The Role of Non-Governmental Organizations in the Digitalization of Higher Education: Opportunities for Implementing the Experience of Singapore, Japan, and South Korea in Kazakhstan

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Abstract

This article examines the role of non-governmental organizations (NGOs) in advancing the digitalization of higher education. Through content analysis, the study explores the experiences of Singapore, Japan, and South Korea to assess their applicability in the Republic of Kazakhstan. The article presents an overview of NGOs and a comparative analysis of the role of NGOs in the digitalization of higher education across countries. The findings suggest that NGOs can significantly contribute to the digitalization of higher education by leveraging tools such as grant funding, staff training programs, and research project implementation. Additionally, the article provides recommendations for enhancing the digitalization of education in Kazakhstan with active NGO participation.
Keywords: non-governmental organizations, higher education, digitalization, Singapore, Japan, Kazakhstan

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Introduction

As of early 2024, more than 23,000 NGOs were registered in Kazakhstan, with 78% (18,000) actively operating. Between 2021 and 2024, the government funded various social projects involving NGOs in education, science, support for socially vulnerable groups, and the protection of citizens' rights and legitimate interests. The total funding amounted to 59 billion tenge

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(about 118 million USD), with 53 billion allocated from local budgets and 6 billion from the republican budget (24KZ, 2024).

NGOs can play a significant role in the digitalization of higher education by utilizing a range of tools. For instance, they can provide financial support to universities through grants aimed at integrating digital technologies into the educational process, modernizing digital infrastructure, and expanding access to education via IT solutions, particularly in remote regions. Additionally, NGOs serve as effective platforms for professional development. In collaboration with universities, they can offer training programs and seminars for both faculty and students, enhancing digital literacy. Furthermore, NGOs can fund research projects focused on the development and implementation of advanced digital technologies in higher education.

Thus, NGOs can make a significant contribution to the digitalization of higher education by financing projects aimed at developing digital infrastructure, creating training programs, and implementing other initiatives. Their participation facilitates the formation of a balanced and innovative educational environment that meets the demands of modern society.

Notably, digital technologies are actively advancing in countries such as Singapore, the Republic of Korea, and Japan. Accordingly, analyzing the strategies and initiatives of NGOs in these countries in the field of higher education digitalization provides valuable insights that can contribute to the development of effective policies and practices in Kazakhstan.

Singapore experience

One example of successful NGO involvement in the introduction of digital technologies into the higher education system is Singapore, which is at the forefront of digital innovation in higher education. In Singapore, collaboration with NGOs is an integral part of the education development strategy.

Several major higher education institutions, including the National University of Singapore, Nanyang Technological University, Singapore Management University, and the Singapore Institute of Technology, are official partners of the Singapore Computer Society (Singapore Computer Society, no date). For instance, the National University of Singapore, in collaboration with this organization, organizes hackathons and programming workshops for students, fostering a culture of digital creativity and problem-solving (Singapore Computer Society, 2023). These initiatives not only enhance students' digital skills but also strengthen cooperation between

academia and the business community, aligning educational outcomes with industry needs.

Additionally, the Institute of Innovation and Entrepreneurship at Singapore Management University partners with NGOs to provide students with real-world experience in digital innovation and entrepreneurship. This collaboration exemplifies how NGOs can play a crucial role in developing students' digital skills and competencies through hands-on initiatives.

At the same time, an equally important aspect in this field is the funding of projects through grants for the digital transformation and modernization of universities. This includes programs for the development and implementation of online educational platforms and tools, as well as training initiatives in digital technologies. Key NGO participants in this area include the Infocomm Media Development Authority (Infocomm Media Development Authority, no date) and the Smart Nation Group (Smart Nation Singapore, no date).

