

OPPORTUNITIES AND CHALLENGES FOR THE EDUCATION OF STUDENTS WITH SPECIAL EDUCATIONAL NEEDS IN THE DIGITAL ENVIRONMENT: THE NEW NORMAL

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Abstract. The publication comments on the use of information and communication technologies for students with special educational needs. The educational process also includes the digital environment, which is new for this age period, but extremely interesting and easily digestible. In this regard, the homelands in the 21st century cannot and should not be educated and brought up with the means of their parents or ancestors. Educational institutions, from the very beginning of the introduction of digital technologies until now, have been and are keeping up with the new. The teaching staff, in addition to being rejuvenated in terms of age with young teachers, recently graduated from the universities, where specific training is carried out for methodology and work with ICT, but also constantly upgrade their knowledge, skills and competences in this aspect. The students of the new century have new sensations, needs, motivation, which all of us working in this sector need to comply with and implement effectively, for their sake – the future of the Bulgarian nation.

Keywords: information and communication technologies; education; students; special educational needs; digital environment

1. Introduction. Information and communication technologies

Let's start from the answer to the question or to find, to summarize, the definition of Information and Communication Technologies (ICT) – based innovative educational technologies?! In the global Internet we find the following: In English:

- 1) Educational technology – About 5,160,000,000 results (0.57 seconds).
- 2) Educational information and communication technology – About 1,680,000,000 results (0.54 seconds).

3) Educational digital technologies – About 1,980,000,000 results (0.44 seconds).

4) ICT-based innovative educational technologies – About 73,500,000 results (0.46 seconds).

In Bulgarian:

1) Educational Technology – About 926,000 results (0.46 seconds).

2) Educational Digital Technologies – About 84,300 results (0.31 seconds).

3) Educational Information and Communication Technologies – About 290,000 results (0.24 seconds).

4) ICT-based educational technologies – About 46,700 results (0.38 seconds).

It is clear from the reference that this concept, both in Bulgarian and in English, is in fourth place in terms of popularity compared to other related concepts. Frequency of use and in Google Ngram Viewer or Google Books Ngram Viewer (an online search engine that plots the frequency of each set of search strings using annual counts of n-grams found in print sources published between 1500 and 2019 (g. in the Google text corpora in English, Chinese, French, German, Hebrew, Italian, Russian or Spanish.) Tracking the use of the concepts educational technology, digital technology ICT based educational technology between 2000 and 2019, we find that: In the English-language literature, educational technologies are associated with the use of digital technologies in education (educational technology or EdTech) and are defined as: “EdTech is a process of integrating technology into education to build better teaching/learning experiences that result in higher learning outcomes.” (In translation: EdTech is the process of integrating technology into education to build better teaching/learning that leads to higher learning outcomes.)

Due to the fact that in the Bulgarian pedagogical tradition, the concept of educational technologies is used as a synonym for didactic technology, which can exclude the use of digital technologies, the two concepts are combined without assuming a tautology (Dineva 2017, Abdul Hussein Al-Mosawi 2018). Prof. Peycheva-Forsyth, uses the terms “educational information and communication technologies” or “educational digital technologies”. “In the early years of online teaching and learning, sometime in the mid-1990s, in the absence of high-speed Internet, “online” meant only one – text-based, asynchronous learning, in which communication does not occur simultaneously or “live”. Nowadays, the two concepts (e-learning and web-based learning) are very often used as synonyms, and both concepts include the characteristics of synchronous (in real time via video/audio conferencing software) learning.” (Peicheva-Forsyth 2022).

As for the concept of “innovative” technologies, Power Point presentations and interactive whiteboards have long been included in the group of traditional educational digital technologies. For the top 6 technological innovations for education for 2022 are accepted (reference Google):

1. Virtual Reality (VR) in Education.
2. Artificial intelligence and machine learning.
3. Cloud computing for education.
4. 3D printing.
5. Social media in educational institutions.
6. The use of biometric data in schools.

What has been said so far shows that when working in an integral field such as the digitization of learning and education, it is important to clarify one's conceptual apparatus and reach a consensus regarding what content one puts in the key concepts in order to direct one's efforts in one direction.

