

ISSN 1998-6688

KAZAKH  BRITISH  
TECHNICAL  
UNIVERSITY

**ВЕСТНИК**  
КАЗАХСАНСКО-БРИТАНСКОГО  
ТЕХНИЧЕСКОГО УНИВЕРСИТЕТА

Том 16, Выпуск 3  
Сентябрь 2019

ҚАЗАҚСТАН - БРИТАН ТЕХНИКАЛЫҚ  
УНИВЕРСИТЕТИНІҢ

# ХАБАРШЫСЫ

HERALD  
OF THE KAZAKH - BRITISH TECHNICAL  
UNIVERSITY

ВЕСТНИК  
КАЗАХСТАНСКО - БРИТАНСКОГО  
ТЕХНИЧЕСКОГО УНИВЕРСИТЕТА

Volume 16, Issue 3  
July – September 2019

ҚАЗАҚСТАН - БРИТАН ТЕХНИКАЛЫҚ УНИВЕРСИТЕТІНІҢ  
**ХАБАРШЫСЫ**

**HERALD**  
OF THE KAZAKH - BRITISH TECHNICAL UNIVERSITY

**ВЕСТНИК**  
КАЗАХСТАНСКО - БРИТАНСКОГО ТЕХНИЧЕСКОГО УНИВЕРСИТЕТА

Алматы

№ 3 (50)

2019

Главный редактор – Ректор КБТУ,  
**Ибрашев К.Н.**

Заместитель главного редактора –  
**Габдуллин М.Т.**

**ЧЛЕНЫ РЕДКОЛЛЕГИИ:**

Акжалова А.Ж., Атсуси Иное, Байгүнчеков Ж.Ж., Бекмухаметова З.А.,  
Буркитбаев М.М., Gavin Kretzschmar, Джанг Ванг Ли, Джумадилдаев А.С.,  
Ергожин Е.Е., Еремин Н.А., Журинов М.Ж., Йозеф Монтаг,  
Коробкин В.В., Masakazu Yoshikawa, Мынбаев К.Т., Рамеш Кини,  
Сатубалдин С.С., Скакова А.А., Сулейменов Э.Н., Танекенов А.,  
Умаров Ф.Ф., Харин С.А., Шакуликова Г.Т., Шейх Али Д.М.

Издание зарегистрировано Министерством культуры и информации  
Республики Казахстан. Свидетельство о постановке на учет  
СМИ № 9757 - Ж от 03.12.2008 г.

Журнал зарегистрирован в Международном центре по регистрацииserial-  
ных изданий ISSN (ЮНЕСКО, г. Париж, Франция)

Подписной индекс - 74206

Издается с 2004 года. Выходит 4 раза в год.

УЧРЕДИТЕЛЬ  
Казахстанско-Британский технический университет

<b>Ахмедов Д.Ш., Еремин Д.И., Жаксыгулова Д.Г.</b>	
СТРУКТУРА СИСТЕМЫ МОНИТОРИНГА СОСТОЯНИЯ МОРЕНЫХ ОЗЕР С ИСПОЛЬЗОВАНИЕМ КОСМИЧЕСКИХ ТЕХНОЛОГИЙ СВЯЗИ .....	343
<b>Айтмагамбетов А.З., Еремин Д.И., Жаксыгулова Д.Г.</b>	
СТРУКТУРА СИСТЕМЫ МОНИТОРИНГА ПОЛЕТА МАЛЫХ ВОЗДУШНЫХ СУДОВ ГРАЖДАНСКОГО НАЗНАЧЕНИЯ .....	349
<b>Куандыков А.А., Сансызбай Қ.М.</b>	
СПОСОБЫ ЗАЩИТЫ ИНФОРМАЦИИ В СИСТЕМАХ ЖЕЛЕЗНОДОРОЖНОЙ АВТОМАТИКИ И ТЕЛЕМЕХАНИКИ.....	353