For instance, the Infocomm Media Development Authority has developed a digital plan for the adult learning and education industry aimed at facilitating the transition to digital technologies for business development (Infocomm Media Development Authority, no date). Meanwhile, a distinctive feature of the Smart Nation Group is that it operates under the Office of the Prime Minister of Singapore and falls under the jurisdiction of the Ministry of Communications and Information. This organization plays a multifaceted role in driving Singapore's digital transformation and shaping Smart Nation strategies. In addition to promoting the digitalization of public services, the Group oversees the development and application of digital technologies and capabilities nationwide, including in the education sector. One notable initiative is the OpenCerts blockchain platform, developed in collaboration with government agencies and several universities. This platform allows students to receive their academic documents in digital form, which can be viewed, shared, and verified internationally (Smart Nation Singapore, no date). Furthermore, these NGOs actively collaborate with major tech companies such as Microsoft and Google, implementing joint projects focused on developing and integrating educational platforms into university curricula.

In addition, the Ngee Ann Polytechnic Industry Centre for Innovation and Enterprise at Ngee Ann Polytechnic University plays a key role in fostering innovation in education. It collaborates with universities to facilitate the transition to modern educational approaches, with a particular focus on poly education (Wei Kai, 2022).

Some NGOs engage with universities in conducting research and developing specialized programs in innovative education. For example, the

Singapore University of Technology and Design, in partnership with the SUTD & MIT International Design Centre, integrates digital design and technology into its curriculum, driving research in these fields (Singapore University of Technology and Design, no date).

EduGuild (https://eduguild.com) actively supports startups developing educational technologies. Its institutional partnership program helps universities implement modern curricula, ensuring their relevance in the digital era. This fosters a dynamic environment for the advancement and adoption of new educational practices.

Additionally, several NGOs focus on training educators to effectively use digital tools in teaching. The Singapore Teachers' Academy for the Arts (2022, no date) provides courses and resources to help teachers adapt to the rapidly evolving digital landscape. The National Institute of Education (2023) collaborates with NGOs to develop digital literacy training programs, equipping educators with essential skills and resources.

These examples illustrate the diverse strategies NGOs employ to advance digitalization in Singapore's higher education sector. Beyond funding projects, they actively collaborate with universities, train educators, create innovation clusters, and support startups. This comprehensive approach ensures the seamless integration of cutting-edge digital practices into education, offering valuable insights for similar initiatives in Kazakhstan.

Japan experience

The involvement of non-governmental organizations (NGOs) in the digitalization of higher education in Japan plays a crucial role in fostering innovative educational approaches. Japanese NGOs actively contribute to various aspects of this process by providing expert support, financial resources, and specialized training programs.

For instance, the Japan NGO Center for International Cooperation (JANIC) (no date) has been instrumental in advancing digital literacy and learning initiatives in collaboration with universities. More broadly, JANIC facilitates international cooperation among Japanese NGOs across multiple sectors, including education. In the context of higher education digitalization, JANIC provides grants and financial support for projects aimed at the development and implementation of digital technologies in education. These initiatives include the creation of online platforms for distance learning, the development of digital educational resources, and courses on digital skills. Additionally, JANIC organizes seminars, conferences, masterclasses, and other educational events for professionals in

the field of digital education, enabling participants to exchange knowledge, disseminate best practices, and strengthen international collaboration.

Moreover, JANIC plays a key role in establishing and fostering international partnerships between Japanese NGOs and organizations abroad. This cooperation facilitates the exchange of expertise, experience, and resources related to the digitalization of higher education.

Overall, the activities of the Japan NGO Center for International Cooperation significantly contribute to the advancement of digital education not only in Japan but also on a global scale. By promoting the dissemination of innovative educational practices and supporting international collaboration, JANIC enhances the integration of digital technologies into higher education systems worldwide.