ICT as educational models are primarily focused on the technological (procedural) side of the learning process. Their idea is to stimulate and motivate the activity of the children/students from the new neighborhood to carry out learning, cognitive and creative activities aimed at self-aware activity and self-development. (Alexandrache 2014, Al-obaydi, Doncheva & Nashruddin 2021). The concept of educational technologies also has a broader meaning. Technology does not mean only the technical achievements used in education, but also relates to psychological and pedagogical theories of learning. In order to activate the students' internal energy resources, educational technologies are used, which help them experience the pleasure of performing cognitive activities. (Angelova, Topolska 2022, Neminska, Borisova 2021; Beloeva, Antonova 2023). The thought process is not implemented at all stages of cognitive activity. In many cases, this activity is carried out as a result of habits, skills formed in the past.

There are many and diverse opinions regarding the definition of the essence of educational technologies in modern pedagogical literature. Due to limited exposition, we will summarize: Classroom technologies such as whiteboards, projectors, and computers are traditional technology supports. The development of new technologies, and in particular learning management systems, lecture recording, video streaming and social media, have radical implications for the design of teaching and learning. The technologies available to the teacher can contribute immensely to creating an interactive and engaging learning environment for students.

2. Status and prospects of the educational process, including inclusive education in Bulgaria

In recent years, a decrease in the cognitive activity of students, and more specifically of students, has been noticed. Their need for knowledge about the surrounding world and reality is significantly reduced. In pedagogical research, the problem of the conditions affecting the formation of students' cognitive activity occupies a rather important place. The explanation of the reduced cognitive activity may lie in the insufficient degree of formation of subjective cognitive activity, which is determined by the unsatisfactory organization of the educational process in

educational institutions in the direction of purposeful formation of children's curiosity, curiosity (expressed in asking questions) and creative activity. (Engels-Kritidis 2015; Al-Obaydi, L. H. & Pikhart 2022; Eyubova 2020). This, in turn, raises the question of whether the professional-technological training of teachers is in accordance with the new requirements, or the problem of developing student subjectivity in the conditions of pre-organized, programmed and conducted activities in a school environment. The problem of subjectivity itself is not sufficiently developed, but is only put as a necessary condition for the development of personality "Properly created learning environments based on new technologies provide learners with more opportunities compared to traditional learning in terms of content, pace of work, preparation and overview of necessary conditions, and for actions such as joint work, consultation, testing and evaluation." (Voinohovska, Asenov 2023; Shoilekova 2021).

In the new era, new, innovative methods, approaches, processes, strategies, etc. are undoubtedly needed. for training, education and development, so that they can serve the new needs in the situation of a pandemic, and of course, after it, because apart from the fact that humanity must learn to live with it, it must also adapt or change the existing ones. Despite the strong influence of the family on the intellectual development of children, priority in this process is given to educational institutions (the kindergarten and then the school) with all its components – the learning process and the learning content structured in educational areas and learning subjects; curricular, extracurricular and extracurricular forms; personal professional participation of pedagogical specialists; the overall organization and influence of the pedagogical environment, etc. In order to achieve the socialization, intellectual development and support of each child and each student, as well as the competence as a whole, in accordance with his age, needs, abilities and interests, it is necessary that the main processes in them are education, training and socialization of children and the students. Intellectual education is the sphere in which the two pedagogical processes of learning and education are most closely realized in their inseparable unity. Using the term “competence” means that in this important period for human development, the basic elements of competence are formed. The logic of their formation is a transition from and to socialization.

From the very beginning, it should be noted that ICT implementation processes are extremely dynamic, systematic and efficient. Through work on European projects, through own funding, through donations, etc. computers, technical means and resources were acquired, and in parallel with the development of new technologies, that is, from the very first digital ones to modern ones, such as a children's studio in the educational institution, laptops for every child, etc. An important moment is the interaction with parents, in the role of like-minded people and partners for the sake of the functional development and prosperity of the child/student. Parents and the family play the most important role in the realization of children's rights at an early age, and they are the ones who should ensure that the

child has access to adequate nutrition, health care, learning opportunities, a safe and stimulating family environment and stable emotional connections. Art. 6 (1) of the Constitution of the Republic of Bulgaria states: All people are born free and equal in dignity and rights. Parents, adults, teachers must know and know their rights in order to defend them. Here emphasis is also placed on children from the so-called Inclusive Education.

