

THE PROBLEM OF REFORMING THE EDUCATION SYSTEM IN MODERN CONDITIONS OF WORLD DEVELOPMENT

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Abstract. The combined impact of globalization, ICT and the explosion of knowledge has led to striking changes in modern society, calling into question all aspects of our modern way of life. To cope with these rapid changes, we need to prepare a workforce with the skills to work with various electronic technologies specific to our digital era.

A different approach to education is needed to develop citizens with a worldview, intercultural understanding, the ability to work on group projects in a multicultural environment, as well as the ability to think creatively and critically. This article argues that it is necessary to radically change, especially in developing countries, the way education is provided to the "digital aborigines" of today and tomorrow. Arguing that education is the engine, that a country's strength is based on its quality education, and that the country must provide a verified education to produce globally competitive citizens. The article examines various educational reforms carried out in some successful education systems, but it makes a reservation that developing countries, such as Indonesia or the ASEAN region, should learn from the experience of such systems. At the same time, they should understand that an idea that works in one socio-economic environment may not be as effective in another, since socio-political systems play their role.

Keywords: GERM (Global Educational Reform Movement), PISA (Programme for International Student Assessment), TIMSS (Trends in Mathematics and Science Study), PIRLS (The Progress in International Reading Literacy Study), educational program, education strategy, teacher training, professional development

Basic provisions

In the 21st century, education has replaced industrial organization as the main source of productivity. Education, ICT, innovation and scientific technologies are the fundamental pillars of the knowledge society. A significant part of people work in the field of education. Nations that attach great importance to the knowledge economy invest in training students who are able to competently manage information, evaluate and apply their knowledge in other contexts.

In the digital age, the leading role of a teacher is the role of a leading student. Teachers should understand the role of technologies in the learning process and the

principles of their integration in such a way that they contribute to learning and do not attract attention.

When innovative teachers introduce technology into the learning process, students' knowledge improves significantly. Initiatives in the field of educational technologies are aimed at giving students the opportunity to reach their maximum potential. Transformational use of educational technologies requires changes in pedagogy, curriculum, evaluation policy, ICT and financing. In fact, digital education requires excellent teachers, and the teaching profession requires digital education. «As digital tools spread and improve, reliable learning of the basics eventually becomes «smoother» - accessible anywhere in the world. Excellent learning elements that are difficult to replace with technology are increasingly differentiating student outcomes» [1].

Introduction

In the 21st century, we live in a world where globalization, information and communication technologies and an explosion of knowledge have turned the world into a global village. Education, ICT, innovation and scientific technologies are the main pillars of the knowledge society. The socio-political and economic landscape has undergone phenomenal changes. Globalization has united the world into a single economic space through the expansion of international trade and financial markets and has facilitated the movement of goods, services, capital and labour without barriers to national borders. For developing countries, globalization has proved to be more of a transformative force than anything else. Hundreds of millions of people in Asia have risen from poverty and formed a huge middle class. An educated workforce is no longer the prerogative of developed countries, as developing countries have begun to catch up with them. The process of globalization has challenged existing structures and processes and opened up opportunities for expanding international cooperation.

One of the phenomena on a global scale, without the influence of which no sphere of public life remains today, is the processes of globalization and integration. Of particular importance are these processes in the context of the analysis of the problems of education, and in particular, the quality of education in a modern dynamic information society.

Methods and materials

To achieve the goal of scientific work, the following methods were applied: the study of scientific research on this topic, observation, survey, analysis of the results obtained. The effectiveness of the developed questionnaire for teaching staff was tested experimentally at Academician Y.A.Buketov Karaganda University for three months (March-May 2022).

The Global Education Reform Movement (GERM). GERM's flagships are countries that have demonstrated that the real wealth of a nation is its well-educated human resources. These countries have realized that high-quality education is the engine of the modern economy, a well-educated workforce is the basis of the country's progress, and «knowledge workers» are the cornerstone of the country's economic

growth and prosperity. Most of these countries invest more than 6% of their GDP in education, which is much higher than in developing countries. It is assumed that high education costs will lead to an increase in skilled labour, which will increase national productivity and make the labour force more able to work and compete in world markets (for example, Japan, and South Korea). In this knowledge society, the knowledge economy is the generator of most jobs, and citizens who can identify and solve problems, work in interdisciplinary teams to solve complex and multidimensional tasks, synthesize ideas and communicate effectively are an asset for the prosperity of the nation.