## **ЦИФРОВЫЕ ТЕХНОЛОГИИ В ЭКОНОМИКЕ И МЕНЕДЖМЕНТЕ**

<b>Кобадилов Б.Н.</b>	
ФИНТЕХ И ФИНАНСОВЫЙ РЫНОК КАЗАХСТАНА.....	360
<b>Сокира Т.С., Ибраимова А.Б.</b>	
ЦИФРОВЫЕ ТЕХНОЛОГИИ В КОНТЕНТЕ ИНКЛЮЗИИ .....	365
<b>Умарова И.Р.</b>	
ИСПОЛЬЗОВАНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ В УПРАВЛЕНИИ РИСКАМИ В КОМПАНИЯХ РЕСПУБЛИКИ КАЗАХСТАН .....	370
<b>Жунис З.Б.</b>	
СПЕЦИФИКА РИСКОВ ПРОЕКТНОЙ ДЕЯТЕЛЬНОСТИ В СОВРЕМЕННОЙ ИТ-ИНДУСТРИИ.....	377
<b>Омар А.Д., Шильдикев Е.Ж.</b>	
ЦИФРОВАЯ ТРАНСФОРМАЦИЯ РЕСПУБЛИКИ КАЗАХСТАН: ПРОБЛЕМЫ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА .....	383
<b>Притворова Т.П., Жашкенова Р.Б.</b>	
АНАЛИЗ И ПРОГНОЗ РАСХОДОВ НА РЕАЛИЗАЦИЮ ПРОГРАММЫ «ЦИФРОВОЙ КАЗАХСТАН НА 2018-2022 ГОДЫ».....	388
<b>Тургамбаев М.К., Алимжанова Л.М.</b>	
ОСОБЕННОСТИ ВЕДЕНИЯ ИНВЕСТИЦИОННОГО АНАЛИЗА ВЫСОКОТЕХНОЛОГИЧНЫХ ПРОЕКТОВ .....	393

## **ЦИФРОВЫЕ ТЕХНОЛОГИИ В МАСС-МЕДИА**

<b>Бейсенкулов А.А., Масмалиев П.</b>	
НЕФТЯНЫЕ КОНТРАКТЫ КАК ВАЖНЫЙ ФАКТОР РАЗВИТИЯ АЗЕРБАЙДЖАНО-ВЕЛИКОБРИТАНСКИХ ОТНОШЕНИЙ НА МАТЕРИАЛАХ ПРЕССЫ .....	397
<b>Малгаждарова М.К.</b>	
ЦИФРОВИЗАЦИЯ – КЛЮЧ К УСПЕШНОМУ БУДУЩЕМУ .....	404
<b>Велитченко С.Н.</b>	
ВЛИЯНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ НА СТАНДАРТЫ ОБУЧЕНИЯ ЖУРНАЛИСТОВ: ОПЫТ МУИТ .....	412

## **МИР ЯЗЫКА: ТЕОРИЯ, ПРАКТИКА, ИННОВАЦИИ**

<b>Бейсекулова Л.М.</b>	
АКАДЕМИЧЕСКОЕ ПИСЬМО: РОЛЬ МЕСТОИМЕНИЙ ПЕРВОГО ЛИЦА В ОТНОШЕНИЯХ ЧИТАТЕЛЯ И ПИСАТЕЛЯ .....	418

УДК 376.1  
МРНТИ 06.73.35, 06.73.65, 06.73.55

## DIGITAL TECHNOLOGIES IN THE CONTENT OF INCLUSION

T.S. SOKIRA, A.B. IBRAIMOVA

*Kazakh National University named after al-Farabi*

**Abstract:** The urgency of the problem of improving the quality of education of students with disabilities is associated with a strategy aimed at the use of digital technologies in the education system. This determines the need to create conditions for obtaining high-quality higher education by this group of the population. The article discusses ways to promote the solution of such problems as education and employment of disabled people through the creation of social conditions with the means of modern information technologies. The scientific and practical significance of the work consists in specifying ways to improve the system of inclusive education. The methodological basis of the study was the works of the classics of psychology and modern researchers of inclusive education. The main directions of work on the introduction of inclusion based on the model of David Mitchell.