Inclusive education is definitely not only for children with special educational needs, it includes many groups, such as children with chronic diseases, migrant children, gifted children, dropouts, etc. We pay attention to the following – The concept of inclusive education is a comprehensive process that includes the so-called “community-based rehabilitation”, which means: Inclusion of children with special needs in common activities, inside and outside of school, with other children; inclusion of community resources (according to the Declaration of Salamanca mainstream schools must accept all children with special educational needs).

3. Nationally presented research on the topic of the scientific publication in the Republic of Bulgaria.

For the purposes of this publication, from the National List of Indicators for Monitoring Progress towards the United Nations Sustainable Development Goal 4, we have chosen to present: Quality Education. Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. According to data from the National Statistical Institute¹:

The quantitative and qualitative data are as follows (fig. 1 – 4):

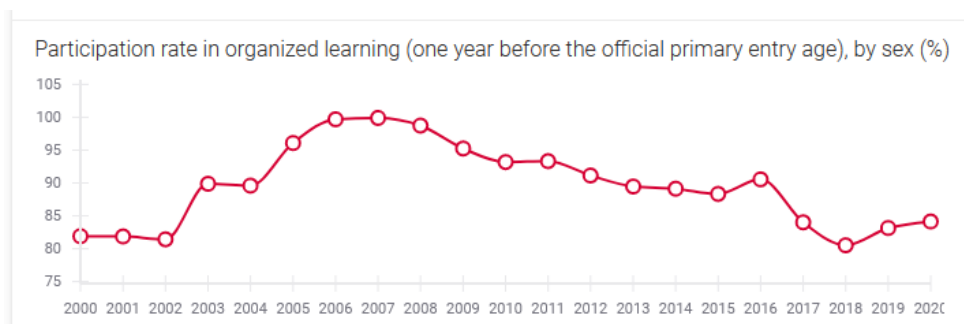


Figure 1. Participation rate in organized learning

The participation rate of children in pre-primary or primary education in the year prior to the official entrance age for primary school increased from 81.9% in 2000 to 84.2% in 2020.

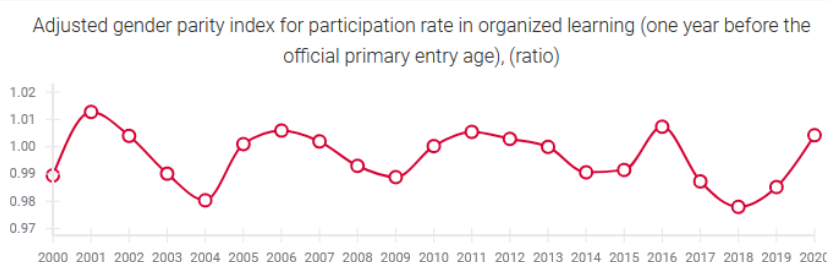


Figure 2. Adjusted gender parity index for participation rate

In 2020, the gender parity index for participation rate in organized learning (one year before the official primary entry age) was 1.0.

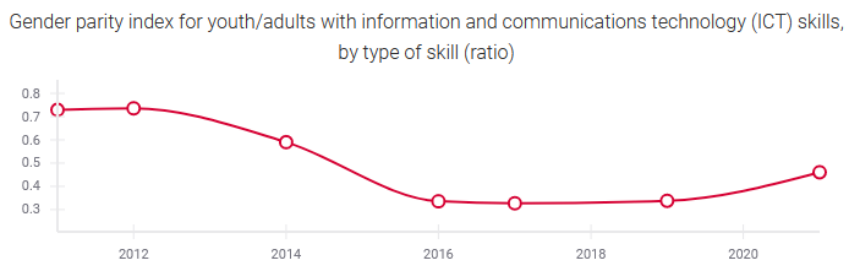


Figure 3. Gender parity index for youth/adults with ICT skills, by type of skill (ratio)

The gender parity index (female per 100 male) for youth/adults who were able to write a computer program using a specialized programming language declined from 0.7 in 2011 to 0.5 in 2021.

