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THE USE OF A DIGITAL PLATFORM FOR THE DEVELOPMENT OF AN INCLUSIVE EDUCATIONAL ENVIRONMENT

Abstract

The article reviews with the issues of digitalization of inclusive educational environment, improvement of inclusive educational practices, development of digital platforms for children with special educational needs. To article aim: to analyze the current state, existing global practices, foreign and Kazakhstani digital resources and concluded that digital platforms are convenient to use, provide inexpensive access to technologies, and have a set of tools for inclusive online education and others. The experience of different countries can be used to create a custom flexible model, but it is necessary to develop its own digital platform for teachers and support specialists, students and the parent community. The article presents various approaches to the development of E-inclusion and specific objectives for its implementation are identified. The digital platform being developed opens up wide opportunities for the development of inclusive education in the Republic of Kazakhstan.

Keywords: inclusive educational environment; digital platform; online learning; inclusive educational practices; children with special educational needs.

Introduction. Since the beginning of the 21st century in many developed countries of the world the leading trend in the education of children with "special needs" is their inclusion into the general educational space. Children integrated into a mainstream education are provided with additional academic accommodations, assistance and support to facilitate learning. Digital platforms to improve inclusive educational practices are the most sought-after, effective and informative resource (Sharipov A., 2021).

The report on the status of children in the Republic of Kazakhstan as at January 01, 2022 states that for 4 years the country has been registering an increase in the number of children with special educational needs caused by disorders of psychophysical development up to 18 years of age. For example, the increase from 2017 to 2020 is 4.6%. At the same time, the number of children with special educational needs involved in an inclusive environment does not exceed 50%. For example, in 2017, the engagement of children with s[ecial educational needs was 33.6%, in 2018 it was 42.4%, in 2019 it was 36%, and in 2020 it was 38.7% (Report on the Status of Children, 2021).

The current circumstances require the development of effective ways, forms and technologies to improve the competence of teachers and the informatization of the parental community in the field of inclusive education.

Main part. In the European Union's Glossary of Digital Economy and Society, E-inclusion refers to a situation where low-cost access to technology, the availability and usability of information technology, and the ability and skills of all people to use digital tools in learning are required (Glossary: E-inclusion. Eurostat: Statistics Explained).

The VU University Amsterdam (Vrije Universiteit) has an E-inclusion project, funded with the support of the European Commission, designed to build capacity for inclusive education in a digital environment. The authors have created a website "einclusion.net", design a set of tools for developing inclusive online education (inclusive education handbook, learning micro-modules, online digital inclusion course, awareness raising tool) (Marieke Slootman et al., 2022).

Scottish Sociologist and Cultural Studies Scholar, Caroline Y. Robertson-von Trotha, reviewing European studies, presents various definitions of e-inclusion, issues of e-inclusiveness (accessibility) of digital opportunities, overcoming the digital, cultural and socio-economic gaps, and the knowledge gaps due to rapid growth. Therefore, the

overabundance of information, knowledge and innovation becomes the dilemma of modernity (Caroline Y. Robertson-von Trotha, 2017).

Apparently, each country implements its own models of e-inclusion, which evidences the impossibility of creating universal integrative models and simple calquing of foreign experience.

Wherefore, the development and implementation of the digital platform, "E-inclusion.kz", is intended for teachers of general education schools of Kazakhstan, support specialists (special educators, psychologists, social pedagogues, teaching assistants), methodologists, students of pedagogical majors, parental community.

Research materials and methods. Based on the analysis of sources and data, the authors attempted to identify the main approaches in the development of "E-inclusion.kz".

The system approach shall allow to consider the development of "E-inclusion.kz" from the point of view of unity of theory and practice, expand the understanding of the sought phenomenon of "inclusive educational practice", "e-inclusion" and provide an opportunity to define the model of the digital platform based on the principles of flexibility and adaptability, multi-profile, practice-orientation. Comprehensive approach - implies legal, informational, methodological, consultative support for those on whom the full implementation of inclusive education depends: classroom teacher, special educator, psychologist, social pedagogue, teaching assistant, parents. An interdisciplinary approach will establish the interrelationships and mutual influence between the socio-psychological, legal and methodological aspects of inclusive education. The information approach shall allow searching, exchange, processing and interpretation of information on inclusive education in Kazakhstan and the world through the "E-inclusion.kz" digital platform (Galaguzov M.A., 2020).