Since the 1980s, GERM has increasingly become the main educational reform in the Organisation for Economic Co-operation and Development (OECD) countries, the USA, the UK and Australia. The common features of educational policy and reforms were used to improve the quality of education and eliminate obvious problems in public education systems [2]. The main features of GERM can be distinguished. The first feature is the standardization of education: results-based education reform in the 1980s, followed by standards-based education policy in the 1990s. The basic concept of these reforms is that the establishment of clear and sufficiently high standards for the activities of schools, teachers and students will improve the quality of expected results. Setting detailed activity goals, and frequent testing of students on standardized tests will improve learning outcomes. Secondly, GERM focuses on the core subjects: literacy and numeracy tested under Programme for International Student Assessment (PISA), Trends in Mathematics and Science Study (TIMSS) and PIRLS. The success or failure of students, teachers and schools is assessed based on standardized tests. Thirdly, by searching for low-risk ways to teach educational goals, teachers focus on guaranteed content to best prepare their students for the tests. Fourth, GERM uses corporate governance models as the main driving force for improvement. This process is motivated by economic benefits. Fifth, school accountability is closely linked to standardized testing.

The standards movement arose out of legitimate concerns about standards in schools. This movement is rooted in competition between students, teachers, schools, districts, and now between countries. All is not well in the Standards Movement. Why do one and a half million students in the United States drop out of high school every year? There are millions of students who stay in school, but they get bored with the whole process. What should we do with children who do poorly and are written off as a risk group? How to re-attract young people to study who either do not have time at school or have dropped out altogether? The system cannot cope with a large number of students. Dropout is a symptom of a deeper problem in the system. The standards movement largely fails for its reasons and creates more problems than it solves [2].

Many countries have begun to revise their education systems, others have begun to rethink the PISA league tables. There is a lot of concern about the PISA form and the harm it does. One of the dangers of standardized education is the idea that one size fits all and life is linear. It makes more sense to help children develop in different ways and identify personal talents and interests that attract them. There is a strong demand worldwide for an alternative to PISA tests. Experts say that you need to start with

projects that are interesting to them and where they can work together in groups. This is called alternative education.

In the USA, the Race to the Top (RTTT) program marks a historic moment. It has helped to achieve higher standards, improve teacher performance, use data effectively in the classroom, and adopt new strategies to help struggling schools. Now in the USA, special attention is paid to improving science, technology, engineering and mathematics (STEM) to enable all students to study deeply and think critically.

Anti-GERM: Finnish model. Efforts to improve education, currently underway even in developed countries, are aimed at bringing back 20th-century education through technological improvements. Even if such efforts succeed, the current reforms will not solve our educational problems, which are not related to testing results, but the future. When teachers believe that success in education is the promotion of our children up in the PISA rankings, they send a message that they want our students to compete, which is already in the past. In many cases, reforms do not take root in the classroom or, at best, are "accepted on the surface without changing behaviour and beliefs." Our main educational need is not to increase scores, but to prepare children for the future. Instead of trying to put knowledge into our children's heads, as it was in the past (and then trying to measure how much it was learned), modern teachers should find ways to create citizens of the 21st century who repeat less and think more.

Many reforms failed to properly prepare schools for changing conditions [3]. Meanwhile, schools are encouraged to learn quickly, and teachers are encouraged to become «knowledge workers» to effectively cope with the growing pressure of a rapidly changing environment [4].

Finland has remained unaffected by GERM viruses mainly due to its professional strength and the moral health of its schools. The main elements of GERM are not accepted in Finland.

Finland is one of the symbols of successful education, but, ironically, it is also in the process of radical education reform. The country is abandoning traditional subject-based learning in favour of topic-based learning or phenomenal learning.

The basic philosophy is to prepare people for life. In the pedagogy of teaching, a collaborative approach is used, when students work in small groups, solving problems and improving their communication skills. Teachers are being trained to adopt a new approach. Phenomenally-oriented training is fully implemented by 2020.

The characteristic features of teaching and learning in Finland are high trust in teachers and principals, encouraging teachers and students to try new ideas and approaches: to put curiosity, imagination and creativity at the centre of learning.

According to several thinkers, innovative changes in education should occur from the bottom up [3]. This school of thought asserts that students and classroom teachers are vital cogs influencing an innovative approach to transforming the educational process. Changes should start with the students - what they need and how we can give it to them. Inspiring and motivating teachers are key elements for realizing this vision. Adherents of this argument claim: «The way teachers treat their students and how they see their mission with them will have a huge impact on the world to come». Teachers and students should work together in new forms of partnership in which students do

what they do best (for example, use technology, find information and create products that demonstrate their beginnings), and in which teachers guide students by doing what they do best (by asking the right questions, putting things in the appropriate context and ensuring quality and rigour).