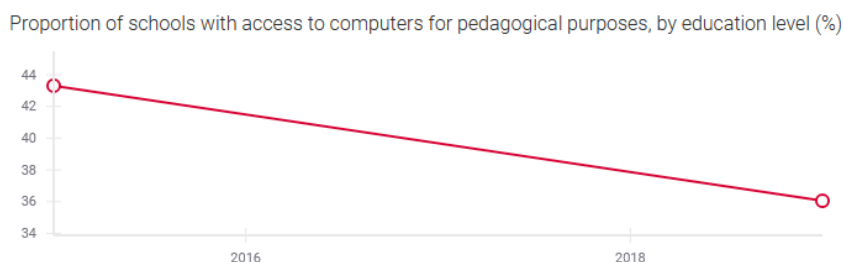


Figure 4. Proportion of schools with access to computers for pedagogical purposes

The proportion of primary schools with access to computers for pedagogical purposes declined from 43.3% in 2015 to 36.1% in 2019.

Unfortunately, the exported data is not encouraging. In this regard, the following Sub-goals of Goal 4: Quality education are identified:

3.1. Ensure by 2030 that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

3.2. Ensure by 2030 that all girls and boys have access to quality early childhood development, care and pre-primary education to prepare them for primary education.

3.3. Ensuring by 2030 equal access for all women and men to financially accessible and quality technical, professional and higher education, including university education.

3.4. Significant increase by 2030 in the number of young people and adults who have appropriate skills, including technical and professional ones, for employment, jobs with decent working conditions and entrepreneurship.

3.5. By 2030, eliminate gender inequality in education and ensure equal access to all levels of education and vocational training for people in vulnerable situations, including persons with disabilities, indigenous peoples and children in vulnerable situations.

3.6. Ensure by 2030 that all young people and a significant proportion of the adult population, both men and women, acquire linguistic and mathematical literacy.

3.7. Ensure by 2030 that all learners acquire the knowledge and skills necessary to promote sustainable development, including (among others) by teaching knowledge about sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, understanding and appreciation of cultural diversity and the contribution of culture to sustainable development.

3a. Construction and modernization of educational institutions, oriented and adapted for children, people with disabilities and persons vulnerable as a gender, which provide for all a safe, inclusive and fruitful learning environment without aggression and violence.

3b. Significantly increase by 2020 the number of global scholarships for students from developing countries, in particular the least developed countries, small island developing countries and countries in Africa - for enrollment in higher education institutions in developed countries and other developing countries, including in vocational training programs, information and communication technology, technical, engineering and scientific specialties.

3c. Significantly increase by 2030 the number of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States².

4. The new generation of students with and without special educational needs –opportunities and challenges in the digital world

At school age, children rapidly develop their motor skills, improve their speech and communication abilities, develop their imagination. Through covert or overt play activity, they gain experience that allows them to safely explore unfamiliar psychological and social roles. Through it, they improve their speech, because in the interaction, it is speech communication that is necessary – to receive, to ask, to give, to be noticed, to be included, to be accepted in the general game. The developing functions of game interaction in the formation and development of the child are in harmony with the activity approach (applied according to the strategic goal), considering the age characteristics. In view of the free manifestation and formation of plastic imagery skills, it is appropriate to offer a specific situation for acting out, directing them to certain images and actions. The game situation must be close, familiar, so that they can derive the necessary actions from their experience. Their attention should be focused on expressing mood and state (their own or the characters') with active activity. At this age level, the important stage in the development of thinking is also related to the mastery of speech. The choice of an adequate methodology is the result of the correlation of theoretical considerations with the goal (Beloev, Smrikarov, Voinohovska, Ivanova 2023).