Based on an analysis of current sources, in the opinion of the authors, for the development of the digital platform "E-inclusion.kz" it is advisable:

- carrying out scientific and theoretical analysis of modern Kazakhstani and foreign sources on the subject of studying the phenomenon of "inclusive education", "inclusive educational environment", "inclusive educational practice", "children with special educational needs", "digital environment", "e-inclusion" in the context of regulatory-legal, psychological, methodological, informational and social aspects, for which purpose the essential characteristic of the basic concepts of the study of "inclusive educational practice", "e-inclusion", "children with special educational needs", "digital environment", "digital platform" shall be clarified and supplemented;

- identifying the informational opportunities and risks of using digital resources to build capacity for inclusive practices, where the opportunities and risks of promoting inclusive practices and culture shall be identified and substantiated through analysis of the body of existing data from the digital environment; focus group questionnaires and interviews shall be undertaken;

- scientific and theoretical substantiation of the structural and content model of "E-inclusion.kz" on the basis of scientific analysis of functions, criteria, principles of work and content filling;

- creating content components of "E-inclusion.kz" based on the results of the conducted research - massive educational online courses (MEOCs) for students and teachers on inclusion and support of children with special educational needs in the general education environment (MEOC cycle: "Inclusion of Children with Special Educational Needs in the Mainstream Educational Setting", "Psychological and Pedagogical Support for Children with Autism", "Teaching Children with Visual Impairments in the Mainstream School", "Teaching Children with Hearing Impairments in the Mainstream School", "Teaching Children with Intellectual Disabilities in the Mainstream School", etc.);

- creating a "School for Parents" with the purpose of their informational, legal, methodological, psychological and pedagogical support, creating video clips for parents of children with special educational needs describing the processes of algorithmized support for children with special educational needs in various circumstances;

- creating, piloting and testing the "E-inclusion.kz" digital platform to build capacity for inclusive education in the digital environment and support all actors implementing inclusive educational practices;

- developing and testing professional development courses to prepare teachers to work

in an inclusive educational environment based on systemic and interdisciplinary approaches to their development ("Pedagogical Technologies of Inclusive Education", "Digital Tools of Inclusive Education", etc.);

- generalization of the findings of the scientific research for the purpose of wide coverage in the scientific and professional community, control questionnaire and interviewing on the results of approbation of the digital platform, development of proposals.

Results and discussion. Scientific novelty of the research consists in the scientific and theoretical substantiation and development of the "E-inclusion.kz" digital platform for the improvement of inclusive educational practice of general education schoolteachers, support specialists (special educator, psychologist, social pedagogue, and assistant educator), methodologists, and parents.

Scientific research on the issue demonstrates that the ideas of wider implementation of digital platforms in inclusive education have been accumulating in the global educational space for a number of years already:

- in the contemporary world, the "e-inclusion" term describes the extent to which people have access to information technology and is believed to be intended to reduce the gap (digital divide) between developed and less developed countries in a broad sense or to empower disadvantaged people such as the poor, the disabled, the unemployed, etc. Thus, more and more companies are now producing computer hardware with e-enablement programs (Harnessing diversity, 2021);

- in the USA, there are long-standing studies of inclusive education practices, the authors of which have concluded that additional teacher training is required to improve their effectiveness. More than 32 qualitative studies are described in the corresponding handbook (Jared Keengwe, 2020);

- Chris Abbott, based on a review of English academics' research from 1970-2007 on inclusive education, also suggests his own approaches to training, assisting the learning of people with special educational needs using digital technologies, which are to create inclusive learning communities (Chris Abbott, 2007);

- in order to improve the understanding of the social challenge of the digital gap, researchers from Florida State University (USA) and Nankai University (China) conducted a study and suggested an integrated model of the digital divide and an integrative framework for measuring its causes (Yu, B., 2018);

- according to a University of Genoa study undertaken during the Covid-19 pandemic in Italian schools, an effective e-inclusion depends on technology, collaboration between teachers and families, and online learning strategies. In small groups and individually, the teachers used asynchronous and synchronous interactive ways of teaching, and the move to a virtual school revealed inequalities in access to digital resources. Thus, electronic integration shall be viewed as the ability of teachers to increase student engagement with special educational needs and to enhance their instructional processes through the incorporation of multiple devices and applications (Davide Parmigiani et al., 2021);

- the UN Economic and Social Commission for Western Asia website presents the Arab Digital Inclusion Platform (ADIP), which provides information on disability and e-accessibility in Arabic-speaking countries. The platform supports the implementation of the UN Convention on the Rights of Persons with Disabilities, the UN Strategy for the Inclusion of Persons with Disabilities, and other mandates (Facilitating digital inclusion);

- the International Telecommunication Union website features UNESCO projects for people with disabilities in Nepal, Latin America, the Philippines, Palestine, the European e-TEN program, the Accelerating Access to ICTs in Africa (CATIA) program, the Federal Government of Nigeria's NRTP National Rural Telephone Program, the Joseph Wresinski Training Center project in Peru, the Hungarian Government's program to provide Internet access to low-income households at reduced prices, the project to build basic telecommunications infrastructure in rural Laos, the Asian Broadband Program and many others (E-inclusion);

