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The collective monograph is devoted to the problems of knowledge society development. The monograph is addressed to researchers in the field of socio-humanitarian and socio-political sciences, to students, undergraduates and PhD students, and to anyone interested in issues of social development.

CONTENTS

INTRODUCTION

The strategic objective for Kazakhstan, as well as for other developing countries, is to conduct an overall modernization, in terms of which not only institutes and mechanisms of modern society, but the modern society itself will be created. Nowadays, a new division of labor is being formed, in the sphere of intellectual labor, and, in the sphere of scientific and cultural production and service, a new knowledge economy and information society are being formed. Kazakhstan, in collaboration with its partners, can and should make every effort to enter the society of the future.

The formation of the "intellectual nation" is the way of modernization for the society of the twenty-first century, when the creative person becomes the main source of development. Creativity is the process of a person's self-realization. It presupposes the personal spiritual wealth, individuality and originality of a person. Therefore, all the diversity of historical and cultural heritage from the remote past until recently is the spiritual foundation and source of the future, with the protection and increase of which we have already started our way to the "intellectual nation." The formation of the intellectual nation is recognized to be one of the strategic objectives of Kazakhstan's development, where the main vectors are high-quality education and support of the younger generation.

A student expedition organized this year, during the period from June 19 to July 2, within the framework of the "People-to-people" campaign has, first, conducted the research in the Mangystau, Kyzylorda and Semipalatinsk regions. Under this activity, young scientists

1) collected the necessary material for a "semiotic and symbolic source book of the intellectual properties of Kazakhstan citizens";

2) studied humanitarian technologies on social projecting aimed at the formation of an intellectual society citizen;

3) studied the public opinion of Kazakhstan's citizens on the problems of intellectual potential development—"Kazakhstan after 2015," specified in the UN Millennium Development Goals.

Also, during the expedition, an information campaign called "a letter to the village," devoted to the problems of our villages and the situations of the villagers, has been held.

In addition, in order to identify opinions on the possibility of creating an intellectual nation among Kazakhstan's young people, research in focus groups was conducted. Young people, aged eighteen to twenty, from Kyzylorda, Atyrau and Almaty took part.

An important direction of the research was to determine public opinion, necessary to develop information and communication technologies for efficient impact, aimed at enhancing intellectual potential. To investigate this issue, questionnaires were created and work in focus groups was conducted. The results were structured in diagrams. Also, a humanitarian project—the "Kazakh Eli" ("Kazakh country") student scientific expedition—was performed.

New information technologies have brought major changes to the economy. Development, research and intangible investments in human capital have taken a prominent place in comparison with material investments. Therefore, economic activity is now focused on intangible components. Swiss scientists B. Carlson and G. Eliasson consider economic development a realization of the idea of new technologies. According to English scientist T. Stewart, intellectual capital is a new source of wealth organization. In order to succeed in the immaterial economy, organizations and individuals should master techniques that are different from their previous skills. In other words, "knowledge" has become the key word of the new economy, global hyper competition and paradigms of global management. Knowledge that can be converted into a value—this is the way intellectual capital is considered by L. Edvinsson. J. Ruus, S. Pike, and J. I. Fernstem identify intellectual capital with all the non-monetary and non-material resources involved in the formation of an organization's value. S. Albert and K. Bradley call intellectual capital "the process of turning knowledge and intangible assets into useful resources that provide competitive advantages to individuals, businesses and nations." J. Teece applies a synonymous concept to intellectual capital, "Knowledge Assets," emphasizing the need for an economic benefit of individual and organizational knowledge as strategic assets.

In Kazakhstan, the creation of a knowledge society, its formation and transformation into the country's main value is a leading strategic goal and a promising performed task of the state policy. It is proven by the fact that, over the past three years, Kazakhstan has been in the top four leaders in the UNESCO Education Development Index, among 129 countries.

The choice of intellectual capital is the way to comply with the requirements of entering the club of world-competitive countries. Since this project is devoted to the problems of humanitarian technologies development aimed at investing in the development of Kazakhstan's

knowledge society, the research on the economic development of the country through intellectual investment in the world policy is taken as the basis. Human intellectual potential in these scientific studies is considered as an investment. Therefore, it is very important to study and analyze the mechanisms of innovative task solutions to improve the competitiveness of the social and economic sector of the country by attracting investments for the development of the country's knowledge society, and the development of methods for its effective implementation and evaluation system.

The strategic objective for Kazakhstan, as well as for other developing countries, is to conduct an overall modernization, in terms of which not only the institutes and mechanisms of the modern society, but the modern society itself will be created. Nowadays, a new division of labor is being formed in the sphere of intellectual labor, and in the sphere of scientific and cultural production and service a new knowledge economy and information society are being formed. Kazakhstan, in collaboration with its partners, can and should make every effort to enter the society of the future.

Aggregate state competitiveness in the global economy and the ability of sustainable development depend on three strategic resources. The first strategic resource is natural wealth: namely, ground, water, mineral resources, woods, etc. The second strategic resource is material and technical base, and financial capital: here, the main points are existing production equipment, factory buildings, machinery, funds, and the quality and quantity of various material components of the country's activity. The third strategic resource is manpower resources: people. It is obvious that the level of human resources development, and the level of education and culture are the main factors for the development of the economy and the society. Development of the world-leading countries has led to the formation of the post-industrial economy, and then to the new economy—the knowledge economy—, innovation, global information systems, the intellectual labor economy, and science and the latest technologies. The basis of this new economy is intellectual potential, which is a dominant factor of the social and economic development of modern society. Today, education becomes an economic sector, and the human factor is the main resource for economic development, where a person who can discover and create something new in industry, science, or culture, etc., is of great value. That is why the most important mission of higher education in Kazakhstan is the preparation of intellectually developed, creatively working professionals—the citizens of the Republic of Kazakhstan.