**Keywords:** inclusive education, digital technologies, human capital

## ИНКЛЮЗИЯ МАЗМУНЫНДАҒЫ САНДЫҚ ТЕХНОЛОГИЯЛАР

**Аңдатта:** Мұғедектігі бар білім алушылардың білім сапасын арттыру мәселесінің өзектілігі білім беру жүйесіне сандық технологияларды қолдануға базытталған стратегиямен байланысты. Бұл өз кезегінде осы топтың жоғары сапалы білім алуы үшін жағдай жасау қажеттілігін анықтайды. Мақалада қазіргі заманғы ақпараттық технологиялар құралдарымен әлеуметтік жағдай жасау арқылы мұғедектерді қызыту және жұмысқа орналастыру сияқты мәселелерді шешуге жардемдесу жолдары қарастырылады. Жұмыстың ғылыми-практикалық маңыздылығы инклюзивті білім беру жүйесін жетілдіру жолдарын белгілеуден тұрады. Зерттеудің әдіснамалық негізі психология классиктерінің және инклюзивті білім берудің заманауи зерттеушілерінің еңбектері болды. Дэвид Митчеллдің моделіне негізделген инклюзияның еңізу бойынша жұмыстың негізгі базыттары анықталды.

**Түйінді сөздер:** инклюзивті білім, цифровық технологиялар, адам капиталы

## ЦИФРОВЫЕ ТЕХНОЛОГИИ В КОНТЕНТЕ ИНКЛЮЗИИ

**Аннотация:** Актуальность проблемы повышения качества образования обучающихся с ограниченными возможностями связана со стратегией, направленной на применение цифровых технологий в системе образования. Это определяет необходимость создания условий для получения качественного высшего образования этой группой населения. В статье рассматриваются пути содействования решению таких проблем как получение образования и трудоустройство инвалидов через создание социальных условий со средствами современных информационных технологий. Научная и практическая значимость работы состоит в конкретизации путей улучшения системы инклюзивного образования. Методологической базой исследования послужили труды классиков психологии и современных исследователей инклюзивного образования. Определены основные направления работы по внедрению инклюзии на основе модели Дэвида Митчелла.

**Ключевые слова:** инклюзивное образование, цифровые технологии, человеческий капитал

## INTRODUCTION

Modern modernized society is characterized by the release of human capital to the fore. The problem of the development of human capital, improving the quality of life of people, the solution of modernization tasks is of current importance. These relationships are analyzed in the concept of inclusive development. In the conditions of rapidly developing information technologies, the development of strategies for learners with special needs is a natural step.

Of the 10 main tasks designated by the Head of State, the seventh task is aimed at "New quality of human capital". The quality of human resources depends on the quality of the education information system. The education system in Kazakhstan has been changing since 2016. This is an inevitable process due to the dynamics of the development of the information space. In educational reforms, education of persons with disabilities occupies a special place. According to statistics, currently only 25% of citizens with disabilities of working age are employed. However, only some of them have higher education, which is associated with the presence of significant problems in training and employment.[10]

The above circumstances determine the relevance of the topic and are determined by the general interest and the need for knowledge of this category, despite the fact that it has a rich tradition of research. In its formation, inclusive education has gone through several stages of development, however, it is different in content and requires adaptation to the modern realities of the development of human capital of Kazakhstan.

As an object of study, we identified the historical, theoretical and practical aspects of inclusion.

The subject of research is the possibility of providing students with disabilities of secondary and higher vocational education with digital technologies.

The purpose of the research is to update the considered digital technologies as a factor in the formation of high-quality inclusive education.

The hypothesis of the study: a student who has limited health capabilities may be as capable and talented as his peer who has no health prob-

lems, but inequality of opportunities for social adaptation prevents him from developing his talents and bringing benefits to society.

**Research methods.** Analysis of approaches to teaching children with disabilities, the study and synthesis of existing experience in the use of various modern technologies in the field of inclusive education.

