

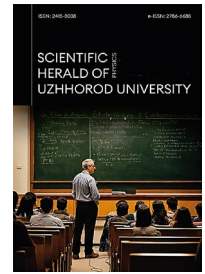
Scientific Herald of Uzhhorod University

Series "Physics"

Journal homepage: <https://physics.uz.ua/en>

Issue 55, 2097–2107

Received: 26.10.2023. Revised: 14.02.2024. Accepted: 11.03.2024



DOI: 10.54919/physics/55.2024.209td7

Study on the popularisation of higher education in China and Kyrgyzstan

Hao Zhoushao

Kyrgyz National University named after Jusup Balasagyn
720033, 547 Frunze Str., Bishkek, Kyrgyz Republic

Chen Wenjing

Kyrgyz National University named after Jusup Balasagyn
720033, 547 Frunze Str., Bishkek, Kyrgyz Republic

Ajarbubu Raimkulova*

Kyrgyz National University named after Jusup Balasagyn
720033, 547 Frunze Str., Bishkek, Kyrgyz Republic

Ilmira Shermatova

Naryn State University named after Satybaldi Naamatov
722600, 25 S. Orozbekov Str., Naryn, Kyrgyz Republic

Sofiia Shamshieva

Kyrgyz National University named after Jusup Balasagyn
720033, 547 Frunze Str., Bishkek, Kyrgyz Republic

Abstract

Relevance. Globalisation and the rapid development of all sectors of the economy and production create a demand for highly qualified specialists, with the level and quality of higher education playing one of the most important roles in the successful and prosperous future of any country.

Purpose. The purpose of this study is to investigate the process of popularising higher education in China and Kyrgyzstan in the modern era by examining and analysing the specifics of government strategies aimed at encouraging the younger generation to enrol in educational institutions.

Methodology. Methods: system-analytical method, used to select and examine key features of Beijing's and Bishkek's education policies; statistical method, presenting the determining quantitative and qualitative indicators of the popularisation of higher education among young people.

Results. The distinctive features and key characteristics of the formation of state policies in China and Kyrgyzstan in the field of higher education are covered; the main stages of transformations of national strategies for attracting more students to higher educational institutions are presented. The specifics of the Chinese education system, and the methods and tools for popularising university education, are analysed; data on the dynamics of changes in the number of students over the past decade are provided; the nature and trends of the educational process in Kyrgyzstan are presented; the main changes in the field of higher education in the country in the 21st century are shown.

Suggested Citation:

Zhoushao H, Wenjing C, Raimkulova A, Shermatova I, Shamshieva S. Study on the popularisation of higher education in China and Kyrgyzstan. *Sci Herald Uzhhorod Univ Ser Phys.* 2024;(55):2097-2107. DOI: 10.54919/physics/55.2024.209td7

*Corresponding author



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

Conclusions. The structure of higher education in the studied countries is described, methods of popularising the field among young people are investigated, and general recommendations for improving activities in this area are presented. The results and conclusions obtained in this study can be used as a practical basis for future research on the subject, and for updating existing national strategies and plans in the field of higher education and science.

Keywords: educational process; national strategies; globalisation; qualified specialists; Bologna system.

Introduction

Education has always been one of the main factors in shaping a modern state. Human resources, particularly high intellectual capital, are considered the fundamental segment of the successful evolution of civil society, which, as it develops and improves, creates a successful, dynamic, and prosperous political structure. In this context, the development of favourable conditions for the improvement of education, particularly higher education, is a priority in the strategies and plans of the overwhelming majority of countries. The popularisation of higher education in China and Kyrgyzstan is a highly relevant subject due to the direct dependence of the successful restructuring of several sectors (economy, industry) on the level of education of workers in these sectors. Factors such as positive propaganda for obtaining education, creating a clear picture of future prospects for students, and tangible results from the participation of young specialists in the development of their country are the main segments of the policy of popularising higher education among young people, which is especially important in the context of globalisation and increasing competition on the international stage.

The problem under study consists of examining the structural elements and distinctive features of the higher education system in China and Kyrgyzstan through the analysis of common trends, dynamics, and statistical indicators in the context of meeting the requirements for the successful development of modern classical states. For the harmonious interconnected development of science, education, and the economy, Y. Geng and Y. Yan [1] examined the interaction of governing bodies in coordinating activities between individual regions of the country. However, the authors paid insufficient attention to cooperation at the level of educational institutions. P. Lapo and N. Davletyarova [2], while assessing the development of education in Central Asian countries, found that disseminating information through increased international contacts contributes to the internationalisation of the educational process, which is particularly important for Kyrgyzstan. Experts found that by using the experience and connections of other countries, higher education institutions strengthen their positions nationally. Planning, standardisation, harmonisation of the educational process, along with the actualisation and updating of the regulatory framework, according to E. Sabzalieva [3], will enhance the activities of the entities in this field, increasing their professional qualities. The researcher considered the legislative aspect of the development and formation of the educational process, considering the correct application of regulatory rules and provisions in practice.

The Bologna system, as described by B.M. Borkoev and A.A. Alimbekov [4], as a unified structure of higher education globally, helped Bishkek find the right path for the development of the educational process and gain some

independence in several areas related to intellectual and professional training of youth. The European education system was examined by the authors to identify the most suitable elements and tools for the Kyrgyz educational process for further use. A.A. Alimbekov [5] also asserted that the future of a country that does not strive for the development of national consciousness through the provision of decent education seems uncertain and unreliable. However, the author focused only on higher and postgraduate education, bypassing the initial education of young people, considering this stage not significantly crucial for personal and individual development.

