires monitoring the progress of novice teachers and mentors as well as analysing the results.
6.	<i>Creating motivation</i> – principals need to create motivation among mentors to take on the role of mentors and support novice teachers, especially if this activity is not included in their job description.
7.	Overcoming resistance – some mentors may express resistance to mentoring due to time constraints or lack of appropriate initiatives. Principals need to address this type of resistance and identify and implement a mechanism to overcome it.
8.	<i>Coordination with other tasks</i> – principals have many responsibilities and tasks in the school. The organisation and management of the mentoring programme must be coordinated with other administrative and educational tasks.

All of these challenges require principals to be well-organized, communicative, and adaptable to ensure effective mentoring and support of novice teachers in the school.

CONCLUSIONS

The study examines novice teacher stress, its causes and consequences, and the role of mentoring in supporting new teachers in Bulgarian schools. Although mentoring practically exists in the Bulgarian education system, it is not identified as a separate programme or practice to introduce newly recruited teachers to the teaching profession. The potential benefits of mentoring, including faster adaptation and improved professional skills of novice teachers, have not been fully realised.

The following *conclusions* can be summarized from the study:

1. Causes of stress in novice teachers analyzed include high expectations, uncertainty, limited resources, and insufficient support from school leaders.

2. The identified consequences of the experienced stress confirm not only the lack of a system for integration of the new staff in the work process, but also emerge as the main reasons for the high levels of early departure from the education system.

3. There is a need to develop a comprehensive and structured mentoring programme to support novice teachers in their professional adaptation and development.

4. The availability of mentors is important, but their roles and responsibilities need to be more clearly defined to ensure effective support for novice teachers.

5. Mentor training is a key factor in the successful performance of the mentoring role. Training opportunities need to be provided to enhance their skills to support and guide novice teachers.

6. Challenges related to the organisation of mentoring and support need to be addressed by establishing clear guidelines, better time management and resourcing.

7. Collaboration between schools, educational institutions and regulators needs to be strengthened to ensure a coherent and effective approach to coaching and mentoring.

Research findings, as well as evidence from a variety of sources, highlight the serious effects of stress on beginning teachers, including reduced work motivation, burnout, psychological problems, and reduced well-being. These factors not only affect the individual health and well-being of teachers, but can also have a negative effect on the quality of education and, consequently, the image of educational institutions.

REFERENCES

Kostov, K., (2021), Educational and didactic dimensions of the formation of competences for creativity, Proceedings of an international conference held within the framework of the Clement Days of Alma Mater, University of St. Kliment Ohridski", Sofia, 458-469, ISBN 978-954-07-5328-7

Mihova, M., (2018), The Pedagogy Discipline in the Context of the Modern Requirements for Teacher Training, Collection of Scientific Articles and Studies of Teachers from Vratsa Branch of the University of Transport "St. St. Cyril and Methodius" and lecturers from the Higher Pedagogical School in Aleksinac, Republic of Serbia, University Publishing House "Sv. Cyril and Methodius" University of St. Cyril and Methodius, city of Aleksaksh. B. Tarnovo, ISBN 978-619-208-140-9

Tsokov, G., D. Levterova, L. Africanov, (2022), Theoretical and Practical Model for Professional Development of Pedagogical Specialists, Syndicate of Bulgarian Teachers (Bulgaria), Sofia, Bulgaria. Sofia, https://proteach.info/, ISBN 978-954-9924-24-4 (pdf)

Yanakiev, Yu., (2019), Diagnosis of Burnout Syndrome in Educational Professionals. Strategies for coping with chronic stress in the workplace, University Publishing House "Paisii Hilendarski", Plovdiv, ISBN 978-619-202-529-8

Bandura, A. (1997), Self-efficacy:The exercise of control.W H Freeman/Times Books/Henry Holt & Co. Chris Kyriacou, (2001), Teacher Stress: Directions for future research, Educational Review, 53:1, 27-35, http://dx.doi.org/10.1080/00131910120033628

Hjordis Sigursteinsdottir, Gudbjorg Linda Rafnsdottir, (2022), The Well-Being of Primary School Teachers during COVID-19, Int J Environ Res Public Health. 2022 Sep; 19(18): 11177. Published online 2022 Sep 6. doi: 10.3390/ijerph191811177

Ingersoll, R., J. Kralik, (2004), The Impact of Mentoring on Teacher Retention: What the Research Says. Denver, CO: The Education Commission of the States.