In addition to this organization, the Japan International Cooperation Agency (JICA) makes an equally significant contribution to the digitalization of higher education. Although JICA primarily focuses on developing countries, it also plays a crucial role in promoting innovative educational approaches and facilitating digital transformation within Japan (Japan International Cooperation Agency, 2022). The organization provides technical assistance and consultancy to higher education institutions in the field of digitalization, including the development of digital transformation strategies, training personnel in the use of modern technologies, and creating innovative educational platforms. Additionally, JICA organizes exchange and internship programs for students, faculty, and administrative staff, fostering the exchange of expertise in digital education. Furthermore, the organization funds research projects aimed at exploring and implementing new technologies and teaching methodologies in higher education.

Also worth mentioning is EduLab (https://www.edulab-inc.com/business/), an organization engaged in the research and development of new educational technologies. EduLab focuses on projects aimed at integrating modern digital teaching methods into Japanese curricula. Simultaneously, the organization contributes to the digitalization of higher education, striving to make education more accessible, interactive, and effective. EduLab develops and implements various educational platforms and applications designed to support students and educators in the learning and teaching process. These include online courses, educational games, interactive textbooks, and other digital resources. For instance, in collaboration with the Eiken Foundation of Japan, the organization develops online services that assist English language learners and distributes them to universities, educational institutions, private enterprises, and individuals.

EduLab's key products include Einavi – Study Gear, Eiken Jr., TEAP CBT, and CASEC. All these services are provided and managed by the Japan

Institute for Educational Measurement, a subsidiary of EduLab. Furthermore, EduLab specializes in the development of examination questions and assessment systems. The organization's clients include government agencies, local administrations, and educational institutions.

The Open Education Working Group has played a significant role in the digitalization of education in Japan. The organization initiated the Open Education Challenge movement, aimed at promoting open education and advancing the digitalization of higher education in the country. It supports the development and dissemination of open educational resources and platforms, funding projects that create free online courses, educational videos, interactive textbooks, and other openly accessible learning materials (Open Education Working Group, 2014). The organization also launched the Academic Commons for Education project, designed to address the shortage of educational programs through digital technologies. A key feature of this initiative is its collaboration with multiple universities to develop video courses in specialized fields that are otherwise unavailable at other institutions. This approach enables universities to offer programs in high-demand disciplines where there is a shortage of qualified professionals or educational resources. Additionally, the startup Schoo, Inc. was established to provide high-quality, real-time video lectures (Umeki, 2014). This system fosters a high level of interactivity, allowing users to engage in discussions and provide feedback via a chat interface on the right side of the screen. This, in turn, creates a "real web campus" where students can virtually attend lectures, interact with instructors, and exchange insights.

By fostering a community of professionals and enthusiasts dedicated to the digitalization of higher education, the organization plays a vital role in knowledge-sharing and innovation. Through various events, networking sessions, and educational programs, it facilitates the exchange of expertise, experience, and best practices in digital education.

A similar concept is followed by "e-learning Co., Ltd." (https://www.e-learning.asia/about/). The organization is engaged in e-learning using Moodle and Moodle Workplace – the world standard learning management system that creates a comfortable learning environment. At the same time, the mission of the organization is to create a new era of learning, in which everyone has equal access to education.

Experience of the Republic of Korea

The role of non-governmental organizations (NGOs) in the digitalization of higher education in the Republic of Korea is substantial and plays a crucial role in fostering innovation, expanding access to education, and modernizing

the overall educational system. As digital transformation continues to reshape the global academic landscape, NGOs in South Korea actively contribute by developing cutting-edge technologies, facilitating research, and supporting educational institutions in their transition to digital learning environments.

Numerous NGOs in South Korea specialize in the research, development, and implementation of innovative educational technologies. These organizations work closely with universities, government agencies, and private sector partners to create comprehensive strategies for digital integration in higher education. They actively engage in conducting large-scale studies on the effectiveness of digital tools, designing new educational methodologies, and developing interactive platforms that enhance the learning experience.