Ch.T. Omurkanova [6] stated that the current conditions of transformation in world history require Kyrgyzstan to transition to new forms and content of higher education, modernise the system with the renewal of functions of all subjects of the educational process. The focus on necessary reforms and qualitative changes in various sectors closely related to education was the main subject of the study. According to S. Kaldybaev [7], the absence of reforms supporting the correct development and quality transition of the education system of the Republic after gaining independence in 1991 poses a threat of losing all achievements and valuable practical results of activities in the early 1990s. The specialist also allowed for the possibility that at a certain stage of state development, it might be possible to skip some necessary reforms and offset the negative consequences of the absence of such reforms through alternative solutions. The purpose of this study is to examine the methods and tools for popularising higher education in educational institutions in China and Kyrgyzstan by analysing the basic features and characteristic traits of government policy in the field of education.

Materials and Methods

The primary methods used in this study include the systematic-analytical method, historical method, statistical method, and methods of comparison and forecasting. The systematic-analytical method was used to examine the overall situation in the field of higher education in China and Kyrgyzstan, analyse the specifics and key characteristics of national strategies in the educational sector, and examine the forms and instruments used by Beijing and Bishkek to popularise the educational process in local educational institutions. Using the historical method, the dynamics of changes in the policies of the studied countries over different time periods regarding approaches to organising higher education among young people were illustrated. The method was applied to examine trends, including both positive and negative outcomes of the activities of responsible authorities and state representatives over time. The statistical method was chosen to study qualitative and quantitative indicators to

assess the reforms and decisions adopted by the Chinese and Kyrgyz leadership regarding various higher education issues, and to characterise and review the dynamics of changes in educational indicators. The method of comparison was used to identify basic features and distinctive characteristics, negative and positive trends in the popularisation of higher education in educational institutions of the studied states. Advantages and weaknesses of the Chinese and Kyrgyz education systems at the present stage were mentioned.

An analysis of the activities of several Chinese and Kyrgyz higher education institutions was conducted to determine the final goals of their activities and the actualisation of the results of the implementation of state programmes and strategies in the field of education. The method was also used to update information regarding the main negative factors characteristic of the educational systems of the studied states, and some ways and solutions to address these issues were proposed. Using the results and conclusions obtained in the preparation of the study and applying the forecasting method, some potential future development scenarios for the field of higher education in China and Kyrgyzstan were outlined. General practical recommendations for improving the quality of results and increasing the positive experience in the field of youth education in the context of rapid globalisation were articulated. Throughout the study, various sources of scientific literature and supplementary resources were also utilised. For example: analytical publications (“The development of global higher education in a world of transformation” [8]), critical studies (“Analysis of higher education institutions in China” [9]), methodological materials (economic review “China 2030” [10]), and statistical data (Education rankings by country [11], Number of students enrolled in degree programs in tertiary education in China from 1990 to 2022 [12]).

To provide a detailed analysis of all elements of the government policies of Beijing and Bishkek in the field of higher education, a number of legislative documents and regulations were investigated. These included: National development program of the Kyrgyz Republic until 2026 [13], National development strategy of the Kyrgyz Republic for 2018-2040 [14], China’s education modernisation plan towards 2035 [15].

Results

The experience of many countries shows that the more educated a person is, the greater their chances of obtaining a high-paying job and, as a result, increasing their level of prosperity. In 2022, the number of people enrolled in higher education institutions (universities) exceeded 235 million (with education taking place in more than 90000 universities) [11]. The majority of students were in developed economies and successful democratic countries (Germany, Norway, Australia) [8]. In this regard, the Asian region is an interesting object of study; developing societies, dynamic changes in the political situation, and the influence of more influential neighbours (China, Russia) create favourable conditions for rapid and successful development there [16]. Central Asia is a region that combines elements and characteristics of both European countries (such as the use of elements of the

Bologna system in education) and the traditions of Eastern territories. China, which serves as a model to emulate in many areas, especially in higher education, is the driving force in the region.

Development of higher education in China

Analysing the features of the establishment and functioning of the higher education system in China, it is important to note that the foundations of the modern structure of the educational process in universities began to take shape in the late 19th and early 20th centuries when Western, primarily European, values of educated intelligentsia began to influence the country [10]. In fact, starting from 1910 and until the mid-20th century, China had the first educational institutions and educational institutions operating with varying degrees of success. Beginning on October 1, 1949, the date of the founding of the People’s Republic of China (PRC), the country began to actively address issues of general education and the level of professional training of its citizens [17]. New reforms and a renewed approach to the essence of education had a significant impact on the evolution of the Chinese education system as a whole. In the early stages, particularly in the 1940s and 1950s, Beijing adhered to the Soviet model as a template for creating its own education sector [9]. Since the country’s leadership chose the communist path of development, all Western ideology was considered a “threat” to the young state, and only the achievements and tools of the Soviet Union, in the view of the ruling party, could help the PRC develop a flexible and modern higher education system based on the principles of communism and socialist society [18].

In the 1960s and 1970s, the first attempts were made to create a unique “Chinese” higher education structure, the main feature of which was the combination of the latest educational methods and tools with Chinese national values, traditions, and customs [19]. During the “Cultural Revolution” (1966-1976), all subjects in university curricula were based on class struggle [20]. Humanities and social subjects, and foreign languages and similar courses, were minimised or eliminated altogether. The main emphasis in the teaching process was placed on addressing ideological issues, industrial and agricultural development. Nevertheless, the existing education system was disrupted. Many universities transformed into different institutions, while others ceased to function altogether. In the late 1970s and early 1980s, after the end of the “Cultural Revolution” in China, the need for reviving the main idea of education became apparent, namely, the development of higher education and, consequently, the revival of scientific thought and the continuation of technological progress. The beginning of the 90s was marked by a rapid growth in the number of universities and the change in the quality of teaching in them [21].

The start of the third millennium was characterised by significant changes in the country’s higher education system. China’s major universities (primarily Peking University and Tsinghua University) aimed to become leading educational centres on a global scale [22]. The “Project 2011,” launched in 1995, was one of the first comprehensive development plans for the higher education system [20]. The document outlined the following main tasks: the development and improvement of the social

aspect of the education system, the expansion of the infrastructure of educational institutions, and the further global development of all scientific disciplines. In 1998, “Project 985” was launched, under which the government committed to increasing funding for leading universities and supporting all their scientific initiatives. Besides:

- update the control and monitoring system to create the best universities among global leaders.;
- create a competitive environment that would stimulate scholars and students to engage in research and where teachers and researchers could be highly mobile, benefiting the state;
- develop a transparent mechanism for evaluating the activities of educational institutions and individual representatives of the teaching staff.