Lazarus, R. S., S. Folkman, (1984), Stress, Appraisal, and Coping, Springer Publishing Company, New York, ISBN 0-8261-4191-9

Linda J. Graham, Sonia L.J. White, Kathy Cologon, Robert C. Pianta, (2020), Do teachers' years of experience make a difference in the quality of teaching?, Teaching and Teacher Education, https://doi.org/10.1016/j.tate.2020.103190

Thelma M. Gunn, Philip A. McRae, (2021/2), Better understanding the professional and personal factors that influence beginning teacher retention in one Canadian province, International Journal of Educational Research Open, https://doi.org/10.1016/j.ijedro.2021.100073

FEATURES OF ENGLISH LANGUAGE TEACHING - STATUS AND PROSPECTS FOR THE PROFESSIONAL DEVELOPMENT OF LEARNERS

Anton Todorov Yordanov

Department of Pedagogy and Management IPF-Sliven, TU-Sofia, Bulgaria, e-mail: anton.todorov.yordanov@gmail.com

Abstract

This report describes the characteristics of English language teaching and learning. Defining language is a complex task, with many linguists offering different definitions. One definition from an Oxford edition (1989) describes language as a system of sounds, words, and phrasal patterns used by humans to convey thoughts and feelings. Learners are also aware of the importance of English proficiency, which results in the emerge of anxiety mixed with stress.

Keywords: genealogy, language, linguistics, motivation, Common European Reference Framework, multiculturality.

1. English language - genealogy

English belongs to the Indo-European language family, with its ancestor believed to be Proto-Indo-European. Proto-Indo-European was spoken 5000 years ago by nomads inhabiting the plains of South-Eastern Europe.. German, which is considered the successor of these languages, is divided by scholars into three regional groups: Eastern (Burgundian, Vandal and Gothic, all extinct); Northern (Icelandic, Faroese, Norwegian, Swedish and Danish) and Western (German, Dutch and Flemish, Frisian and English).

The importance of learning English stems from the undisputed dominance of the language in all spheres of life. Its in-depth study is a necessary prerequisite when a person strives to achieve personal and professional development and to ensure wider access to sources of useful information and contacts with people close to him. English is the official language for various business and scientific forums. Multinational and multilingual companies adopt English as their corporate language. Negotiations and transactions between the various large companies and joint consortia are conducted in English regardless of the territory in which they are held and the origin of the participants. Scientific seminars and webinars are also widely held in English. According to the Royal Oxford Academic Press, English is the USA (the US constitution states that there is no official language, but it is used as an official language in public administration), Australia, Canada, New Zealand, Commonwealth of Nations. On the other hand, as an official language of diplomacy, it is used by organizations such as: EU, UN, NATO, European Free Trade Association. English is accepted as a second language in many countries such as: Norway, Sweden, Denmark, Holland, Germany. Nearly 1.5 billion people speak English and another 1 billion are learning it.

2. Why to study English and how to increase students' interest.

The collaboration between pedagogical specialists and parents is crucial in forming and strengthening students' aspirations towards learning English. By using the natural curiosity of children at an early age, teachers and parents are able to form the basis of English language culture in them, when it is still relatively easy. The work of teachers and parents is equally important, because without exercises at home under the control of parents, the efforts of teachers at school would be in vain. This need can rarely be realized by learners in the initial stage of their education. The observation and analysis of students' interests as tools for pedagogical diagnosis helps to discover their innate interests to be used as topics in English learning and thus to establish a basis interesting for them, such as: sports, art, holidays, traditions, etc. .n. By capturing their interest through their personal interests and curiosity, teachers can easily convey their knowledge of English. The need to be aware of the need for additional motivation and modernization of pedagogical methods applies to a large extent in English learning, as students increasingly expect interesting and high-tech means in English classes. "The Effects of Computer-Assisted Language Learning on Language Acquisition": This study focuses on the use of computer-assisted language learning (CALL) and its impact on language acquisition. The results show that CALL can be an effective tool for improving English listening, speaking, reading and writing.