In addition to technological advancements, NGOs play a vital role in promoting digital literacy among both students and educators. They organize workshops, training programs, and certification courses aimed at equipping teachers with the necessary skills to effectively integrate digital tools into their curricula. Moreover, many NGOs focus on ensuring inclusivity by providing access to high-quality digital education for underserved communities, bridging the digital divide, and reducing educational inequalities.

By collaborating with academic institutions, policymakers, and technology developers, South Korean NGOs contribute to the continuous evolution of digital education. Through their efforts, they not only enhance the quality and accessibility of higher education but also drive the adoption of emerging technologies such as artificial intelligence, virtual reality, and adaptive learning systems. Their ongoing initiatives underscore the importance of a multi-stakeholder approach in shaping the future of higher education in the digital age.

Just as Japan has JANIC, South Korea has the Korea Education and Research Information Service (KERIS), which collaborates closely with non-governmental organizations to develop digital content and platforms for higher education institutions. KERIS (www.keris.or.kr) is a government agency under the Korean Ministry of Education responsible for the development and implementation of digital educational resources and technologies, including e-textbooks, online courses, and educational platforms. The projects initiated by KERIS aim to expand access to education for all segments of the population, enhance the quality of education, and improve the availability of educational resources.

The Korea Educational Broadcasting System (EBS) (https://global.ebs.co.kr) is a government agency that actively contributes to

the digitalization of higher education. The organization produces and broadcasts educational programs on television and online, providing students and educators with access to high-quality learning materials. These programs include lectures, tutorials, documentaries, and other educational content designed to facilitate learning across various subjects and disciplines.

Notable examples include EBS Online Class, which offers online courses in multiple fields, and Great Minds, a world-class lecture platform. These platforms enable students to access courses free of charge and study materials at their convenience, anytime and anywhere, as long as they have an internet connection.

The Korea Foundation for Science & Creativity (KOSAC) is a government institution that formulates policies to promote a scientific and technological culture and foster students' creative talents. It operates in collaboration with the Ministry of Science and ICT, the Korea Foundation for the Advancement of Science and Creativity, and the Ministry of Education (KOSAC, no date). The organization funds and supports research and projects aimed at integrating new technologies and innovations into the educational process. One notable initiative is the development of educational programs based on the STEAM education system (KOSAC, no date).

It is also important to highlight the Samsung Foundation of Culture (http://www.samsungculture.org/en/), which actively contributes to the advancement of education and technology in South Korea. This foundation provides grants and funds projects focused on developing digital educational platforms, creating innovative educational programs, and supporting talented students and educators.

These examples illustrate the broad scope of NGO activities in Singapore, South Korea, and Japan aimed at the digitalization of higher education. Their efforts enhance the educational process, improve the quality of education, and increase the accessibility of educational resources for all segments of the population.

Recommendations and Proposals for Advancing Digitalization in Education through NGO Participation

In the modern world, digitalization plays an increasingly significant role in the development of various sectors, including education, the economy, and politics, shaping future transformations and realities. Simultaneously, the role of NGOs in state and societal development is also expanding. Therefore, the Government of Kazakhstan should enhance collaboration with NGOs in this area. Furthermore, advancing digitalization in education and improving the population's digital literacy will contribute positively to the

implementation of the President's directive from his Address to the People of Kazakhstan on September 1, 2023, aimed at transforming Kazakhstan into an IT-driven nation (President of the Republic of Kazakhstan, 2023).

Based on the analysis of the experience of Singapore, Japan and the Republic of Korea, some recommendations can be made for the development of digitalization in the field of education with the participation of NGOs.

It is important to keep in mind that, unlike Kazakhstan, Singapore, Japan, and the Republic of Korea are relatively small countries but possess highly developed economies. In addition, the populations of these countries have a high level of digital literacy, and their governments, businesses, and NGOs closely cooperate. Therefore, Kazakhstan can primarily adopt the experience of these countries in strengthening partnerships between NGOs, educational institutions, and the business sector to ensure synergy in digitalization. Furthermore, the state can support NGOs through the joint provision of grants and the funding of innovative projects in education. This measure will effectively stimulate the introduction of digital technologies in higher education. These efforts should be accompanied by the development of training programs for teachers that cover modern educational technologies. This will help enhance digital competence among the teaching staff and, in turn, increase the implementation rate of the aforementioned programs. Otherwise, introducing innovations would be pointless if they cannot be effectively utilized.