The methodological basis of the study was both general scientific and special methods of scientific knowledge.

The specificity of the human resource determines the nature of the modern economy, the economy of digital Kazakhstan, which becomes the economy of knowledge.

Back in the 60s of the twentieth century, the founder of this term, F. Machlup, defined it as the sector of the national economy in which production and knowledge management take place. A classic theory of management P. Drucker believes that this is a type of economy in which knowledge plays a crucial role. Inclusive education (fr. Inclusif-inclusive, lat. Include-conclude, include) is the process of developing general education, which implies access to education, in terms of adapting to the various needs of children, which provides access to education for children with special needs. The basic principle of this type of education is the joint training of all children in kindergarten, school, higher education institution. The main goal of integrated (inclusive) education is the realization of the right of children with disabilities to receive education in accordance with their capabilities and abilities, their social adaptation and integration into society, increasing the role of the family in the upbringing and development of their child [4].

The basis of inclusive education is to eliminate discrimination of students, to create certain conditions for children with special educational needs. Improving the quality of life of people with disabilities is one of the key objectives mentioned by N.A.Nazarbayev in the Message to the People of Kazakhstan "Kazakhstan's Way 2050: common goal, common interests, common future." International organizations note that in Kazakhstan, compared to other develop-

ing countries, the process of introducing inclusive education is very active. Needs upgrading environment for a special child. Therefore, this problem requires special attention. The world has clearly defined and indicated in universally important documents that all children have the right to education, regardless of their race, gender, disability, etc. education so that children with disabilities can fully receive knowledge along with the rest. But so far all the conditions for the full integration of children with special educational needs have not been created.

The problem on the way of inclusion is the level of availability of quality information materials. The development of such materials for people with disabilities is a complex and expensive process [14]. Not every educational institution can afford to have trained specialists of inclusive education and the development of a special information resource in a digital format. However, many countries are deeply considering ways to solve this problem.

The implementation of the right to education for all is facilitated by the international regulatory framework. The history of inclusive education goes back to the Universal Declaration of Human Rights, which emphasizes that everyone has the right to education. In the section "Opportunities for Persons with Disabilities", special attention was paid to the rights of children with special needs. Another agreement is the UN Convention on the Rights of Persons with Disabilities. Article 7 of this convention states that the parties must take all necessary measures to ensure the full enjoyment by children with disabilities of all human rights [2].

The root of inclusive education lies in the integration of school education, which was initiated in the UK, USA and Scandinavia. Later, the international regulatory legal framework was complemented by the Salamanca Declaration on Principles, Policies and Practical Actions in the Field of Education for Persons with Special Needs (1994), Materials of the World Education Forum (2000), the Pilot Project of the Education for All Program (2001), the UN Convention on Disability Rights (2006). The UN Convention states that people's abilities

are limited by society, 16and not by certain psycho-physical disabilities inherent in people [10].

For 2019–2023, measures are envisaged to create equal conditions for students with special educational needs. Inclusive education is being introduced in 45 universities of the country with all conditions for learning. Despite this, rapid advances in knowledge are associated with easy access to information. The importance of information technology is increasing day by day. In the following way, the UN General Secretary defined its meaning:

1. Information and communication technologies are among the driving forces of globalization. They bring people together, bring new tools for development. The widespread introduction of new digital technologies presents great opportunities [9].

2. Such a vision of the development of the information society implies the use of new pedagogical technologies. Information and communication technologies have become the most appropriate tool that helps people [9] with different training requirements.

As one of the approaches to the formation of the strategy for the implementation of the ideas of inclusive education [3], the concept of UNESCO scientific adviser and expert Dr. David Mitchell is considered.

Despite the fact that the main characteristic of inclusive education defines that students with special educational needs general education schools in the appropriate classes in according to their place of residence. In fact inclusive education is a much broader concept [3].