Today, the system of higher education faces radically new tasks, the greatest of which has been specified by N. A. Nazarbayev, the President of the Republic of Kazakhstan, in the national project initiated by him: "Intellectual nation—2020: education of Kazakhs of new formation, turning Kazakhstan to the country with competitive human capital." The formation of the intellectual nation is recognized as one of the strategic objectives for Kazakhstan's development, where the main vectors are high quality education and support of the younger generation.

Today, the most valuable qualities are creative thinking, the ability to process knowledge, and generate new solutions, technologies and innovations. Creative thinking, the ability to be useful and to serve society and all the humanity, critical thinking, and promoting the understanding of the meaning of life and the role of every person in this world—these are the principles necessary for the full development of an individual.

In this regard, the study of humanitarian technologies aimed at developing the intellectual capital of the nation and the formation of Kazakhstan's "citizen of knowledge-based society" is represented as not only a scientific, but also a political task. Therefore, "at the present stage in the formation of a knowledge society citizen, a comprehensive study of humanitarian technologies affecting public consciousness and results of strategic objectives must be implemented. During the period of rapid development of the world economic, social and political processes, the definition of spiritual values and ideological principles of Kazakh society and their focus on civilization provisions is an urgent problem."

The aim of the "Intellectual nation—2020" program is the production of the main capital and the supreme-value human: not only a professional but a person in entirety, with qualities and properties of a spiritual and moral personality. A significant step towards the formation of a creative young generation was Kazakhstan's joining of the Bologna Process in 2010, which opened new perspectives of international integration. A number of reforms have been carried out in Kazakhstan under the renovation of the educational system. An important event was the adoption of the State Program of Education Development in the Republic of Kazakhstan for 2011–2020, which aimed to reach a fundamentally new quality of education that would meet international standards.

Kazakhstan has settled down to a course of intellectual society creation. In this society, mechanisms of political and economic, industrial, social, and innovative spheres are run by an individual of high intelligence and honest employment. A working person is a person of knowledge. Therefore, a person is the main capital of the society. The "intellectual nation project" should consider three potential points: the creation of new

solutions, technologies and innovations; the information revolution; and the spiritual education of youth. Today, Kazakhstan has enough features to take its rightful place in the sphere of training specialists who are competitive on the world stage.

The authors of this scientific publication have been working in three directions. The first is an analysis of the works of domestic and foreign authors on the study of humanitarian technologies. It was necessary to determine the definition of the concept of "humanitarian technologies" and their influence on the formation of the intellectual society. Also, a systematic and comparative analysis of the works of prominent scientists who conducted research in the fields of intellectual investments, intangible assets, economic freedom, political freedom, mass communication and public interests, political discourse, and metaphoric has been performed. The scientists are Werner Clement, Gerhard Hammerer, Karl Schwarz, Ahmed Bounfour, Leif Edvinsson, Aurora Teixeira, lsy Núñez Guerrero, W. Ken Farr, Richard A. Lord, J. Larry Wolfenbarger, H. D. Lassswell, D. Lerner, W. Shramm, and D. McQuial. Both domestic and foreign psycho-pedagogical literature pays much attention to the problem of the development of creative thinking and intelligence. Among the researchers are L. A. Baranova, A. V. Brushlinskiy, J. Guilford and B. A. Zhetpisbayeva. Great contribution to the development of the features of formation and functioning, characteristic of the essence of the investigated problem and its sociological evaluation was made by R. Z. Altynbayev, V. P. Yelyutin, A. I. Kochetov, L. G. Smirnov, S. P. Trapeznikov and L. A. Shiryaev.

In modern science, the problems of education in different contexts have been studied by such philosophers and sociologists as I. V. Bestuzhev-Lada, E. Y. Bikmetov, N. Y. Zborovskiy, A. G. Zdravomyslov, N. Kogan, D. L. Konstantinovskiy, N. Y. Martishina, V. Y. Nechayev, Y. P. Petrov, L. L. Rubina, M. N. Rutkevich, I. M. Fadeev, F. R. Filippov, F. G. Khayrullin, G. A. Cherednychenko, F. V. Sharipov, M. T. Shafikov and V. N. Shubkin.

The research on intellectual capital is described in articles published in scientific journals on Scopus: Gadaf Rexhepi Sadudin Ibraimib Nexhbi Veselic, Business and Economic Faculty of South Eastern Europe Tetovo University, Macedonia, Majidi, AB, Haddadian, Rezai from Iran University, Devi Fariha Abdullaha* and Saudah Sofiana Faculty Universiti Teknologi Malasia, etc.

The analysis of intellectual potential, culture and activity relationship is described in the works of L. P. Bruyeva, E. A. Vavilin, V. K. Kantor, N. V. Karlov, V. Zh. Kelle, I. F. Kefeli, L. N. Kogan, I. T. Kuznetsova, M. N. Kuzmin, N. Lobkovits, E. S. Markaryan, D. Markush, V. M. Mezhuyev,

Y. A. Muravyov, A. L. Nikiforov, Y. K. Pletnikov, A. Schweitzer, B. G. Yudin, B. Zheksenbayev, A. K. Nuriyev, A. K. Satov, M. A. Mergaliyev, Zh. A. Seysenbayeva, etc.