Given the contextual differences, Kazakhstan can adapt the approaches used in these countries to its own needs, taking into account the specific characteristics and objectives of its education system. This will enable the country to effectively integrate civil society organizations (CSOs) into the digitalization of higher education. Based on these examples, Kazakhstan can significantly benefit from incorporating CSOs into its digital transformation efforts in higher education. Public policy in Kazakhstan should prioritize fostering a supportive environment that allows CSOs to actively contribute to digital initiatives in higher education. This can be achieved by establishing strong partnerships between universities and CSOs, as well as by providing financial support and incentives for collaborative projects. Furthermore, policy frameworks should be structured to acknowledge and reinforce the role of CSOs in enhancing students' digital competencies and driving innovation in higher education.

Drawing on the experiences of Japan and South Korea, Kazakhstan's public policy should prioritize fostering partnerships between NGOs and higher education institutions to drive digital innovation. This could involve establishing dedicated funding mechanisms for joint projects, developing a legal framework to facilitate NGO participation, and promoting the exchange

of knowledge and best practices. By leveraging the expertise and resources of NGOs, Kazakhstan can accelerate its efforts to digitize higher education and enhance the digital competencies of its workforce.

At the same time, by adapting Japan's experience, Kazakhstan can develop a comprehensive approach to the digital transformation of higher education. Partnerships with NGOs, supported by government initiatives, the creation of educational platforms, and a strong emphasis on cybersecurity – especially critical given the increasing frequency of data breaches affecting Kazakh citizens – can all contribute to the successful modernization of the country's education system. A comparative analysis of the role of NGOs in the digitalization of higher education by country is presented in Table 1.

When integrating the experiences of these countries, it is essential to emphasize social innovation and cultural sensitivity, ensuring that Kazakhstan's approach to digitalization aligns with the specific needs of its society. Finally, the issue of inadequate digital infrastructure must be addressed, as it remains a significant barrier to progress. Even in Kazakhstan's major cities, access to stable internet connectivity continues to be a challenge.

Table 1 – The role of NGOs in the digitalization of higher education (HE) by country (compiled by the authors)

The role of NGOs in the digitalization of HE)	*Singapore*	*Japan*	*Republic of Korea*	*Kazakhstan*
Development and implementation of educational technologies	NGOs are actively involved in the development and implementation of digital educational resources, applications and platforms to improve learning and accessibility of education	NGOs promote the development and implementation of new educational technologies and methods, including online courses, educational applications and web platforms	NGOs develop and implement digital educational resources and technologies, such as e-textbooks, online courses and educational platforms	NGOs contribute to the development of educational technologies and the introduction of digital innovations into the educational process

The role of NGOs in the digitalization of HE)	*Singapore*	*Japan*	*Republic of Korea*	*Kazakhstan*
Ensuring accessibility of educational resources	NGOs develop and support educational platforms and applications, providing access to learning for all segments of the population	NGOs facilitate the availability of educational resources for students and teachers by creating online courses and educational content	NGOs are working to improve the availability of educational resources through digital platforms and technologies	NGOs promote the development and implementation of digital resources to improve access to education in regions with limited access
Support for educational research and projects	NGOs fund and support educational research and projects, promoting innovation and improvement of educational practice	NGOs finance scientific research in education, stimulating the development of new educational technologies and methods	NGOs finance and support scientific research in education, promoting innovation in the educational process	NGOs finance and support educational research and projects aimed at improving the quality of education and developing innovations
Conducting educational events and initiatives	NGOs organize educational events, seminars and trainings, facilitating the exchange of experience and the introduction of new educational practices	NGOs conduct educational events and initiatives such as conferences, seminars and educational campaigns	NGOs organize educational events and activities aimed at sharing knowledge and experience in the field of digitalization of education	NGOs conduct educational events and initiatives to raise awareness about digitalization of education and develop professional skills