3. Status of English language learning

Currently, teaching English in a classroom environment includes teaching theory, verb tenses, terminology, as well as exercises that improve students' written, verbal and communicative abilities. Most exercises are in the form of tests with possible answers. Open-ended exercises are mostly used in focus exercises, reading and listening comprehension. Other exercises include a conversation or monologue on a topic. Discussions, talks and presentations, as a means of developing speaking skills, are also part of English language training and exercises. The main difference between the teaching of English in the educational environment in Bulgaria and other countries is that the English language here is taught massively in Bulgarian, while in other countries the teaching is done in English. In some profiled language high schools and universities, teachers with English as their mother tongue are hired, with the aim of increasing the quality of education, therefore increasing the competences of students.

Due to the various global crises and conditions in recent years, a more massive use of digital means and the distance form in foreign language education has become necessary. E-learning provides opportunities for interaction between learners located in different parts of the world but connected on the Internet. The exchange of data and knowledge between learners increases, communicative, digital, linguistic and analytical competences increase. In addition to on-site and remote attendance, training is conducted in groups or individually. In group training, attention is paid to the level of language proficiency and sometimes their age.

4. Educational materials

The European Commission, through the Common European Framework of Reference for Languages, recommends that the member states comply with the parameters specified in it and apply them in their educational institutions The use of electronic and digital materials is encouraged for environmental purposes A tolerant and empathetic attitude towards marginalized groups is also recommended.

Multiculturalism refers to the ability to understand, respect, and accept individuals or groups with different cultural characteristics, such as traditions, religion, and habits. Cultural diversity enriches society by introducing new practices and ideas that can improve the lives of its members. This does not mean erasing one's own identity, but rather embracing and including the different and using their knowledge and skills useful for societal processes. The English language helps facilitate communication between all cultures, ethnicities and groups. The unification of all groups would lead to a stronger civil society, therefore contributing to its progress. Acceptance of the different is an indicator of a highly developed society.

6. Common European frame of reference

The Common European Framework of Reference for Languages, recommended by the European Commission, specifies parameters for language teaching materials that member states should comply with. This framework aims to improve mobility between EU member states, facilitate recognition of language certificates, and establish cooperation between educational institutions. This system was developed in order to stimulate the joint work of European educational institutions and above all to achieve comparability of foreign language competences on a scale valid for the whole of Europe. Apart from being a basis for learning foreign languages, this language framework helps to improve mobility between EU member states, to facilitate the recognition of relevant language certificates and, last but not least, to establish cooperation between educational institutions.

Proficiency level – fluent

C2 Understands everything he reads and hears easily. Analyzes, synthesizes, and retells facts and arguments in a consistent and orderly manner. Expresses feelings, emotions, ideas and opinions freely. It distinguishes delicate shades of meaning.

C1 Understands a variety of long and complex texts. Ability to express oneself spontaneously and freely, without apparent difficulty in finding the appropriate words. Uses language effectively and flexibly in everyday life, studies and profession. Can express himself in an orderly and clear manner on complex topics and has a good command of the means of constructing speech and the written word.

Proficiency level – independent

B2 Understands content both in complex text and in discussion of professional topics in his specialty. Ability to communicate somewhat spontaneously and casually in a conversation with a native speaker, without tension for both parties. Expresses himself in detail and clearly on many topics, can express an opinion on current topics and outline the advantages and disadvantages of various options.

B1 Can understand main points when clear and standard language is used, from familiar topics related to work, school, leisure etc. It handles most situations when traveling in a country where the language being studied is spoken. He expresses himself simply and meaningfully on familiar topics and on topics from his circle of interests. It can narrate an event, incident or dream, describe an expectation or goal, and briefly state reasons or explanations for a project or idea.

This level consists of two sub-levels: B1.1 (slightly advanced) and B1.2 (medium advanced).

Proficiency level – basic

A2 Can understand single sentences and frequently used expressions related to the immediate environment and everyday life (eg basic personal and family information, shopping, immediate environment, work). Can communicate during simple and routine activities that require the exchange of simple and direct information on familiar and everyday topics. Can describe in simple language his education, his immediate environment and talk about topics according to his immediate needs.

A1 Can understand and use familiar and everyday expressions as well as very simple sentences intended to meet specific needs. May introduce himself or herself and ask questions of another person, e.g. about where he lives, the people he knows, the things he owns, etc., and I can answer such questions. He can communicate in a rudimentary way if the interlocutor speaks slowly and distinctly and helps him communicate. Employers and educational institutions from all over the world consider the possession of a Certificate of level B2 sufficient for the performance of professional duties in English, and the possession of levels C1 and C2 are recognized by the Ministry of Foreign Affairs of the Republic of Bulgaria as sufficient for the entry of the respective holder in the list of persons entitled to carry out translations from and into the relevant language. These translations are recognized as legal and have legal weight. Level C2 certificates sometimes also serve as documents for admission to English and other European universities. C2 level certificates also serve as a teaching qualification document along with other documents in many countries.