At the same time, in national sociological and political literature, the problem of intellectual potential, its essence and content is not addressed very often. At the present stage, there are no studies entirely covering this topic. Basically, some certain aspects of the formation and development of intellectual potential are considered.

One of the first projects aimed at the complex research of intellectual nation formation in the field of the social and political science of Kazakhstan is the project called "From an intellectual nation to the intellectual potential: development of information and communication technology impacts on the masses."

Activities carried out to determine the immediate future and implement comprehensive programs in the framework of the "Intellectual Nation 2020" project are the first studies in this field.

In order to analyze the factors that determine the mental and intellectual capital of people, a content analysis and a factor analysis have been conducted and a political discourse of Kazakh mass media materials has been studied.

A priority of this unique project is to study the issues of preservation and transfer of intangible values of the Kazakh people from one generation to another, according to the UNESCO International Convention for the Safeguarding of the Intangible Cultural Heritage. The expedition participants studied the problems of the regions, issues on the social development of villages and auls, "Kazakhstan after 2015" in the framework of the UN Millennium Program, and the possibility of Kazakhstan entering the International Decade for the Rapprochement of Cultures through information space. Also, an information campaign called "a letter to the village," devoted to the problems of the Kazakh villages and villagers was carried out during the expedition. A total of 500 participants from the regions were involved, including respondents, interviewers, scientists, cultural workers, and university and secondary school students.

The study group expresses its appreciation and gratitude to the scientists, government officials and public figures of the regions for their support and assistance during the work of the scientific expedition:

Semey city: to Titayeva Tatyana Genadyevna, a guide of F. Dostoyevskiy museum; Bustekbayev Kanat Tanysbekuly, a guide of the Regional Historical Museum; Aidar Sadyrbayev, a deputy head of the Internal Policy Department; Zhanayeva Shagangul Sdayrbayeva, a deputy head of the M. Auezov Pedagogical College; Yerkebulan Baltabekov, an

executive secretary of “Zhas Otan”; Malgazhdarov Miras Miratuly, a chairman of the “Salauat” Public Association in the East Kazakhstan Region; Tursyn Yerkebulan Serikkaliuly; Azamat Zhumatayev; and Bekzhan Yedulov.

Akaty city: to Bekseyitova Yermek Zharylgapkyzy, a head of the archaeological and ethnographic department of the Mangystau Regional Historical Museum; Tuyakov Bauyrzhan Orynbayuly, a head of the department on youth polity in the Mangystau region; Taigara Kenzhegulu Dikanbaykyzy, a specialist at the Youth Policy Centre of Aktau; Sagitzhanov Askar Orazalyuly, a chairman of “Tagylym” Youth Association; and Kenzhebek Serzhanov, a young correspondent of a city newspaper.

Kyzylorda city: to Tazhmakhanov Zhagypar Aitbaiuly, a deputy head of the department on problems of youth policy in the Kyzylorda region; Tassabayev Zhassulan Nurgeldiuly, a chief inspector of the department of youth and youth organization on problems of youth policy of the Kyzylorda region; Ismagulova Gulzirash Sauelkhankyzy, a head of the historical and archaeological department of the Regional Museum; Bahramova Gulzhan Yeshmakhankyzy, a guide of the museum; and Zhuzeyev Serikhan, a chief editor of the “Syr Ulany” newspaper.

CHAPTER 1

HUMANITARIAN TECHNOLOGIES AND THE PROBLEMS OF THE INTELLECTUAL CAPITAL OF A NATION

1.1. The Intellectual Potential of a Nation: a Strategy of Development

Development of the world-leading countries led to the formation of the post-industrial economy and, then, to the new economy: namely, the knowledge economy, innovations, global information systems, intellectual labor economics, science, and the latest technologies. The basis of this new economy is intellectual potential, which is the main keynote of social and economic development of modern society. Interest in the study of the processes of intellectual development of society has increased sharply in the recent years. According to V. K. Levashov, "primarily this is due to the formation and establishing of knowledge society, which is a new social and economy formation whose production, distribution and effective use of scientific knowledge and technologies become the main driving force and a product" [1]. It is obvious that, nowadays, education becomes a sector of the economy, and the human factor becomes the main resource for economic development, since the most valued person is the one who can discover or create something new in industry, science, or culture, etc. That is why the essential mission of Kazakh higher education is to prepare intellectually developed and creatively working professionals—the citizens of the Republic of Kazakhstan. Today, the system of higher education faces radically new tasks, the greatest of which has been specified by N. A. Nazarbayev, the President of the Republic of Kazakhstan, in the national project initiated by him: "Intellectual nation—2020: education of Kazakhs of new formation, turning Kazakhstan to the country with competitive human capital" [2].

The formation of an intellectual nation is recognized to be one of the strategic objectives of Kazakhstan's development, where the main vectors are high-quality education and the support of the younger generation.

According to the reviews of foreign experts in the field of education, as well as to the results in competitions and tests, etc., the Kazakh youth has a high level of intellectual potential. The only thing we need is to be able to use it correctly. It is not so easy to give good education to a future specialist in addition to helping them to bring their talent and capabilities to light, to create conditions for the skilful use of the knowledge gained, and to ensure the formation of competitive employees.