Thus, the formula reflecting the essence of inclusive education clearly represents the complexity and ambiguity of the changes that should occur in education:

$$IO = B + O + 5K + P + PC + RK, \quad (1)$$

Where:

B - "vision", as a commitment to the principles and readiness to introduce inclusive education (awareness and moral-personal readiness);

O - "determination to an educational institution", i.e. variable forms of inclusion in the general educational space;

5K - "5 components":

1. adapted curriculum and programs;
2. adapted assessment (criterion assessment for obtaining feedback and identifying the student's special educational needs);
3. adapted teaching;
4. adapted accessible environment;
5. tolerance attitude;

P - "support" of students and teachers from the team of professionals (psychologists, special teachers, social teachers, etc.) and parents;

RS - "resources" that "go" for the students, i.e. per capita funding for special educational needs;

RK "leadership" at all levels: government, regional, local, at the level of the head of the educational institution.

All participants in the process should be able to explain the ideological basis of inclusive education, as well as by their actions demonstrate commitment to its successful implementation [11].

It should be noted here that the adapted curriculum and programs, the adapted teaching, the adapted accessible environment - are industries that require advanced technologies and digital innovations.

Technological changes occurring in the process of globalization, lead to the rapid development of digitalization. Although this is a solution to many problems, it still requires in-depth study. People with disabilities still need advanced research in order for technology to benefit these people.

## RESULTS

Finally, it is necessary to develop inclusive policies that allow people with disabilities to receive education in the same environment as ordinary people. In order to promote inclusiveness in the right direction, first of all, children must be fully

equipped with devices, information systems and digital devices that meet their needs. Otherwise, inclusion will have a negative impact on people with disabilities. According to surveys of blind and deaf children, 31.75% believe that most inclusions can provide the same level of education for all people, while 68.25% disagree. That is, the majority of respondents are not sure about this system. [20]. The reason is that people with hearing impairment and the visually impaired are not fully equipped with information and methodological technologies.

For many people, information technologies play a crucial role in meeting their needs and guarantee the realization of their goals. Consequently, information is vital to them. Important driving ways of digital technology and information technology for people with disabilities:

- determination of the level of personal development (skills, abilities);
- assisting in personal development, shaping new skills or updating existing ones;
- improving access to information;
- overcoming geographic or social isolation through digital communications;
- increasing motivation and awareness of the benefits of information and communication technology [2].

## CONCLUSION

People with special educational needs have the right to affordable quality education. They should be integrated into society on their terms, and not adapted to the rules of healthy people. Conceptual approaches will allow achieving effective indicators of the development of inclusive education in accordance with the State Education Program for 2011-2020: equal access to quality education for all persons, public satisfaction with the inclusive process, tolerant attitude towards persons with disabilities; regulatory and organizational-economic bases for resource provision.