- Marion Hersh in her report draws attention to the untapped potential of technology in inclusive education due to insufficient numbers of trained teachers, lack of expertise and available technology. 2020, UNESCO (Marion Hersh et al., 2020);

- "Inclusive Kazakhstan" project of the Eurasia Foundation of Central Asia Kazakhstan (2019-2021) aimed to protect and ensure the rights of persons with disabilities to free movement and equal access to facilities and services in Kazakhstan in accordance with international standards. The created "Inclusive Kazakhstan" portal offers information and services in 17 cities (Inclusive Kazakhstan: Project). It should be noted that this portal is not non-educational and is more focused on providing services to the public;

- in 2021, an international online conference "Modern Technologies in Inclusive Education" was held in Abai Kazakh National Pedagogical University with the participation of Kazakhstani and foreign professionals in the field of inclusion, psychology, library specialists, representatives of companies developing adapted technologies, publishers and developers of information resources. The conference addressed the issues of sharing best practices in the field of inclusion, creating an inclusive environment in the library space, the use of adapted special technological devices and information resources in the educational process (Modern technologies in inclusive education, 2021);

- a research among teachers of general education schools of Almaty was conducted at Narkhoz University (Almaty city), which revealed the attitude of teachers to the process of inclusive education. The findings revealed neutral and even negative attitudes in general towards the process of inclusion of children with special educational needs in the mainstream educational setting. Moreover, that teachers are more interested in the didactic and social factors of the inclusive education process (Yusupova D.Sh. et al., 2021);

- UN Special Rapporteur on Education in Kazakhstan, Kishore Singh, notes the need to strengthen the inclusive education system, to ensure good working conditions for teachers and to improve their qualifications (United Nations Expert);

- Maulsharif M., Nurbekova Zh., Naimanova D. in their research made a comparative analysis of the regulatory framework of countries in Europe, America, Asia, Australia and came to the conclusion that in all countries there are still obstacles to the transition to an inclusive school environment. Specialized professional and psychological training of teachers, including internships, may become a prerequisite for overcoming them (Mira Maulsharif et al., 2022);

- the National Scientific and Practical Centre for the Development of Special and Inclusive Education (NSPC DSIE) carries out information and analytical work in the system of special and inclusive education, as well as training and methodological support to special education organizations (NSPC DSIE, 2021).

The above studies have developed a shared vision of e-inclusion as an essential foundation of the information society, providing ubiquitous and affordable access to it. However, to date, has not found practical implementation in our country.

The suggested "E-inclusion.kz" digital platorm offers a wide range of opportunities for informing, legal, methodological support of inclusive education in the Republic of Kazakhstan.

The significance of the project outcomes lies in the scientific and theoretical substantiation and development of the structural and content model, "E-inclusion.kz", focused on the national system, regulatory and legal framework and educational experience of Kazakhstan.

The "E-inclusion.kz" digital platform shall be developed and implemented to build capacity for inclusive education in the digital environment, support research and improve Kazakhstani inclusive educational practices with further commercialization.

The research findings (questionnaire and focus group interviewing outcomes; design and creation of a digital platform, including the development of content to support parents of children with special educational needs, updating of complex diagnostic tools, development of massive online educational courses on inclusion of children with special educational needs in the mainstream educational setting) shall be implemented in the practice of educational organizations for the purpose of timely methodological, informational and legal support.

In addition, the findings of the research will significantly increase the research competencies of students and young researchers, current support professionals and school teachers in the field and contribute to the international practice on psycho-pedagogical support for persons with special educational needs.

The principal difference of the research from the previous ones is that, despite earlier attempts to create and scale Internet resources of inclusive education in Kazakhstan, they have not found widespread practical application.

Thus, at the round table, "Society and Business: Presentation of Social Projects" the project of public organization, "Inclusion.kz", under the supervision of Dauren Alkanov was presented. However, no information can be found in the public domain at this time (Round table, 2022). The "Inclusive Education" online course developed by the "School for All" Public Educational Foundation with the support of the Soros Foundation-Kazakhstan is limited to open lectures (School for All, 2021). The materials posted on the website of NSPC DSIE are limited to the results of its own researches on the collection and analysis of information on the system of special and inclusive education and on training and methodological support of special education organizations (Scientific and Methodological Department, 2021).

Expected outcomes of the research:

- creation of the E-inclusion.kz digital educational platform on the basis of systemic, complex, interdisciplinary approaches for the purpose of navigating legal, personnel, and educational resources in the field of inclusive education in the Republic of Kazakhstan. It includes a repository, massive online educational courses, videos with algorithmic processes for supporting children with special educational needs, and more.