The programmes listed above created conditions for further successful development of the education system, particularly in higher education. Currently, China’s legislative framework in the field of higher education consists of laws such as “On higher education” (August 29,

1998), “China’s education modernisation plan towards 2035” (2019) [15], as well as educational projects (Project 211, Project 985, Plan 2011, “Double First-Class”) [19]. China has established a unique education system that combines its long-standing traditional Chinese history with modern methods, tools, and mechanisms of the educational process. As of 2022, over 46 million people were studying at universities and educational institutions. Over the past 10 years, this figure has more than doubled (Figure 1). China boasts several highly-rated and prestigious educational institutions, including Peking University (located in Beijing, founded in 1898), Tsinghua University (located in Beijing, founded in 1911), Fudan University (located in Shanghai, founded in 1905), and Nanjing University (located in Nanjing, founded in 1902) [23]. The total population with higher education exceeds 240 million people, with a quarter of them residing in the central part of the country [24].

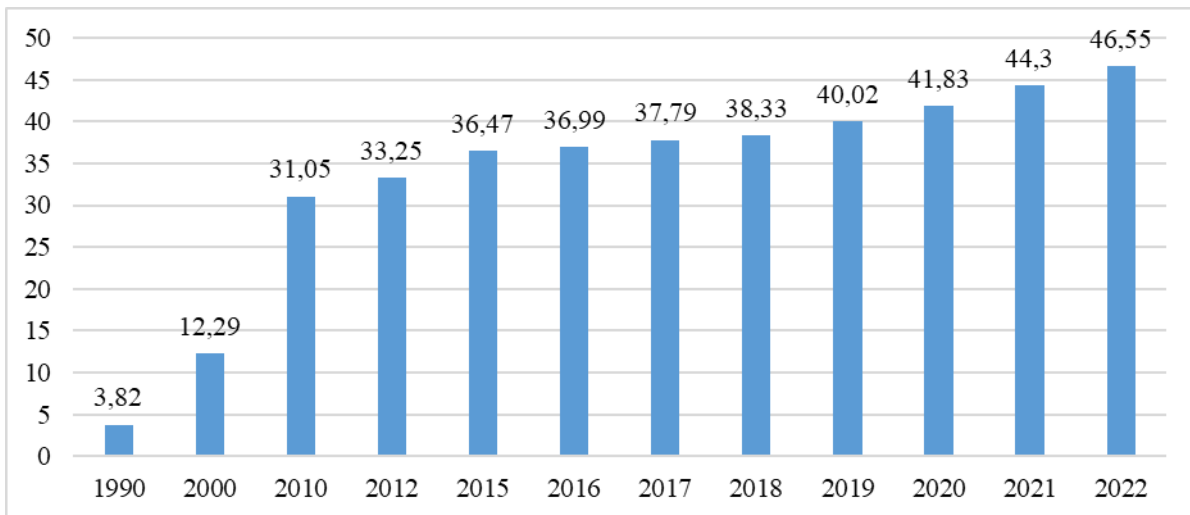


Figure 1. Dynamics of changes in the number of students in Chinese universities during the period 1990-2022 (in millions)
 Source: [12].

In light of the reforms initiated by Beijing, aimed at transforming the economy, politics, and society as a whole, new specialties and additional educational courses have been introduced in universities and other educational institutions. These institutions now prepare specialists in artificial intelligence, managers at various levels in the field of computer programming, and programmers for servicing monitoring and control systems at different levels. Furthermore, to enhance the development of university science, updated research programmes have been proposed, innovative scientific and technical projects and grants have been launched, and national and international competitions for scientific projects are actively conducted [25, 26]. Despite several advantages of the Chinese higher education system, such as rapidly growing educational infrastructure, a wide range of specialties, and modern equipment, there are some pressing issues that, if not addressed promptly, could pose significant challenges to the country’s future economic development. Firstly, it is important to mention the uneven distribution of resources in China: more than 80% of the population resides in the western part of the country, while

the eastern and central regions are less densely populated [10]. As a result, the level of education significantly differs in various regions of the country, leading to unfair competition among the younger generation. A similar situation exists in the field of training and retraining of teaching staff. Various educational programmes with different intensities, coupled with uneven university funding in the country, yield distinctive results in preparing specialised professionals.

Another considerable issue for China, common to all modern technologically advanced states with a high level of societal development, is gender inequality and conflicts based on race and religion. With the increasing number of foreign students from different regions of the world, this issue, while not acute in comparison to some other countries like France, is still on the agenda [27]. There is also a trend of graduates seeking prestigious jobs abroad due to the lack of employment opportunities in their own regions. Although the country’s economy is constantly growing, situations with an insufficient number of job opportunities for graduates from educational institutions are not uncommon in China. It is essential to note that the

authorities in the country are taking measures to address the aforementioned problems by developing updated plans and strategies. By analysing current documents in the field of educational policy improvement in Beijing and examining the decisions made by the country's authorities, it is possible to present some recommendations for improving the activities of responsible representatives. For example:

- address the issue of brain drain by developing attractive working and living conditions for professionals;
- continue efforts to improve the higher education system, considering past mistakes and shortcomings, while also drawing from international experiences in conjunction with national traditions;
- implement optimisation efforts to enhance the efficiency of educational institutions, particularly in remote and sparsely populated regions.