The "Intellectual nation" project must consider three potential points: the creation of new solutions, technologies and innovations; the informational revolution; and the youth's spiritual education. The aims of the intellectual society are to meet the demand for professionals who are equipped with new knowledge, to use their scientific achievements in certain economic sectors and to generate the humanitarian values of our country. Humanitarian technologies, which manage social and humanitarian systems, take the leading position in the formation of an intellectual society's citizen.

Scientific debates about the definition of the "humanitarian technologies" concept have been going on for more than half a century. Research on this topic is held in many countries around the world. A. V. Bukalov, who is one of the developers of socionics, a new scientific discipline, defines humanitarian technologies as methods of education, organization of the system education, psycho-informational compatibility, psychotherapy, and in-depth psychoanalysis [3]. Humanitarian technologist Ostrovsky gives another definition: "Humanitarian technologies are a set of carefully verified and scientifically proven methods and special techniques of indirect impact of humanitarian technologists on the society through social behaviour control" [4].

According to Russian scientist A. Kurochkin, "humanitarian technologies are a set of control procedures of social and humanitarian systems that have the following characteristics: public field of application, future-oriented (strategic nature), exclusivity and optimism" [5]. Thus, the main objective of humanitarian technologies is to search general grounds for general principles, based on which we can interpret an action, making it understandable in the context of various institutional subsystems while recognizing that each of them has its own particular set of principles. Humanitarian strategies are focused primarily on the development of direct communication. Humanitarian technologies also have a strategic nature, that is, aimed at solving problems in the long term and, as a rule, is exclusive, meaning designed for a specific problem or project unit. At Harvard University, in the US, research in the field of humanitarian initiatives—Harvard Humanitarian Initiatives—are conducted. Comprehensive

research on humanitarian technologies is conducted in Qatar. The Humanitarian Research Base—http://crisismappers.net/—is an advanced information resource. Around the world, 191 countries are involved into this project. In 2007, a Crisis Map was developed on the basis of this project. The main aim of this project is to identify the impact of industrial technologies' achievements on humans and the management of crisis situations in societies. It is possible to note some successful research, conducted within the framework of the Innovation Summit for Education and Science—http://www.wise-qatar.org/—in Qatar. Studies in this field, implemented in practice, were carried out in Russia: for example, the applied research of humanitarian education, technology and expertise that was conducted at the Bioethics Centre of the Institute of Fundamental and Applied technologies of the Moscow Humanitarian University.

Research from the HR Laboratory, "Human Technologies," of the Faculty of Psychology, at Lomonosov Moscow State University, develops intellectual tests, makes assessments, and carries out expertise aimed at the development of human capital. The Faculty of Psychology at the same university and the Centre of Tolerant and Human Technologies at "Gratis" Scientific and Practical Centre develop educational programs, psychological games, and conduct empirical research among the target groups.

The Moscow "Human Technologies" Laboratory is known for its information from expert and analytical studies, which is competitive in the market of human technologies. The Centre of Social Communication of St. Petersburg State University and the Centre of Social Development and Human Technologies also fit into this group of centers, conducting research on the topic of this project.

In this regard, the study of humanitarian technologies aimed at developing the intellectual capital of the nation and the formation of "a citizen of the intellectual society" of Kazakhstan is represented by not only a scientific but also a political task. According to Kazakh scientists, a comprehensive study of the humanitarian technologies affecting public consciousness and the results of strategic objectives should be implemented "at the present stage of the formation of "a citizen of an intellectual society." An urgent problem during the period of rapid development of the world's economic, social and political processes is the determination of the spiritual values and ideological principles of Kazakh society and their direction to the civilization provisions [6].

The development of a new scientific technology in Kazakhstan, including the development of a new field—the field of humanitarian technologies that are the basis of the formation of the moral values of the society—, may be considered as a way to answer the pressing questions of

our time. In general, the idea of humanitarian technology enables one to consider humanities in a new light: their possible impact on the state of the society and human life.

Among the basic modern concepts of humanitarian technologies, researchers have identified the following:

1. Humanitarian technologies are used and are in demand as a projective technique of realization of a certain type of interaction, aimed at maintaining social relationships. The basic value-goal orientations of the representatives of interest groups and elites of one or other existing modern societies lay their foundations. In this context, they are usually referred to as the ideological, manipulative or conventional public policy strategies, and the "humanitarian" potential of the latter is estimated by how it can institutionally and legitimately cope with the possibility of the political and administrative management of the social system as a whole.

2. Humanitarian technologies are considered as a way to broadcast information. Optimal forms and qualitative grounds, which would allow the solution of the highly essential current problem of shortage or overabundance of information resources, to achieve their effective use in different historical formations are produced with the help of, and through the use of, technologies.

3. Humanitarian technologies are formed over priority forms and methods of fixing behavioural stereotypes and relevant social roles. The first one, which defines the sphere of social action by sanctions and regulations, totally unifies political, cultural and other socialization, as well as the forms of activities, existing in the society. The second type is called "humanitarian." It is based on the search for new opportunities for social cooperation based on the principles of dialogue, freedom of choice and mutual security in a multicultural society.

4. The goal-oriented collective activity of people on the basis of humanitarian knowledge is also becoming one of the most important components in the development of appropriate technologies of social modelling. The issue of innovations production in the humanitarian sphere is closely related to the forms of people's scenario behaviour in a consumer society, and their ability to produce and evaluate innovative senses in their own field of mental activity on psychological and mental levels [7].