- ensuring algorithmic resource, information and methodological support for support professionals, teachers, methodologists and parents;

- utilizing an information approach to improve existing inclusive educational practices, which shall serve as a meaningful, informative and analytical resource for inclusive education.

The above-mentioned fundamental differences of the stated project shall undoubtedly cause a social and economic effect and allow to increase the degree of inclusion of the pedagogical and parental community in the development of inclusive education. The following requirements are necessary for its achievement:

- a team of researchers, academic experts from various fields of science and practice;
- expanded list of research and implementation

bases through the conclusion of memorandums of cooperation within the framework of the project (general education schools in Almaty, Astana, implementing inclusive education); higher educational institutions of the Republic of Kazakhstan providing training in pedagogical qualifications; "Rostok" Kazakhstani Association of Specialists of Applied Behavior Analysis" Institution; "Center for Social Inclusive Programs" Public Foundation; "Omir Family Education Center for Psychological Assistance to Families" Public Association, "Azamat Auleti" Public Foundation, "Ashyk Yalem" Public Foundation).

- approbation and testing of the "E-inclusion. kz" platform on the basis of the above-mentioned educational and public organizations.

The findings of the research shall have an impact on the scientific and technical (including personnel) potential of teachers of general education schools, students and faculty of higher education institutions of social, psychological, pedagogical, humanitarian and IT fields of study. The developed platform shall significantly increase the level of competitiveness of scientists, scientific organizations and their teams in the field of conducting and interpreting new information and information and communication technologies in the humanities and educational sphere.

Conclusion. Thus, the research has shown that in the educational practice of inclusive education teachers the application of digital resources and platforms provides accessibility of education for children with special educational needs. Usability, digital inclusion, different approaches, unity of theory and practice makes for an effective digital platform model. Clarifying and complementing basic concepts of inclusive education, identifying opportunities and risks in the use of digital resources, creating educational content, testing the digital platform and publicizing it widely contributes to building the capacity of digital inclusive educational environments and providing specific recommendations for their development.

The practical relevance of recommendations is:

- the development of a digital educational platform, "E-inclusion.kz", to support all participants working in an inclusive educational environment with further commercialization;

- analyzing the available diagnostic tools for inclusion in "E-inclusion.kz" of the most available test diagnostic methods to assist parents and specialists;

- the development of a series of video courses for students and teachers, "Inclusion of Children with Special Educational Needs in the Mainstream Educational Setting", "Psychological and Pedagogical Support for Children with Autism", "Teaching Children with Visual Impairments in the Mainstream School", "Teaching Children with Hearing Impairments in the Mainstream School", "Teaching Children with Intellectual Disabilities in the Mainstream School";

- the development of content "School for Parents" for their resource, legal, methodological support;

- the development and testing of a professional development course to prepare teachers to work in an inclusive educational environment.

The social and economic effect of the project is to provide algorithmic resource, information and methodological guidance to support specialists, teachers, methodologists and parents. Moreover, it shall increase the degree of inclusion of the teaching and parental community in the development of inclusive education.

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SPEECH FORMATION OF CHILDREN WITH AUTISM USING ABA THERAPY IN AN EDUCATIONAL PROCESS

Abstract

The number of children with autism spectrum disorders is growing every day. However, recently Applied Behavioral Analysis (ABA therapy) has been widely used to correct this disorder. A number of early intervention models based on ABA principles are a curriculum for teaching children with autism spectrum disorders. One of them is a model of Verbal Behavior analysis of B. F. Skinner, developing speech in ASD children. The VB approach is based on ABA research. This approach increases the child's ability to learn a functional language. This method allows children with ASD and related disorders to form and develop spoken language, focusing not only on how they speak, but also on the purpose for which the child uses speech. This article attempts a theoretical analysis and description of the use of Verbal behavior based on ABA in the development of speech in a child with ASD.

Keywords: autism spectrum disorder, ABA therapy, Verbal behavior, B.F. Skinner, operant activities.

Introduction. Autism spectrum disorder is a common developmental disorder that occurs in early childhood. The American Psychiatric Association has described autism with three main disorders: (1) difficulty communicating with other people, these strange and repetitive speech (stereotypic speech) patterns, (2) a significantly lower level of speech and language skills, even a complete lack of spoken speech, and (3) behavioral difficulties. In addition, these personalities have more difficulties in areas such as looking directly into the eyes, communicating with peers, playing skills and social or emotional interaction (Fombonne et al., 2021).

As a distinctive feature of this disorder, we can mention obvious deviations in behavior patterns