Development of higher education in Kyrgyzstan

In the context of globalisation and the convergence and unification of educational systems in most countries, the idea of creating a universal education structure, known as the Bologna System, was introduced in 1998 by several European countries, including the United Kingdom, France, and Germany [3]. In 1999, the decision to create such a system was made. Kyrgyzstan joined the Bologna System in 2011. Through the resolution of the Government of the Kyrgyz Republic dated August 23, 2011 [5]. Since then, education in the country, especially higher education, entered a new phase of development. At the beginning of the 20th century, Kyrgyzstan had an exceptionally low level of education, with the population lacking both the means and opportunities for basic literacy, let alone professional education [7]. However, during the Soviet period, the Republic witnessed the establishment and development of an educational system that allowed it to achieve average indicators in terms of the number of people with higher education among Central Asian countries. After gaining independence, another stage of development in the field of education began, characterised by a rapid increase in the number of universities, particularly private ones. This led to a partial disruption of the established educational structure and a decline in the level of professional and intellectual skills among Kyrgyz citizens.

Nevertheless, positive developments in education began in the 1990s. Although the number of private universities continued to rise, programmes to support public educational institutions were developed in line with the realities of that period. For example, the Government Program of the Kyrgyz Republic for the Reform and Development of Higher Professional Education for the Period 2004-2010 proposed mechanisms for training the necessary personnel required for the country's economic development. The development of market relations, the growth of useful connections with foreign universities, open borders, and the recognition of qualifications and other factors accelerated structural reforms in higher education in Kyrgyzstan in the mid-1990s [16]. The democratisation of relationships in the educational process, initiated with the Law of the Kyrgyz Republic "On Education" in 1996, allowed Kyrgyz citizens from various regions of the country not only to choose their fields of

study in universities and receive free education but also to directly participate in the development of the Republic's economy. Therewith, the proportion of students studying in private universities remained consistently high: 69% of all students in 1997 and 85% in 2000 [3].

In the late 1990s and early 2000s, Bishkek actively established international educational connections, integrating into the global educational community. The government's efforts focused on unifying and improving educational programmes and plans, harmonising legislation within Central Asian countries, coordinating and adapting various retraining and postgraduate courses, business and entrepreneurship training, foreign language education, and more. During this period, educational institutions such as the Kyrgyz-Turkish University "MANAS," the American University of Kyrgyzstan, and faculties of universities from other countries began their operations [5]. Since the beginning of the 21st century, Kyrgyzstan has actively developed long-term state programmes, such as the National Development Strategy of the Kyrgyz Republic for 2018-2040 (2018) [14] and the National Development Program of the Kyrgyz Republic until 2026 (October 12, 2021) [15]. These programmes share a common goal: to establish principles, rules, and standards for higher education in the country, considering the new regional and global realities [28].

However, the outbreak of the COVID-19 infection and the subsequent isolation, which resulted in economic crises and a slowdown in industrial and societal development, forced the country's authorities to reconsider existing strategies for the Republic's development [4]. According to the National Development Program of the Kyrgyz Republic until 2026, one of the main tasks in the coming years is to restore the economy and return to pre-pandemic development indicators. This goal is planned to be achieved primarily through improving the quality of primary, technical, and higher education. The legal framework for higher education in Kyrgyzstan primarily consists of the Law of the Kyrgyz Republic "On Education" (April 30, 2003) [29], the National Development Strategy of the Kyrgyz Republic for 2018-2040 (2018) [14], and the National Development Program of the Kyrgyz Republic until 2026 (October 12, 2021) [13]. The main goals in the field of education, as outlined in these documents, include [30]:

- ensuring high-quality training of personnel for the successful development of the state;
- development of a harmonious system of education at universities (education-science-innovation-economic development);
- guaranteeing the financial independence and academic freedom of higher educational institutions;
- intensifying scientific and scientific-technical development at universities with the involvement of more students from these institutions;
- intensifying international scientific and educational cooperation, exchange of experience, methods, and personnel to attract foreign students who will subsequently acquire qualifications in Kyrgyzstan;
- gradual implementing education in the Kyrgyz language across the country.

As of today, Kyrgyzstan has more than 60 educational institutions of various ownership forms, including

branches of foreign universities [28]. Considering the population size (slightly over 6 million people as of 2023) and the number of students (227582 individuals), such a high number of educational institutions seems unjustified and inefficient (Table 1). Optimisation is needed, with a

review of the practical value of several educational institutions. However, it should be noted that movements towards this periodically intensify in the form of attempts to implement various reforms.

Table 1. Dynamics of changes in the number of students in Kyrgyzstan's universities by regions during the period 2018-2022 (in people)

Region	2018	2019	2020	2021	2022
Batken	4735	5843	7668	10156	11836
Jalal-Abad	8474	9474	10569	10953	11731
Issyk-Kul	2996	2824	3079	3481	4343
Naryn	3330	3197	3102	3006	3566
Osh	-	-	-	-	-
Talas	1561	1651	1699	1871	2003
Chui	2373	3719	5058	5926	6238
Bishkek City	105056	108174	113101	113531	117092
Osh City	36060	48896	69881	81282	70773
Total	164585	183778	214157	230206	227582

Source: [31].

Due to the rapid increase in the number of private educational institutions and their branches, the number of contract students also increased. This process was accompanied by a decline in the overall intellectual and scientific-technical potential of the country and individual institutions. Private universities began to focus on profit, turning the academic path into a regular business, while neglecting the initiation of research projects and the development of innovative programmes [32]. Moreover, in recent years, Kyrgyzstan has seen a consistent increase in students in humanities, economics, and law disciplines. Engineering specialties, agricultural, industrial, technical, and environmental professions are currently not in demand in the country, even though these fields are crucial for the country's future development.