Speaking about the nature and content of humanitarian technologies, it should be noted that humanitarian technologies are a system of scientific and humanitarian knowledge, the use of which allows you to implement a specific human plan using certain conditions, means and methods. At the present stage of the research, we may note that humanitarian technologies

are technologies that are focused on the development of a human personality and on the creation of appropriate conditions for that. In other words, these are the ways to improve moral and ethical norms, ways to develop intellectual potential and physical condition.

Humanitarian technologies serve to develop the competence of a modern specialist in different branches of knowledge, a specialist who will constantly self-improve, be competitive in the labor market, and easily adapt to changing conditions. A professional in any industry, today, shows not only innovative knowledge and technologies but also an essentially different level of thinking, based on the sociocultural settings in which the communications develop. This is the result of the impact of global information technologies. Thus, humanitarian technologies reach a higher level of impact on the human factor.

Development of communication technologies has led to the appearance of humanitarian apparatus. On the one hand, humanitarian technologies are the result of the development and, on the other hand, they promote progressive development. Here, we can find a wide spectrum of interpretation of concepts. For example, in a study guide issued by the A. Gertsen Russian State Pedagogical University, they discuss the problem of "communication studies, in particular, on understanding and explication of innovative concept of "humanitarian technologies," as well as in addition to various aspects of social life [8].

Under humanitarian technologies, the authors mean algorithms of communicative activity on the organization and implementation of human communication: the algorithm of creating and understanding texts of various kinds, and algorithms of design and implementation of communicative events of consciousness effective cooperation. Special attention is paid to issues of the content, strategic positioning and methodological support of modern higher education.

Today, education is, indeed, a priority value; it also has practical importance in different spheres of human life—from the understanding of culture samples to the professional performance of various forms of labor. For the successful development of Kazakh society, we need competent, business-minded, competitive, and enterprizing individuals, armed with quality knowledge. In this regard, the President, in his address to the people of Kazakhstan, stated, "Socio-economic modernization is the main vector of Kazakhstan development," and emphasized, "Education should give young people not only knowledge but also the ability to use it in the process of social adaptation" [9].

Nowadays, education should not be limited only to transferring knowledge and retraining people. It must change a person's attitude to the

surrounding social, cultural and geographical environment, it must ensure the suitability of a person to an activity under the changing labor and production environment, and contribute to the formation of flexible thinking and orientation on dialogue and cooperation.

Bearing in mind that universities have always supported social and cultural points of the historical process, we have to educate a future specialist to be able to consider their activity from the universal point of view, from the perspective of the global world, and social and cultural processes, and from the standpoint of global cooperation and rapprochement of different nations and cultures.

At the same time, the spiritual space of the university environment, today, must be full of national priorities: the ideas of patriotism and statehood, high spirituality, values of labor and service for the benefit of the Motherland, traditions of ethnic and religious tolerance, and openness to other cultures.

"In this context, the role and importance of modern education system, human capital as a criteria of social development level, which constitute the basis of new living standards of the society and which are the important factors and the base of economic strength and national security of our country, increase" [10], as it has been noted in the Concept of Education Development of the Republic of Kazakhstan. Changes in the system of social relations, in their turn, affect the education and require mobility and adequate response to the challenges of a new historical stage, and they must meet the needs of economic development as a whole.

Today, no one disputes the fact that people are the backbone of any organization and are its main wealth. A person has always been a key and valuable recourse. In addition, for the last decade, especially in countries developed in the market, such as Kazakhstan, there is a tendency for further increase of this value. Not for nothing, today, in modern literature devoted to the management of large enterprises, much attention is paid to the "human factor" in the system of management training. Respectively, the economic efficiency of such enterprises is complemented by social efficiency. In this regard, such concepts as "human capital" and "intellectual capital" become increasingly important.

The concept of intellectual capital was introduced to the scientific community by John Galbraith, a great economist of the twentieth century. The first person to investigate the nature of intellectual capital was T. Stewart, a member of the editorial board of "Fortune" magazine. In his article, in 1991, called "Brainpower: How Intellectual Capital Is Becoming America's Most Valuable Asset," he introduced intellectual capital as the sum of everything the employees of a company know and what gives this

company a competitive advantage in the market: "…patents, processes, management skills, technologies, experience and information about customers and suppliers. Combined together, this knowledge forms intellectual capital." According to Spanish researchers Miguel Gonzalez and Figueroa Dorrego, despite the lack of an unambiguous definition of intellectual capital (hereinafter, IC), invisible assets or recourses of knowledge, which can generate the value of a company, are usually called intangible assets. The European Commission has identified IC as a combination of the activities and intangible resources (human, organizational and relational) of an organization, which enable it to turn a set of material, financial and human resources into a system capable of creating value for the parties concerned. In fact, IC can be regarded as "... knowledge owned by an organization (direct knowledge) or by its members (tacit knowledge) that makes or produces a current value for the organization" [12].

A. Bonfor, a French researcher, suggests considering human capital as an effective asset of not only the activity of companies, but also international, non-governmental organizations, and educational institutions. In his opinion, it is necessary to develop innovative approaches, in particular, the monitoring and evaluation of the prospects of intellectual capital development [13].

According to V. Zhuravlev, a Belarusian scientist, human, reputation, innovation and social potentials are considered as elements of IC. Educational and scientific potential and indexes of global competitiveness and innovation development are considered as elements, characterizing the intellectual potential of a country (society). The intellectual potentials of a country and a society also include education, healthcare, science, culture, demographics, and standards of living.