Children love to create, build, create. In order to have a developmental effect, even in childhood, it is not the effectiveness, but above all the procedurally of the activity that is important. That is, not what will be the final result or product, but the activity of its realization, the stages of "trial and error", of "learning by doing", of applying the information. Very concretely and clearly P. Konakchieva says the following on the subject: "Children's practical-transformative research activity is always accompanied by extraordinary emotionality. She gets involved in the activity in a special way. The positive emotions generated by the "discovery" made are able to cause significantly greater efforts to achieve an attractive goal for the little nature explorer. The emotional saturation of children's experimentation leads to the intensification of the development of new motives for activity, which significantly rearranges the motivational-emotional sphere and ultimately contributes to the formation of the heuristic structure of the personality." (Konakchieva 2021). With the development of modern technologies and the transition of human civilization to an information society, the problem of the adaptive capabilities of the individual is becoming more and more relevant. The adaptation of the person to the requirements of the social environment, his experience as professionally realized and successful, identified with the group, with the organization, experiencing serious pressure from internal and external factors are present.

The teacher's mission is to guide communication, to be a conduit of the ideas, goals and tasks that he has set before the parents, guardians, in the name of the students entrusted to him. Every single activity in order to have a positive effect, to

be implemented, to achieve its goals, must have a plan, strategy, consistency and systematic implementation. Achieving the general goal of adolescent development largely depends on the correct ranking of tasks depending on the general and methodical conditions of training and upbringing, as well as on individual characteristics. (Epitropova et al. 2019). Without the effective interaction, without the collaboration of the institutions, in the person of the teacher, with the family, the results would not be fruitful and sustainable, they would not be what is expected to be, and in the long term.

5. Conclusion

The world for children/students is complex, dynamic, sensitive and interesting. Comprehensive and harmonious development of adolescents requires unity and coherence of all activities and actions on the part of adults. Their full integration into the surrounding social world presupposes the presence of social abilities, which in their totality are designated as social competences. The modern situation in which our society has found itself feels a need, a need for new models of public education for the personality, in an open social environment and very close contacts of the family with the school sector. Appearing as one of the important factors of social impact, the family environment affects the physical, mental and social development of the child in general. Of all the problems, perhaps the most important is that of adaptation in society. As the main characteristics of the adaptation process is the social status of the family, that is, its condition in the process of adaptation in society.

The widespread awareness of the role of education, science and innovation as the main driving forces of the knowledge society, as well as the great impact on the daily life of citizens and a sustainable future, impose the types of competence as fundamental. (Zlatarov, Ivanova, Ivanova, Doncheva 2021). An important factor in professional-didactic competence is diagnostic competence, in which an important aspect is diagnosis in the learning process. The learning environment is also considered as an element of this competence. It is associated with a supportive environment, a humane approach, a benevolent climate that promotes learning. Class management is a skill related to: knowing and managing students' cognitive activity through provoking tasks, problem-based learning, applying and managing the metacognitive strategy "thinking aloud". The ability to manage self-regulated learning is an important condition for effectiveness in the learning process, but it turns out that many teachers do not know it and do not apply it. Related to the development of classroom management skills and management of the learning environment, the skill of working with promotion programs is also considered.

Today's children are born and raised in a complex virtual-real world. Almost 80% of young people's communication and socialization goes through the Internet. This process begins at an increasingly early age. The world of the Internet is completely real to them, having a very strong impact on the formation of their views, values

and ideas. But at the same time, the Internet is an uncontrolled, diverse environment in which they encounter conflicting and often aggressive, discriminatory attitudes and an abundance of hate speech.

In conclusion, it can be summarized that at school age, the accumulation of social experience takes place through: involvement in a variety of activities through which students acquire a wide stock of social information, skills and habits; a wide range of competencies; communicating with people of different ages, within different social groups, through which they expand their system of social connections and relationships and perceive social symbols, rules and values; performance of a variety of social roles through which they master different patterns of behavior. All this in the 21st century with modern children is realized to a large percentage (which will become more and more, observing the development trend) precisely by/through/with/through/by means of information and communication technologies precisely at this early childhood age. The dynamic is towards even earlier, the so-called “early childhood”. The world is changing at a rapid pace, and so is education, so that it does not keep up with the children, with the students, with learners, but to be a step ahead of them!

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NOTES

1. <https://www.nsi.bg/bg/content/19414/> цел-4-качествено-образование.
2. <https://www.nsi.bg/bg/content/19414/> цел-4-качествено-образование.

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