Another issue faced by the country is brain drain: after obtaining relevant education and failing to find suitable employment with decent salaries at home, young professionals leave the country and easily establish themselves abroad without experiencing any particular problems with establishing contacts, since the level of teaching foreign languages in Kyrgyzstan (primarily English) remains at a consistently acceptable level [33]. As of now, Bishkek is not in a position to significantly address the situation and create attractive conditions for graduates and educational staff. Meanwhile, the situation becomes increasingly threatening and worsens with each passing year [34]. Thus, it can be stated that higher education in the Republic is characterised by inconsistency and a lack of a defined system. All decisions made by the government do not follow a clear path or strategy. Without modernising the general structure of the education system in Kyrgyzstan, it is challenging to expect rapid and successful development in the country's key economic and industrial sectors. In analysing the existing problems in the field of higher education within the country with the aim of finding solutions, it is essential to consider the following issues:

- establishing a connection between the state's demand for specific professions and the corresponding specialties in the country's universities by creating direct and clear communication channels between responsible

representatives in local government and educational institutions;

- reevaluating the number of universities: analysing the qualitative and quantitative performance indicators of these institutions with subsequent reduction in their numbers, primarily through the reduction of private institutions;

- launching scientific laboratories by upgrading their technical capabilities to enhance the level of research conducted in the country and commercialising innovative developments and technologies;

- improving the living and learning conditions of students and the academic staff by creating favourable conditions across various dimensions and providing assistance with job searching and placement.

Comparative analysis of higher education systems in China and Kyrgyzstan

In modern conditions, any reforms in the field of education directly impact the transformation of the state's structure and the development of individuals as members of society. The sphere of higher education also has a significant impact on the economic development of each state. Since gaining independence and up to the present day, the main tasks of official Bishkek in the education sphere have been: the development of the education system (including higher education), the expansion of the structure of educational programmes and plans, the introduction of new forms, tools, and teaching technologies, the improvement of financing mechanisms, and the optimisation of educational infrastructure [35]. The entry into the Bologna system and the transition to global trends in education motivated government authorities and institutions to develop the educational process, enriching it with new elements. Transformations began, but they were accompanied by negative phenomena such as the rapid growth of private universities and, as a result, the transformation of the education sector into a business activity. This factor has a profoundly adverse effect on the overall state and societal development in Kyrgyzstan [36-38].

A distinctive feature of China's higher education system can be described as the unique combination of

forms and methods woven into the educational process: a focus on emerging specialities, the widespread development and implementation of innovative technologies (e.g., artificial intelligence technology or the use of chatbots for student learning). Beijing's main task in education is to transition to qualitatively new teaching standards, considering state demands and employing modern mechanisms and tools, along with a significant increase in the number of students in universities [39-41]. However, despite substantial achievements in educational policy, China is experiencing crisis phenomena in the field, caused by factors such as geographical and logistical challenges (the remoteness of populated areas and uneven population distribution throughout the country). Another challenge is the brain drain – a substantial migration of graduates and academic staff due to difficulties in finding employment and further professional development.

Thus, it is evident that Beijing and Bishkek both have certain challenges in the development of higher education. Delaying the resolution of these issues could exacerbate and increase the number of such problems. By examining various aspects of the establishment and development of higher education systems in China and Kyrgyzstan, it is possible to identify certain aspects of this sphere. Improving cooperation in these aspects can contribute to the optimisation of task performance quality and, as a result, enhance the effectiveness of state policies in promoting education among the younger generation. These recommendations are general and can be applied to most countries. For the Ministries of Education and Science:

- updating educational programmes and plans in line with the state's demands for the future development of the economy and industry;
- establishing close bilateral and multilateral educational contacts with similar institutions in other countries for the exchange of positive experiences, methodologies, tools, and personnel.

For higher education institutions:

- developing and implementing modern innovative approaches to teaching certain subjects to improve the quality and speed of assimilation of the necessary material;
- creating favourable living conditions and leisure activities for students and academic staff.

For Ministries of Economy, Government, President:

- developing and providing a practical plan (roadmap, strategy) to reflect the current needs of the state with the aim of improving the situation in the near future through the preparation of relevant specialists;
- conducting overall monitoring and control of the education promotion process through various instruments and methods (e.g., personal involvement in promotional campaigns, promotion of educational ideas).

Discussion

By examining the popularity of higher education in China and Kyrgyzstan through the analysis of the specificity of state policy in the field and the conducted normative and legislative updates of the educational process, and considering key quantitative and qualitative indicators over time, several conclusions can be drawn. Firstly, given the rapid growth of various new educational methodologies and tools, the subject matter of this study is widely

researched and discussed. Secondly, the level of education and professional training of the population in different countries will play a significant role in the process of state and societal development in the near future. Notably, specialists from scientific institutions in Bishkek, Naryn, and other cities in Kyrgyzstan have made a substantial contribution to the study of higher education, primarily in Kyrgyzstan. The results and conclusions of their works have provided updated data regarding the characteristic features of higher education institutions' functioning in the Republic in the 21st century and outlined a range of key problems that need to be addressed in the near future, particularly concerning the optimisation of the structure of educational institutions and the improvement of working conditions for academic staff. Experts from China presented a significant amount of research on the Chinese scientific and educational sphere, guided by the directives and tasks outlined in the national strategies and state plans [42-44]. Researchers outlined the main stages of the development of the education system in the country, highlighted the main achievements, positive and negative consequences of the implemented reforms, and outlined the party's leadership plans regarding the development of the educational process in the near future.

In the given study, the situation was described where an inadequate level of preparation of teaching and scientific personnel leads to a decrease in the quality of education in higher educational institutions. Similar views were expressed by Z. Chen [18] regarding the training and support of teaching staff at the middle and higher levels of the educational process. The author argued that the policies pursued by the country's leadership should align with global standards in terms of providing suitable conditions for the life and work of educational professionals. Only in this way can the overall education of the state's citizens be maintained at an acceptable level. Local universities occupy an important place in China's higher education system; they have made a serious contribution to reforms and openness, as well as to the economic development of the country and have played a decisive role in promoting the popularisation of higher education [45-47]. This idea, presented in the current study, is similar to the conclusions of W. Li [9]. The author claimed that, faced with new economic, political, and social realities on a global scale, the issue of optimising the activities of Chinese higher education institutions has reached a new level. However, it was also argued that there is no need to rush the reorganisation of university infrastructure, as predicting the further transformation of the educational system and its needs is quite challenging, even for highly developed countries.