There are several definitions of intellectual potential:

1. Intellectual potential is an aggregate, accumulated by the society's intellectual resource, which has the ability to participate in the production processes and generate income for the owner.

2. Intellectual and informational potential is a set of possibilities of a society as a whole and its subsystems: individuals and groups of people to reproduce knowledge gained and its use during the formation of new approaches to the assessment of changes for innovation development.

3. Intellectual potential is a comprehensive assessment of the development level of intellectual and creative opportunities, and a country's resources, industry and personality. Intellectual potential is determined by the development level of the society, education, science, culture, and genetic fund of the society [14].

In today's world, human capital is one of the most effective factors of economic, social, cultural and political development. It became the main instrument for the formation and development of the innovative economy and knowledge economy as a higher stage of the development of the world economic system. The main aim of the "Intellectual Nation—2020" program is the production of the most important capital and supreme value: a human, and not only a professional, but an individual, full of qualities and properties of spiritual and moral personality.

In today's world, knowledge and information become defining categories of economic development as well as the development of social and public life. The example of developed countries shows that the dominant tendency of their development is to focus on knowledge as a strategic foundation of the market economy, which stipulates the rapid development of those industries and businesses into which the transfer of new technologies based on innovative approaches is carried out. However, knowledge alone does not transform the economy. To solve this problem, a complex of structures and activities is required, which allows not only the carrying out of the production of knowledge and proper personnel training, but also innovative activity, broadly understood as the realization of scientific and education potential in the market of goods and services.

Legislative and regulatory framework stimulating these processes and the appropriate macroeconomic situation, access to the sources of knowledge based on advanced innovation technologies, and a number of other factors promoting innovations are of great importance. This significantly increases the role of universities as institutions of society, generating knowledge and providing pre-training of the scientific-educational, technological, managerial and cultural elite, as well as structures of innovative type and information systems that are conceptually ready to deploy. We note that, at the time of starting the "Intellectual Nation—2020" program, a fundamentally new system of personnel training that meets modern international practice was formed in our country. Kazakhstan was the first country of the post-soviet space to move to the three-step university training of bachelors, masters and doctor of philosophy (PhD) adopted around the world. Kazakhstan's leading universities began international accreditation of academic programs, which became an important tool for improving the quality of education. It was in 1993 when the President of the Republic of Kazakhstan announced the idea of promoting the "Bolashak" program, through which tens of thousands of young Kazakh citizens got an opportunity to study at the best universities of the world. In foreign countries, such a large-scale training

program was a unique phenomenon, and its success is recognized by the world's education community.

Another significant step towards the formation of a creative young generation is Kazakhstan's entry into the Bologna Process, in 2010, which opened new perspectives of international integration. A series of reforms has been carried out in Kazakhstan, under the renovation of the educational system. An important event was the adoption of the State Program of Education Development in the Republic of Kazakhstan for 2011–2020, which aimed to reach a fundamentally new quality of education that would meet international standards. Transition to the twelve-year education model is being realized. For the first time, e-learning in Kazakhstan becomes a frequent practice; electronic learning will provide fundamentally new opportunities and prospects for increasing the intelligence of the nation and the development of education throughout life, which is one of the leading world trends. The highly developed and information type of society that Kazakhstan strives to achieve is characterized by the widespread introduction of new information and high-end technologies, and the development and growth of the knowledge industry. Thus, the reality of sovereign and independent Kazakhstan suggests the possibility of the formation and development of the intellectual nation, which should be focused on traditional, national and universal values, as well as on cultural norms.

1.2. The Intellectual Nation as a Dominant Trend of Innovative Development of the Republic of Kazakhstan

The transition of developed countries from industrial to post-industrial, including the information society and intellectual economy, highlights the intellectual component of human activity: the role of science, education, and new technologies—everything that bears a relation to increasing intellectual potential.

The intellectual capital of a nation includes all collected scientific, professional and cultural information; the knowledge and skills of specialists of all sectors and spheres of life; and the intellectual, moral and cultural development of each person. The names of scientists, educators and cultural figures also become values, which help to raise a sense of patriotism and pride for the people. Authoritative personalities create a positive image of the nation for other nations.

Intelligence means a certain level of mental activity of a person, providing the opportunity to gain new knowledge and to use it effectively in life, and the ability to implement learning processes and to solve

problems effectively. The concept of "intelligence" was produced and was used in medieval philosophy; however, the origins of its use have deep roots in antiquity. Philosophical and sociological understanding of the nature of intellectual activity, the nature of knowledge and learning were studied in the works of Aristotle, Plato, G. V. F. Hegel, K. A. Helvetius, I. Kant, R. Descartes, John Locke, Thomas Kuhn and I. Lakatos.

Many researchers in social science analyze the problems associated with the intellectual support of scientific and technological progress: the intellectualization of production. Researchers, such as N. A. Aitov, A. I. Arnoldov, G. N. Volkov, D. I.Gvishiani, V. D. Golikov, B. M. Kedrov, A. M. Korshunov, V. P. Kuleshov, S. N. Plotnikov and O. I. Shkaratan, have studied this aspect in their works. Analysis of the methodological aspects of science, and the genesis and nature of scientific knowledge were performed in the works of P. V. Volobuev, P. P Gaidenko, V. P. Zinchenko, V. J. Kelly, L. M. Kosarev, I. D. Rodzhanskiy, E. V. Semyonov, A. B. Titmonas, I. T. Frolov, B. S. Shvyrev, and B. G. Yudin.