## REFERENCES

1. Abingdon, Oxon: Routledge National Council for Special Education (NSCE) (2006), Implementation Report: Retrieved from <http://www.ncse.ie/index.asp> Odom, SL, Buysse, V., and Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of Early Intervention*, volume 33, issue 4, 344-356.
2. Borisova N. (2012) Strategies for team collaboration in the implementation of inclusive education practices: Coll. articles / comp.:, m., P. 105.
3. David Mitchell. 2011. "Effective pedagogical technologies of special and inclusive education". / / M. : ROOI "Perspective",
4. General Assembly resolution 61/106 of December 13, 2006. UN Convention on the Rights of Persons with Disabilities [Electron. resource]. - 2012. - URL: [http://ombudsmanspb.ru/files/files/OON\\_02\\_site.pdf](http://ombudsmanspb.ru/files/files/OON_02_site.pdf) (access date: 04.2019)
5. Geoff Lindsay (2003) Inclusive education: a critical perspective // British Journal of Special Education. - - No. 30 (1). - pp. 3-12.
6. Kennedy, K.T. and Dutie, J.H. (1975) Auxiliaries in the Classroom: A Feasibility Study in the Scottish Primary School. HMSO: Edinburg.
7. Lacey, P. (1999) On a Wing and a Prayer: Inclusion and Children with Severe Learning Challenges. London: Mencap.
8. Lipsky, D. K., and Gartner, A., (1989), Beyond separate education: Baltimore: Paul Brookes Publishing.
9. Mikhachenko K.A. (2012) Inclusive education - problems and solutions // Theory and practice of education in the modern world: materials int. scientific conf. SPb., Pp. 77-79.
10. Nazarbayev N. A. (2014) Message of the President to the people of Kazakhstan. Kazakhstan's way - 2050: Common goal, common interests, common future [Electron. resource]. - . URL: [http://www.akorda.kz/ru/addresses/addresses\\_of\\_president/page\\_215750\\_poslanie-prezidenta-respubliki-kazakhstan-n-nazarbaevanarodu-kazakhstana-17-yanvarya-2014-g](http://www.akorda.kz/ru/addresses/addresses_of_president/page_215750_poslanie-prezidenta-respubliki-kazakhstan-n-nazarbaevanarodu-kazakhstana-17-yanvarya-2014-g) (access date: 04.2019)
11. Nurmukhanova G. Zh. (2016) Inclusive education as a strategic vector for the modernization of education. Journal: KazEU Bulletin, G: Almaty
12. Penin, GN (2010) Inclusive education as a new paradigm of state policy [Electron. resource] // Bulletin of Herzen University. - - № 9. - URL: <http://cyberleninka.ru/journal/n/universum-vestnik-gertsenovskogo-universiteta>
13. Peter Mittler. (2000) Working Towards Inclusive Education: Social Contexts. - Oxford: David Fulton Publishers .,
14. Rubtsov V.V. (2016) On interdepartmental cooperation in the implementation of social and educational inclusion for socially vulnerable groups of population // Psychological Science and Education .. No. 1. V. 21. S. 87-93.
15. Samuels, C.A. (2007). Universal design concept pushed for education. *Education Week*, volume 27, issue 10, 1-12.
16. Skogen, K. (2001). Innovation for Inclusion. In B. H. Johnsen, and M. D. Skjørten (Eds.). *Education - Special Needs Education: An Introduction* (pp.325 - 358). Oslo, Unipub. 33 p.
17. Smith, T.E.C., Polloway, E.A., Patton, J.R., and Carol A. Dowdy, C.A. (1998) *Teaching Students, Included Settings* (2nd ed.) Boston: Allyn and Bacon.
18. Stevens, R. J., and Slavin, R. E. (1995). The Cooperative Elementary School: Effects on students' achievement, attitudes, and social relations. *American Educational Research Journal*, 32, 321-351.
19. Sundstrom, E., De Muse K. and Futrell, D. (1990) Work team: applications and effectiveness. *American Psychologist*, volume 45, 120-33
20. Yasin M. (2016) The ratio of the deaf and hearing impaired to inclusive education: Sat. articles / comp.:, m., S. 5.

**ҚАЗАҚСТАН-БРИТАН ТЕХНИКАЛЫҚ УНИВЕРСИТЕТІНІҢ  
ХАБАРШЫСЫ**

**HERALD  
OF THE KAZAKH-BRITISH TECHNICAL UNIVERSITY**

**ВЕСТНИК  
КАЗАХСТАНСКО-БРИТАНСКОГО ТЕХНИЧЕСКОГО УНИВЕРСИТЕТА**

Ответственный за выпуск

Есбергенов Досым Бектенович

Редакторы

Далабаева Айсара Касымбековна  
Садганова Эльмира Абуовна

Компьютерный дизайн

Жамиев Муслим Файзахметович

Компьютерная верстка

Ескали Гульсим Багдатовна

Редакция журнала «Вестник КБТУ» не несет ответственность за содержание публикуемых статей. Содержания статей целиком принадлежат авторам, и размещаются в журнале исключительно под их ответственность.

Подписано в печать 27.09.2019 г.  
Тираж 300 экз. Формат 60x84 1/16. Бумага тип.  
Уч.-изд.л. 33,3. Заказ №133.

Издание Казахстанско-Британского технического университета  
Издательский центр КБТУ, Алматы, ул. Толе би, 59