The need for transitioning to a new level of the educational process (especially in the context of instability following the outbreak of the COVID-19 coronavirus infection and subsequent restrictions) was presented as one of the main tasks for both Beijing and Bishkek in their educational development strategies. B.A. Swanson and A. Valdois [21] obtained similar conclusions in the course of their research, explaining the structural changes in the global education system, mainly higher education, precisely because of a long period of isolation and restrictions in access to primary human needs, especially communication. The reorganisation of work and leisure

had a generally positive effect on youngest people, particularly students of Chinese higher educational institutions. The issue of the mismatch between the state's demands for certain in-demand professions and the number of courses offered by Kyrgyzstan's universities that prepare specific specialities were examined in this study in the context of demonstrating the depth of interaction between the authorities and educational institutions. G.B. Tashkulova [32] held a similar opinion regarding the preparation of necessary workers for the country, arguing that the mismatch between the state's demand and the capabilities of educational institutions entirely lies in insufficiently effective changes and improvements in the educational process.

In the paper, it was mentioned that Central Asia, particularly Kyrgyzstan, is a region where the study of foreign languages is given a significant amount of time. Since popular languages are languages of intercultural communication, schools, colleges, and universities in the Republic teach them, especially English, to a very high level. A. Bezborodova and S. Radjabzade [16] had a similar position regarding foreign languages, calling English the language of research, innovation, technological progress, and intellectual development. The specialists also listed a range of drawbacks related to education, including an imbalance in favour of foreign language learning at the expense of other less popular subjects. The paper stated that by providing suitable working and living conditions for educational professionals, it is possible to guarantee their work within the country for the benefit of economic and social development and prosperity. Such conclusions were also presented by M. Enterieva [28] regarding preparation for university admission, the specifics of the educational process, teaching experience, assessment mechanisms, and support for the further professional development of future teaching staff. The expert explained the need to support the level of teacher and lecturer training with the demands of the developing world, globalisation processes, and new challenges to societal development, emphasising the study of psychology and the specifics of the behaviour of young pedagogical workers.

A university, as a place of residence, work, study, and leisure for young people for an extended period of their lives, was described as a fundamental structural element of any country's education system. Higher educational institutions participate in the promotion and transmission of knowledge, skills, and experience, thereby preparing students for their chosen professions and other aspects of life for the benefit of society [48-50]. Similar conclusions were reached by S.C. Lakhotia [26], describing an educational institution as an establishment where not only knowledge is disseminated and new knowledge is created, but also the foundations for exploring and studying fundamentally new areas of human activity and the functioning of the world are developed. According to the author, one of the main tasks of a modern higher educational institution, in addition to teaching specific subjects and skills for specific professions, should be the conduct of scientific and innovative work capable of attracting young people to pursue higher education for their future development and improvement.

Upon analysing all the scientific literature available on the popularisation of higher education in China and

Kyrgyzstan through the prism of examining the specific characteristics of the functioning of educational structures in the two countries, it can be concluded that the issues of increasing the level and quality of teaching in universities and establishing a connection between the state's demands and the capabilities of educational institutions will be among the key issues for examination in the foreseeable future. The main problems that require urgent solutions from the leadership of Kyrgyzstan will be the development of educational institutions as research and development institutions rather than business structures, which some private higher education institutions essentially are at present. For Beijing, an important task at the present stage of development is addressing various socio-organisational issues, including the mass brain drain of personnel – teachers, scientists, and students who wish to find a job with decent wages, and the problem of uneven distribution of higher education opportunities in different regions of the country.

Conclusions

In the course of investigating the popularity of higher education in China and Kyrgyzstan, the legal framework of the field, and qualitative and quantitative indicators over time, the specific characteristics and traits of the higher education system in both countries were explored. Positive factors and major issues in the development of this sphere were identified. It was established that the Chinese educational system is a robust and multi-level structure with a long history, traditions, and practical experience. The presence of a sufficient number of high-quality higher education institutions enables China to compete with leading educational institutions worldwide.

The study showed that the strategies of some private universities and similar educational institutions in Kyrgyzstan tend to shift their activities towards practical business, primarily by charging tuition fees from contract students. This situation is to some extent controlled by the State. Upon analysing various statistical indicators of the development and transformation of the higher education system in the studied countries, and examining legislative initiatives in Beijing and Bishkek regarding the organisation of the educational process, it can be concluded that states are attempting to normalise the policy of relationships between the stakeholders in the educational sphere by regulating the activities of all parties involved. China's steps in this regard appear more confident, as the decisions made more closely reflect society's demands to meet the primary goals of education. Kyrgyzstan has achieved less pronounced results in the context of this activity due to its scattered educational policy and the lack of a clear vision of the ultimate goal for implementing reforms.

For a more in-depth investigation of the popularisation of higher education in China and Kyrgyzstan, particularly in terms of addressing the challenges of attracting the younger generation to enrol in educational institutions in these countries, and for the development of practical recommendations on this matter, future research should conduct a more thorough examination of the issues related to popularising higher education in China and Central Asian countries, utilising modern methods and tools, with

a particular focus on artificial intelligence. The originality of this study lies in the development of general practical recommendations in the field of increasing the popularity of higher education, applicable to most countries, based on an examination of the specific functioning of educational systems in China and Kyrgyzstan in the context of contemporary challenges and threats to state development.

Acknowledgements

None.

Conflict of Interest

None.