The following recommendations are proposed for Kazakhstan in the field of digitalization of education with the participation of NGOs:

1. **Partnership with the government**: In Singapore, Japan, and the Republic of Korea, successful digital transformation programs in education are supported by government initiatives. In Kazakhstan, it would be beneficial to establish similar government-funded programs to

foster collaboration between educational institutions and NGOs. This approach can contribute to the development of a sustainable ecosystem for innovation in higher education. Particular attention should be given to the establishment of organizations similar to the Korea Education and Research Information Service and the Japan NGO Center for International Cooperation.

2. **Creation of educational platforms**: The implementation of digital educational platforms is a key component of digital transformation. Partnerships with IT companies can serve as a driving force behind the advancement of modern educational technologies in Kazakhstan. Initiatives aimed at developing such projects and creating innovative online resources can significantly enrich the educational process. The Skills.enbek.kz platform and collaboration with Coursera should be further expanded. Additionally, leading universities and the business community should be actively involved in this process to develop programs that align with contemporary labor market trends.
3. **Forums and conferences**: Organizing conferences and forums on the digitalization of education with the participation of NGOs and representatives from educational institutions can facilitate the exchange of experiences. These events will provide a valuable platform for discussing best practices, identifying current needs, and exploring future development opportunities.
4. **Cybersecurity**: A crucial aspect of the transition to digital education is ensuring cybersecurity. Establishing secure digital platforms and implementing robust systems to protect students' personal data will enhance the sustainability and long-term viability of digital educational initiatives.

Conclusion

The experiences of Singapore, Japan, and South Korea demonstrate that NGOs can play a significant role in the development and implementation of digital technologies in higher education. These organizations, both independently and in collaboration with the government, fund research, develop innovative educational programs and strategies, and organize scientific events to facilitate the exchange of knowledge. Through these efforts, they contribute to the advancement of education in the digital era.

Kazakhstan can adopt the best practices of these countries and develop its own strategic plan for the digitalization of higher education with active NGO participation. This plan should incorporate measures for funding scientific

research, developing digital educational platforms, and ensuring broad access to educational resources.

At the same time, Kazakhstan should actively support innovative initiatives in education and foster cooperation between NGOs, universities, and businesses. Such collaboration will enable the efficient use of resources and expertise from various stakeholders to advance digital educational projects.

Additionally, Kazakhstan should place special emphasis on training and developing professionals in the field of educational digitalization. This includes preparing qualified specialists in digital technologies for education and ensuring access to digital skills training programs for both teachers and students. The development of digital technologies in education must be accompanied by efforts to enhance digital literacy among faculty and students alike.

Equally important is raising public awareness and fostering support for the digitalization of education. Public information campaigns and awareness initiatives can help increase engagement and generate widespread backing for digital transformation efforts in education.

Overall, the experiences of Singapore, Japan, and South Korea illustrate that the effective utilization of NGO resources, combined with government support, can drive the successful digitalization of education. By following these examples while considering its unique needs and opportunities, Kazakhstan can develop and implement an education digitalization strategy that ensures high-quality and accessible education for all its citizens in the digital age.

References

About KOSAC. History (no date). *KOSAC*. -- Available at: https://www.kosac.re.kr/eng/menus/919/contents/919 (accessed 21.02.2025).

About Smart Nation Group (no date). *Smart Nation Singapore*. -- Available at: https://www.smartnation.gov.sg/vision/ (accessed 10.02.2025).

Art Inquiry and Digital Learning Postcard (2022). *Singapore Teachers' Academy for the Arts*. -- Available at: https://star.moe.edu.sg/resources/art-resources/art-inquiry-and-digital-learning-postcard-2022/ (accessed 19.01.2025).