7. Prospects

In the future, more and more widespread use of modern technologies in the teaching of English and beyond is foreseen. Its study and mastery is of primary importance for the development and unification of societies. The question of the use of the learning format (face-to-face, online or blended) gives way to the construction of design methods for the needs of the respective learner or group. The methods described as effective are:

- Research work;
- Self-study;
- Group open online or hybrid courses;
- Training tailored to the specifics of the relevant profession or professional direction.

8. Summary

Teaching and learning English is a complex and multidimensional process that involves a specific approach according to the needs, capabilities, maturity and qualities of each student or group. It is of key importance to create a calm and pleasant atmosphere in the learning process. The environment and attitude of the teacher towards the students should be motivating, encouraging and friendly. Small mistakes made should not be severely punished and emphasized in front of everyone, in these cases learners lose motivation and form a negative opinion about the English language. It is necessary to involve parents and guardians in the early stage of education in order to achieve higher and more sustainable results. English is important to learn because of its wide application in all professional areas, it has become a mandatory condition for professional growth, personal development and self-improvement. Education in the context of a free economy obliges educational institutions to increase the quality of the services they offer in order to be up-to-date and competitive. Synchronization in the study programs for professional areas and the study programs in English will lead to greater efficiency and professional training of the learners.

REFERENCES:

1. Rivers, W. (1983). Communicating Naturally in a Second Language: Theory and practice in language teaching. Cambridge: Cambridge University Press pg. 137.

2. Sharma R.A. (2001). Fundamentals of Teaching English. Meerut: Surya Publication. Pp. 183-185, 189-190

3. (PDF) Important of learning English in today world (researchgate.net)

4. (99+) TALENT MANAGEMENT: THE DYNAMICS OF SUCCESS IN LIFE | Dr.S Sahayaselvi - Academia.edu

5. (1) (PDF) THE IMPORTANCE OF LITERACY AND BENEFITS OF MASTERING ENGLISH (researchgate.net)

6. English Medium in Higher Education | British Council

7. The role of English in education | Cambridge University Press & Assessment

8. (99+) How to Teach English 2nd Edition Jeremy Harmer | Monitor Class - Academia.edu

9. L018_ELTRA_FINAL.pdf (teachingenglish.org.uk)

10. Instrumental reasons for studying in compulsory English courses: I didn't come to university to study English, so why should I?-Web of Science Core Collection

11. Instrumental reasons for studying in compulsory English courses: I didn't come to university to study English, so why should I?-Web of Science Core Collection

12. Mission in English Language Teaching: Why and Why Not?-Web of Science Core Collection

13. Pre-Service Teachers' Narratives: Why Did I Decide to Become an English Language Teacher?-Web of Science Core Collection

14. A Case Study of Multi-media in College English Teaching-Web of Science Core Collection

15. ЕВРОПЕЙСКА ЕЗИКОВА РАМКА (vfu.bg)

https://www.mfa.bg/

Aims and scope: Development of technical and life sciences continues to grow rapidly. It is essential that the dissemination of information related to this development follows the same dynamics. The jornal "Announcements of the Union of Scientists - Sliven" performs precisely this role, providing visible environment for cross-fertilization of ideas and knowledge to be used in research and development programs. The journal offers its readers a broad look at all branches of technical, social andhealth and nature-mathematical sciences. It publishes articles from the widest possible range of authors, both in terms of professional experience and country of origin.

Guide for authors: "Announcement of Union of Scientists - Sliven" is devoted to original research articles that present a clear exposition of significant aspects of contemporary science. Primary emphasis is placed on high quality works that has neighter appeared in, nor are under review by other journals. It is recommended the language of publication to be English, but publications in Bulgarian, Russian, German or French shall also be permitted. The journal maintains strict refereeing procedures and the acceptance of manuscripts for publication depends strongly on the recommendations of an anonymous reviewer and the supervising editor. The publication of the articles does not necessarily mean that the editorial board agree with the points of view of their authors.

Submission of Manuscript: The authors should prepare their papers using standart word processing program and sent them electronically to e-mail: izv_su_sliven@abv.bg. If email submission is not possible, please send an electronic version on disk to the postal address of the publisher.