References

- [1] Geng Y, Yan Y. Higher education and science popularization: Can they achieve coordinated growth? *PLoS ONE*. 2021;16(9):e0256612.
- [2] Lapo P, Davletyarova N. Internationalization of library and information science education in Central Asia: The case of Kazakhstan and Kyrgyzstan. In: *Internationalization of Library and Information Science Education in the Asia-Pacific Region* (pp. 207-224). Beijing: IGI Global; 2020.
- [3] Sabzalieva E. *Higher education policy in Central Asia and Afghanistan*. Bishkek: University of Central Asia; 2019.
- [4] Borkoev BM, Alimbekov AA. The adaptation process of higher educational institutions of the Kyrgyz Republic to new conditions. *Int J Experim Educ*. 2019;6:77-81.
- [5] Alimbekov AA. *The education system of the Kyrgyz Republic (Its history, present, issues)*. Alcester: Read Books Publisher; 2021.
- [6] Omurkanova ChT. The current state of distance learning in Kyrgyzstan. *Bull Sci Pract*. 2020;6(12):427-431.
- [7] Kaldybaev S. Reform analysis in higher education system of the Kyrgyz Republic. *21st Cent Ped*. 2018;1:16-19.
- [8] Mense EG, Lemoine PA, Garretson CJ, Richardson MD. The development of global higher education in a world of transformation. *J Educ Develop*. 2018;2(3):47-60.
- [9] Li W. Analysis of higher education institutions in China. *Invest: Pract Exp*. 2020;4:77-80.
- [10] The World Bank. 2013. China 2030: Building a modern harmonious, and creative society. <https://www.worldbank.org/content/dam/Worldbank/document/China-2030-complete.pdf>
- [11] Education rankings by country. 2023. <https://wisevoter.com/country-rankings/education-rankings-by-country/>
- [12] Number of students enrolled in degree programs in tertiary education in China from 1990 to 2022. 2023. <https://www.statista.com/statistics/1114979/china-enrolled-student-number-in-tertiary-education/>
- [13] National development program of the Kyrgyz Republic until 2026. 2021. <http://cbd.minjust.gov.kg/act/view/ru-ru/430700>
- [14] National development strategy of the Kyrgyz Republic for 2018-2040. 2018. <http://donors.kg/en/strategy/5174-national-development-strategy-of-the-kyrgyz-republic-for-2018-2040>
- [15] China's education modernisation plan towards 2035. 2019. <https://internationaleducation.gov.au/international-network/china/PolicyUpdates-China/Pages/China's-education-modernisation-plan-towards-2035-.aspx>
- [16] Bezborodova A, Radjabzade S. English in higher education in the Kyrgyz Republic, Tajikistan, and Uzbekistan. *World Eng*. 2021;41(1):72-91.
- [17] Li J, Li J. Educational policy development in China in the 21st century: A multi-flows approach. *Beijing Int Rev Educ*. 2019;1(1):196-220.
- [18] Chen Z. A study on the promotion of quality education in primary and secondary schools in China under the "double reduction" policy. In: *The International Conference on Interdisciplinary Humanities and Communication Studies* (pp. 509-515). Oxford: Eliwise Academy; 2023.
- [19] Frezghi TG, Tsegay SM. Internationalisation of higher education in China: A critical analysis. *Social Chang*. 2019;49(4):643-658.
- [20] Zhu Y. New national initiatives of modernizing education in China. *ECNU Rev Educ*. 2019;2(3):353-362.
- [21] Swanson BA, Valdois A. Acceptance of online education in China: A reassessment in light of changed circumstances due to the COVID-19 pandemic. *Int J Educ Res Open*. 2022;3:100214.
- [22] Weihui M, Symaco LP. Higher education for development: The role of university towns in China. *SAGE Open*. 2021;11(3):21582440211.
- [23] Wen J, Wang T. Higher education in China should increase the proportion of practical teaching. *J Educ Teach Social Stud*. 2023;5(1):137-146.
- [24] Strazhnikova IV, Zavgorodnia TK. The organization of the higher education system in China in the context of modern European countries. *Znanstvena Misel J*. 2019;32(2):41-44.
- [25] Hall RW. Creating the innovative university. *Tech Innov*. 2020;21:1-14.
- [26] Lakhotia SC. Research and innovation in universities. Why and how these should be promoted. In: *Quality Mandate for Higher Education Institutions in India* (pp. 89-114). New Delhi: University Grants Commission; 2021.
- [27] Mampane ST. Exploring academic promotion practices within higher education institutions: Enablers and constraints in the physical space. In: *BCES Conference Books*. Sofia: Bulgarian Comparative Education Society; 2020.