There are many definitions of intelligence:

Intelligence is a complex problem-solving ability under changing requirements and conditions.

Intelligence is the ability to understand, remember, process and apply the necessary information in the right quantities and at the right speed and quality.

Intelligence is a stable system of mental abilities of the individual to thinking and rational knowledge.

Intelligence is a measure of how we deal with the requirements of the external environment.

Human intelligence is realized not only in relation to problems, but also in the ways of their solution (overcome). Intelligence is not only reflected in knowledge, but also in activities. Knowledge and activity are presented as different mechanisms in our mind. Knowledge is information. Activity is a practice of implementation of knowledge in accordance with the aims and objectives of an individual, organization or society. Human intelligence is also connected with imagination, intuition, emotions, and communication skills.

F. Galton was the first to speak about the existence of individual differences in mental (intellectual) abilities. However, he identified intelligence with congenital psycho physiological functions. In his structural and genetic approach, Jean Piaget defined intelligence as the best way to make out the balance between the subject and the environment, which is characterized by its universality. According to academician N. N. Moiseyev, intelligence is the target-setting, resource-

planning and building of a strategy to achieve the goal. V. Pride defined human intelligence as the current and future dynamics of evolutionary development of the human as a species. L. Gottfredson gave the definition of intelligence as general mental ability, which includes the ability to draw conclusions, plan, solve problems, think abstractly, understand complex ideas, learn quickly and learn on the basis of the experience. According to the scientists, intelligence reflects the broader and deeper capacity to know the world, to understand the essence of things, and to think what to do in a given situation.

Much attention is paid to the problem of the development of creative thinking and intelligence in both domestic and foreign psychological and pedagogical literature (L. A. Baranova, A. V. Brushlinskii, J. Guilford and B. A. Zhetpisbayev). R. Z. Altynbaev, V. P. Elyutin, A. I. Kochetov, L. G. Smirnov, S. P. Trapeznikov and L. A. Shiryaev have contributed to the development of the features of formation and functioning, to the characteristics of the essence of the investigated problem, and to its sociological dimension.

In modern science, the problems of education in different contexts (culture, family, youth, development of a social structure, and the self-education of a personality) have been studied by philosophers and sociologists, such as I. V. Bestuzhev-Lada, E. Bikmetov, G. E. Zborovski, A. G. Zdravomyslov, N. Kogan, D. L. Konstantinovski, N. Y. Martishina, V. Y. Nechayev, Y. P. Petrov, L. L. Rubina, M. N. Rutkevich, I. M. Fadeyev, F. R. Filippov, F. G. Khayrullin, G. A. Cherednychenko, F. V. Sharipov, M. T. Shafikov and V. N. Shubkin.

The analysis of the interrelation of intellectual potential, culture and activity was considered by L. P. Buyeva, E. A. Vavilin, V. K. Kantor, N. V. Karlov, V. J. Kelle, I. F. Kefeli, L. N. Kogan, I. T. Kuznetsova, M. N. Kuzmina, N. Lobkovicz, E. S. Markaryan, D. Markush, V. M. Mezhuev, Y. A. Muravyov, A. L. Nikiforov, Y. K. Pletnikov, A. Schweitzer, B. G. Yudin, B. Zheksenbaev, M. A. Nuriyev, A. K. Satov, M. A. Mergaliev, J. A. Seysenbayev, etc.

At the same time, in the domestic sociological and political literature, the problem of intellectual potential, its essence and content in the broad sense, is rarely set. At the present stage, there is no research that wholly covers this topic. Basically, some certain parts of the formation and development of intellectual potential are considered.

One of the earliest projects, aimed at the complex research of the formation of an intellectual nation in the field of social and political sciences of Kazakhstan, is called “from an intellectual nation to the

intellectual potential: development of information and communication technology impacts on the masses."

Works performed in order to determine the nearest future and the implementation of comprehensive programs carried out in the framework of the "Intellectual Nation 2020" project are considered the first studies in this direction.

Effective implementation of the national project, forming a national intelligence of the country, involves solving the following large-scale historical tasks:

- to develop, as a result of the investigation of the scientific, social, cultural, intellectual, moral, and cognitive basis of the formation of the intellectual capital of the nation, a technology for effective information and communication transfer to the public;
- to identify the factors of scientific achievements, cultural and spiritual values, and patriotic consciousness in the formation of the mental and intellectual capital of people; to develop a communication strategy for creating a positive image of the country;
- to develop effective mechanisms of creating the cultural and information environment, and information and agitation support of moral and cultural requirements for the formation of an intellectual nation, scientific analysis, and summarizing information and communication processes under performance of preparatory (2008–2009) and reform stages (2010–2011) of the "Intellectual Nation-2020" project, as well as the determination of a system, influence and impact of information culture, information equality, information effectiveness and communicative appeal in implementing the next stages of the project: implementation (2012–2013), monitoring (2014–2014) and expansion (2018–2020).

Modern society emphasizes the importance of the development of the education system. For the society, the priority is the development of the intellectual potential of students, identifying their talents and the development of their cognitive processes. The concept of intellectual potential combines the intellectual components of human activity, which give it a creative and innovative character, allowing it to fall beyond the scope of automotive actions and established algorithms of actions. The intellectual potential of the society is its innovative features, the use of which allows the solution of problems arising, bringing something new to the historical process and, thereby, creating conditions for the advancement of history.