Manuscript preparation: The article begins with a single-column text in English, including title (no abbreviations), authors (no scientific degrees), information about the authors with their jobs and e-mail addresses, abstract (no more than 20 lines) and keywords. If the article is in Bulgarian or another acceptable language, the same information is presented in that language. The body of the article follows in single-column text, some of which include figures and tables, presented according to journal guidelines. Page margins: top -3 cm / bottom -2 cm / left -1.5 cm / right -1.5 cm; Text: single spaced; Font: Times New Roman; Font size: 12 points; Alignment: two-sided. The bibliographic reference should be written in Latin. If Cyrillic sources are available, they should be rendered in Latin either by English translation or transliteration. The editors reserve the right to edit manuscripts when necessary.

Цели и обхват: Развитието на техническите и житейски науки продължава да расте бързо. От съществено значение е, че разпространението на информация, свързано с това развитие, следва същата динамика. Списанието "Известия на Съюза на учените - Сливен" изпълнява именно тази роля, осигурявайки видима среда за взаимното обогатяване на идеи и знания, които да се ползват в научноизследователски и развойни програми. Списанието предлага на своите читатели широк поглед към всички клонове на техническите, социалните, медицинските и естествените науки. То публикува статии от възможно най-широк кръг от автори, по отношение, както на професионален опит, така и страна на произход.

Указания за авторите: "Известия на Съюза на учените - Сливен" е посветено на оригинални научни статии, представящи ясно изложени значими аспекти на съвременната наука. Предимство иматнепубликувани висококачествени работи, които не са в процес на рецензиране от други списания. Препоръчително е езикът на публикуване да бъде английски, но публикации на български, руски, немски или френски език също се приемат. Списанието се придържа към строги процедури за рецензиране и приемането на ръкописза публикуване, зависи от препоръките на анонимен рецензент и наблюдаващия редактор. Публикуването на статиите не означава непременно, че редакцията е съгласна с гледните точки на техните автори.

Подаване на Ръкопис: Авторите трябва да подготвят статиите си, ползвайки стандартна програма за текстообработка и да ги изпращат по електронен път на адрес: izv_su_sliven@abv.bg. Ако изпращането на имейл не е възможно, моля изпратете електронна версия на диск до пощенския адрес на издателя.

Подготовка на Ръкописа: Статията започва с едноколонен текст на английски език, включващ заглавие (без съкращения), автори (без научни степени), информация за авторите с техните работни места и електронни адреси, резюме (не повече от 20 реда) и ключови думи. Ако статията е на български или друг допустим език, същата информация се представя и на този език. Следва тялото на статията в едноколонен текст, който включва фигури и таблици, представени по указанията на списанието. Маржове на страницата: отгоре – 3 см / отдолу – 2 см / отляво – 1.5 см / отдясно – 1.5 см; Текст: единично отстояние; Шрифт: Times New Roman; Размер на шрифта: 12 пункта; Подравняване: двустранно. Библиографската справка следва да бъде написана на латиница. Ако има източници на кирилица, те трябва да бъдат представени на латиница или чрез превод на английски език, или чрез транслитерация. Редакторите си запазват правото да редактират ръкописите, когато това е необходимо.

Announcements of Union of Scientists Sliven, vol. 38 (1), 2023

COPYRIGHT POLICY

By sending an article to the journal "Announcements of the Union of Scientists – Sliven" the author agrees to assign copyrights for announcement, publishing and distributing and guarantee that the article is original and does not violate the copyright or any other right of third parties, and that the article was not published elsewhere and its publication is not planned elsewhere in any form except as provided herein.

The copyrights of published articles are property of the publisher. Not accepted for publication articles are not reviewed and not send back to the authors.



ПОЛИТИКА НА АВТОРСКИ ПРАВА

С изпращането на статия за списание "Известия на Съюза на учените – Сливен" авторът се съгласява да преотстъпи авторските права за анонсиране, публикуване и разпространение и гарантира, че статията е оригинална и не нарушава авторските права или всяко друго право на трети лица, както и че не е публикувана другаде и публикуването й не се планира другаде под никаква форма, с изключение на предвиденото тук.

Авторските права на публикуваните статии са собственост на издателя. Неприетите за публикуване статии не се рецензират и не се връщат на авторите.



Печат: печатница "ГРАФИК 2" GSM: +359 879 57 68 19 e-mail: grafik2@abv.bg 127