- [28] Enterieva M. A look at pre-service teacher training and its challenges in post-soviet Kyrgyzstan and Turkey. *Mustafa Kemal Uni J Facult Educ.* 2022;6(10):29-41.
- [29] Law of the Kyrgyz Republic “On Education”. 2003. <http://cbd.minjust.gov.kg/act/view/ru-ru/1216?cl=ru-ru>
- [30] Merrill M, Baitugolova J, Ryskulova C. Faculty in contemporary Kyrgyzstan: Reactions to reforms. *FIRE: Forum Int Res Educ.* 2021;7(1):97-114.
- [31] The number of students in higher educational institutions by territory (people). 2023. <http://www.stat.kg/en/opendata/category/342/>
- [32] Tashkulova GB. Problems of interaction of the system of higher education and the labor market of the Kyrgyz Republic. *Web Schol.* 2018;21(3):47-50.
- [33] Ahn ES, Smagulova J. English language choices in Kazakhstan and Kyrgyzstan. *World Eng.* 2022;41:9-23.
- [34] Lee RM, Yuan YS. Innovation education in China: Preparing attitudes, approaches, and intellectual environments for life in the automation economy. In: *Higher Education in the Era of the Fourth Industrial Revolution* (pp. 93-119). London: Palgrave Macmillan; 2018.
- [35] Kuleto V, Ilic M, Dumangiu M, Rankovic M, Martins OMD, Paun D, Mihoreanu L. Exploring opportunities and challenges of artificial intelligence and machine learning in higher education institutions. *Sustain.* 2021;18(13):10424.
- [36] Isakova JJ. Features and prospects of the multilevel education system in the Kyrgyz Republic. *World Sci.* 2018;4(2):96-97.
- [37] Pavlikov A, Kochkarev D, Harkava O. Calculation of reinforced concrete members strength by new concept. In: *Proceedings of the fib Symposium 2019: Concrete - Innovations in Materials, Design and Structures* (pp. 820-827). Krakow: International Federation for Structural Concrete; 2019.
- [38] Uzakov YM, Ospanova DA. Research of chemical and amino-acid composition of the complex cutting of carcass. *Bulg J Agricult Sci.* 2014;20(5):1090-1093.
- [39] Zhang R, Zhou J, Hai T, Zhang S, Iwendi M, Biamba C, Anumbe N. Quality assurance awareness in higher education in China: Big data challenges. *J Cloud Comp.* 2022;11:56.
- [40] Naumovets AG, Paliy MV, Vedula YuS, Loburets AT, Senenko NB. Diffusion of lithium and strontium on Mo(112). *Progr Surf Sci.* 1995;48(1-4):59-70.
- [41] Kondratiuk V, Otchenashko V. Investigation of Dependences of the Morphological composition of Body and Amino Acid Composition of Trout Meat proteins (oncorhynchus Mykiss) on Levels of the Energy value of Feeds. *Potrav Slov J Food Sci.* 2021;15:497-505.
- [42] Mehmeti B, Kelmendi J, Iiljazi-Shahiqi D, Azizi B, Jakovljevic S, Haliti F, Anić-Milošević S. Comparison of shear bond strength orthodontic brackets bonded to zirconia and lithium disilicate crowns. *Acta Stomatol Croat.* 2019;53(1):17-27.
- [43] Kotsiubenko H, Pirotskyi A, Udod A, Salamatina O, Trybrat R. Comparative Analysis of Rabbit Meat Quality when Using Modular Raising Technologies and Eco-Farm. *Sci Horiz.* 2021;24(4):33-39.
- [44] Tokysheva G, Makangali K, Uzakov Y, Kakimov M, Vostrikova N, Baiysbayeva M, Mashanova N. The potential of goat meat as a nutrition source for schoolchildren. *Potrav Slovak J Food Sci.* 2022;16:398-410.
- [45] Maraj D, Maraj A, Hajzeraj A. Application interface for gesture recognition with Kinect sensor. In: *2016 IEEE International Conference on Knowledge Engineering and Applications, ICKEA 2016* (pp. 98-102). Singapore: Institute of Electrical and Electronics Engineers; 2016.
- [46] Cherniha R, Serov M. Nonlinear systems of the Burgers-type equations: Lie and Q-conditional symmetries, Ansätze and solutions. *J Mathem Analys Applicat.* 2003;282(1):305-328.
- [47] Shukurlu YH. The effect of selenium on the supramolecular structure and thermal characteristics of fibroin bombyx mori L. *Period Tche Quim.* 2020;17(34):591-598.
- [48] Gardasevic J, Masanovic B, Arifi F. Relationship between tibia length measurements and standing height: A prospective regional study among adolescents in Southern Region of Kosovo. *Sport Mont.* 2018;16(3):51-55.
- [49] Mukhametov A, Aliyeva N, Musayeva N, Mammadova U. Antioxidant Activity and Phenolic Content of Cereal Food Concentrates: Import Control Issues. *Agricult Consp Sci.* 2023;88(4):317-324.
- [50] Zheleuova ZS, Uzakov YM, Shingisov AU, Alibekov RS, Khamitova BM. Development of halal cooked smoked beef and turkey sausage using a combined plant extracts. *J Food Process Preserv.* 2021;45(1):e15028.

Дослідження щодо популяризації вищої освіти в Китаї та Киргизстані

Хао Чжоушао

Киргизький національний університет імені Джусупа Баласагына
720033, вул. Фрунзе, 547, м. Бішкек, Киргизька Республіка

Чень Веньцзін

Киргизький національний університет імені Джусупа Баласагына
720033, вул. Фрунзе, 547, м. Бішкек, Киргизька Республіка

Ажарбубу Раїмкулова

Киргизький національний університет імені Джусупа Баласагына
720033, вул. Фрунзе, 547, м. Бішкек, Киргизька Республіка

Ільміра Шерматова

Наринський державний університет імені Сатибалди Нааматова
722600, вул. С. Орозбакова, 25, м. Нарин, Киргизька Республіка

Софія Шамшиєва

Киргизький національний університет імені Джусупа Баласагына
720033, вул. Фрунзе, 547, м. Бішкек, Киргизька Республіка

Анотація

Актуальність. Глобалізація та стрімкий розвиток усіх галузей економіки і виробництва створюють попит на висококваліфікованих фахівців, а рівень і якість вищої освіти відіграють одну з найважливіших ролей в успішному і процвітаючому майбутньому будь-якої країни.

Мета. Метою цього дослідження є вивчення процесу популяризації вищої освіти в Китаї та Киргизстані в сучасну епоху шляхом вивчення та аналізу особливостей державних стратегій, спрямованих на заохочення молодого покоління до вступу в навчальні заклади.

Методологія. Використано системно-аналітичний метод для виокремлення та вивчення ключових особливостей освітньої політики Пекіна та Бішкека; статистичний метод для представлення визначальних кількісних та якісних показників популяризації вищої освіти серед молоді.

Результати. Висвітлено відмінні риси та ключові характеристики формування державних політик Китаю та Киргизстану у сфері вищої освіти; представлено основні етапи трансформацій національних стратегій залучення більшої кількості студентів до вищих навчальних закладів. Проаналізовано специфіку китайської системи освіти, методи та інструменти популяризації університетської освіти; наведено дані щодо динаміки зміни кількості студентів за останнє десятиліття; представлено характер і тенденції освітнього процесу в Киргизстані; показано основні зміни у сфері вищої освіти в країні у 21 столітті.

Висновки. Описано структуру вищої освіти в досліджуваних країнах, досліджено методи популяризації галузі серед молоді та надано загальні рекомендації щодо вдосконалення діяльності в цій сфері. Результати та висновки, отримані в цьому дослідженні, можуть бути використані як практичне підґрунтя для подальших досліджень з даної тематики, а також для оновлення існуючих національних стратегій та планів у сфері вищої освіти і науки.

Ключові слова: освітній процес; національні стратегії; глобалізація; кваліфіковані фахівці; Болонська система.