Intellectual potential brings together different types of intellectual activity, i.e., it performs an integrative function in relation to its components, for example, education and science, etc. The intellectual potential of a nation reflects its ability to set goals and search the means of their implementation, and, at the present stage of economic development, is becoming increasingly important. In the twenty-first century, winning in economic and political competition is determined not only by the level of development of fundamental and applied science, but also by the level of education of the population. Not by accident, today, in the US and Japan, students get twelve-year secondary education, upon which 60% to 80% of young people continue their education at high schools.

The millennial culture tradition has produced and retained the laws of morality. These laws are not adopted by a single person as a result of individual life experience. They are carefully preserved and passed from generation to generation as a precious spiritual experience of many generations, engrained through the process of education. National mentality and national customs and traditions play the role of spiritual memory. The mother's kindness and the warmth of family relations are also an integral part in the process of education, and the wisdom of the state leader can change the course of history.

Today, the social process is the formation of national values as one of the elements of an intellectual nation. Orientation on national values, and social and political changes in the country have put the issues of formation, development, establishment, patriotic education, citizen and specialist on the agenda. The President, in his address to the people of Kazakhstan, dated January 27, 2012, said, "Socio-economic modernization is the main vector of Kazakhstan development." He also emphasized that, during the modernization of the education system, "it is important to strengthen the educational component of the process of education, patriotism, norms of morality and ethics, interethnic concord, tolerance, physical and spiritual development and law-obedience. These values must be implanted in every educational institution, regardless of the form of ownership" [15].

As a social institution, which reproduces the intellectual potential of the country, education must have the capability of rapid development and meet the interests of the society, an individual, or a potential employer.

Today, the graduate school, with its historically formed structure, personnel (doctors and candidates of science) and its relations, is the main intellectual potential of the country. In the science-education-production system, the graduate school occupies a central position as a generator of highly qualified personnel. Hence, the level and state of development of

higher education as the intellectual potential of society depends on the level and condition of the development of scientific, technical and industrial activity. An intellectual society is much more competitive than any other society known to us. Education is the centre of an intellectual society, and the high school is responsible for the formation of an intellectual nation and the further innovative development of the country.

Today, Kazakhstan has enough features to take its rightful place in the sphere of training specialists, and is competitive on the world stage. The World Bank has published data on the economic development level, based on knowledge, in countries and regions of the world [16]. In the context of the research, two summary indexes were produced: The Knowledge Economy Index and The Knowledge Index, as well as the accompanying score in the countries around the world. The Knowledge Economy Index is a comprehensive index that characterizes the level of development of an economy, based on knowledge, in countries and regions of the world. It was developed in 2004 by the World Bank as a part of a special program, "Knowledge for Development," to assess the ability of countries to create, receive and impart knowledge. It is assumed that the index must be used by states to analyze any problematic issues in their policies and measure a country's readiness for the transition to a model of development based on knowledge. The rankings take into account factors such as economic and institutional regime, education level, development of innovation systems, and development of information technologies and communications. Among the post-Soviet states, which have received high marks in the ranking of The Knowledge Index, which shows the overall scientific and technical potential of the state, the following states have the highest potential: Estonia is number 22 (8.05), Lithuania is 32 (7.26), Latvia is 33 (7.06), Russia is 41 (5.97), Ukraine is 49 (5.37), Armenia is 52 (5.18), Belarus is 60 (4.93), Georgia is 66 (4.47), Moldova is 67 (4.36), Kazakhstan is 74 (4.01), Kyrgyzstan is 79 (3.67), Uzbekistan is 84 (3.31) and Tajikistan is 101 (2.24). Thus, our country is among the top ten countries with the highest index of the knowledge economy.

1.3. The Knowledge Society as a Driving Force of Innovative Development

According to Western and Russian researchers, a knowledge society is a dynamically developing society, whose qualitative uniqueness is determined by the activities of all the following factors:

1. Wide understanding of the role of knowledge as a key to success in any sphere.
2. Constant need for new knowledge (among social subjects of different levels) required to solve new tasks, and to create new types of products and services.
3. Effective functioning of knowledge production and knowledge transfer systems.
4. Mutual stimulation of knowledge supply and knowledge demand (supply aims to meet the existing knowledge demand and generate demand).
5. Effective interaction of systems/subsystems within organizations and society as a whole, producing a tangible product.

It should be noted that the "knowledge society" expression gained its popularity recently and is now becoming increasingly used by sociologists, economists and management theorists for understanding the processes occurring in economic and political life, in the information sphere, in education and science structures, and within and between organizations. The report, called "Towards Knowledge Societies," published by UNESCO, states, "Today, it is recognized, that knowledge has become a matter of economic, political and cultural strong interest so that it can be used to determine the qualitative state of society, the outlines of which are only beginning to appear." The knowledge society is obtaining the features of a new social ideal, determining the directions of strategies and programs of national and international structures. The need for education, retraining and additional education, and "education throughout life" are among the basic human needs in the knowledge society.

The idea of the knowledge society is often associated with the name of P. Drucker, a well-known management philosopher. In the 1960s, similar ideas were performed by F. Machlup, D. Bell, R. Lane, and other authors. However, the idea of the knowledge society as a society of the future became the subject of public interest only in 1990s.

Since the late 1960s, a lot of interpretations on what the information society is have been suggested. With all the diversity in the degree of attention paid to various technological, economic or social processes, the information society is considered in the framework of basic concepts as