February 27 – World Non-Governmental Organizations Day (no date). *24.kz TV channel*. -- Available at: https://24.kz/ru/news/social/item/640518-27-fevralya-vsemirnyj-den-nepravitelstvennykh-organizatsij (accessed 10.02.2025).

Graduate with a Digital Academic Certificate (no date). *Smart Nation Singapore*. -- Available at: https://www.smartnation.gov.sg/initiatives/digital-government-services/opencerts/ (accessed 19.01.2025).

Hackathons in Singapore: Formats, Benefits and Essential Skills (2023). *Singapore Computer Society*. -- Available at: https://www.scs.org.sg/articles/hackathon-singapore (accessed: 10.02.2025).
How We Can Help? (no date) *Infocomm Media Development Authority*. -- Available at: https://www.imda.gov.sg/how-we-can-help? (accessed: 10.02.2025).
JICA Global Agenda for No. 8 Education (2022). *Japan International Cooperation Agency (JICA)*. -- Available at: https://www.jica.go.jp/english/activities/issues/education/__icsFiles/afieldfile/2024/02/09/08_Education_en.pdf (accessed: 1.03.2025)
National Institute of Education, Nanyang Technological University, Singapore (2023). *NIE Strategic Vision 2025: A Future-Ready NIE: Transformation, Growth, Sustainability.* -- Available at: https://www.ntu.edu.sg/nie/nie-strategic-vision-2025#Content_C025_Col00 (accessed: 10.02.2025).
Open Education Japan (2014). *Open Education Working Group*. -- Available at: https://education.okfn.org/open-education-japan/index.html (accessed: 18.02.2025).
Our Partners (no date). *Singapore Computer Society*. -- Available at: https://www.scs.org.sg/communities/student-chapter (accessed: 10.02.2025).
Sounding the Teaching III: Facilitating Music Learning with Digital Technology (no date). *Singapore Teachers' Academy for the Arts*. -- Available at: https://star.moe.edu.sg/resources/research-repository/sounding-the-teaching-iii/ (accessed: 10.02.2025).
Support Students of Creative Talents (no date). *KOSAC*. -- Available at: https://www.kosac.re.kr/menus/925/contents/925 (accessed: 11.03.2025).
SUTD-MIT INTERNATIONAL DESIGN CENTRE (IDC) (no date). *Singapore University of Technology and Design* -- Available at: https://www.sutd.edu.sg/SUTD/media/SUTD/SUTD-IDC.pdf?ext=.pdf (accessed: 15.02.2025).
President Kassym-Jomart Tokayev`s State of the Nation Address "Economic course of a Just Kazakhstan" (2023). *Official website of the President of the Republic of Kazakhstan*. -- Available at: https://www.akorda.kz/en/president-kassym-jomart-tokayevs-state-of-the-nation-address-economic-course-of-a-just-kazakhstan-283243 (accessed: 01.03.2025)
Training and Adult Education Industry Digital Plan (no date). *Infocomm Media Development Authority*. -- Available at: https://www.imda.gov.sg/how-we-can-help/smes-go-digital/industry-digital-plans/training-and-adult-education-idp (accessed: 10.02.2025).
Umeki Y. (2014). Can schoo become the nico-nico-video of education?. *Toyo-keizai Online*. -- Available at: http://toyokeizai.net/articles/-/32672 (accessed: 16.02.2025).
Wei Kai N. (2022). Forum highlights importance of poly education in a digital world. *The Straits Times*. -- Available at: https://www.np.edu.sg/about-np/media/np-in-the-news/forum-highlights-importance-of-poly-education-in-a-digital-world (accessed 19.01.2025).
What we do (no date). *Japan NGO Center for International Cooperation (JANIC).* -- Available at: https://www.janic.org/en/whatwedo/ (accessed: 10.02.2025).