Primary and secondary education, of course, is the basis on which any subsequent education is based. The focus of knowledge in the 21st century has largely shifted from the teacher to the Internet. Modern research has shown that the quality of a teacher's work is a key factor determining a student's success. The issue of teaching quality is currently one of the most pressing problems identified by the developers of educational policy. Ensuring that all students have access to highly qualified teachers is of paramount importance. In recent years, few issues of education have attracted more attention than the problem of providing high-quality teaching in primary and secondary school classes. Many countries are investing billions of dollars to improve the training of quality teachers.

Emphasizing the importance of quality teachers, Hargreaves A. states: «We live in a time when a great vision is required, when our prosperity and security depend on our ability to develop students and teachers who will be able to understand and be able to participate in the dramatic social changes that represent today's knowledge society, along with human consequences» [5].

In the modern era, teachers are required to prepare almost all students for the development of higher-order thinking and performing skills that were previously inherent in only a few. Schools need the ability to constantly learn from the world around them and apply the knowledge they have gained in new situations so that they can continue to achieve their goals in an ever-changing context and be able to prepare children and youth for both the present and the future [6]. More and more scientists and educators are advocating for rethinking schools as educational organizations.

Leadership is crucial for technology-based learning to become a permanent part of the educational process. By building a strong leadership team, enlisting the support of the community, skillfully managing change and planning for long-term sustainability, experienced leaders can allow school systems not only to implement mobile devices but also to use them for meaningful purposes to improve academic performance and equity. The task of the leaders is to ensure the consistency of all elements of the system so that this happens. This implies changes throughout the system - sustainable financing, the creation of policies that support these initiatives, and then the creation of a continuous cycle of innovation and improvement. Changes in education require leaders to understand the research and theory behind the proposed changes and communicate them convincingly to teachers and other stakeholders; inspire confidence that the proposed changes can produce excellent results - that they are worth the effort; understand how the proposed changes will affect the curriculum, training and evaluation, and led the implementation of the changes; we monitored the results and made adjustments as necessary to continuously improve the results of the program [7].

Highly efficient education systems such as Finland, Singapore, South Korea, Japan and others:

- 1) recruit graduates with high abilities for teacher training courses;
- 2) control the number of students taking teacher training courses;
- 3) pay teachers a high salary;
- 4) use a strict selection process for applicants to receive pedagogical education.

Teachers who are passionate about teaching develop a high level of knowledge in their subject and use the pedagogical practice of teaching and learning at a high level. A successful change strategy requires professional development, feedback and teacher support along with well-researched mentoring and evaluation. It is critically important to attract good teachers, support and encourage their professionalism, continue to invest in them, and coordinate assessment and remuneration to support innovation in teaching. While it is widely recognized that teacher quality is a critical component of successful education, in practice, there is little agreement on how to fill the country's classrooms with teachers capable of successfully coping with the more complex tasks of modern schools. The main demand is for teachers who do not supply curricula but develop the learning process. To cope with the growing problems, teachers need new training - one that will allow them not to limit themselves to studying the curriculum, but to teach in a way that instils in students a passion for learning. Teachers should prepare their students so that they have the best chance of success in the knowledge economy. The focus of teaching must remain the development of deep cognition skills: character education (personal traits and qualities such as responsibility, perseverance and empathy); citizenship (knowledge of global problems, respect for other cultures, participation in the preservation of humanity and the environment); communication: the ability to communicate effectively and actively listen to teachers; critical thinking, problem-solving and effective decision making; collaboration: teamwork, learning and contribution to the learning of others and cooperation with different people; creativity and imagination: consideration and implementation of new ideas, the leadership of others and entrepreneurial activity, responsibility for their learning and participation in meaningful social learning [3].

The knowledge base on which a teacher's career is built has expanded and requires teachers to constantly work with it, learning throughout their lives. In the 21st century, teachers must become «knowledge workers» to effectively cope with the growing pressure of a rapidly changing environment.

Schools must prepare students for life and work in a radically changing environment, for jobs and technologies, some of which have not yet been created.

Students entering pedagogical education have high academic achievements, a high level of literacy and numeracy, strong interpersonal communication skills, openness to continuous learning and a passion for teaching. They control admission to pedagogical educational institutions to match the balance between the supply and demand of teachers.

Successful education systems develop citizens with skills such as 1) the ability to use several electronic technologies to obtain, systematize and apply information; 2) to think critically and creatively and evaluate the results of one's thinking; 3) the ability to effectively communicate and cooperate with others, especially in a diverse and multicultural environment.

The OECD calls successful student-centred schools an innovative learning environment with the following characteristics: make learning and student engagement central; provide a social orientation of learning and cooperation; take into account the motives and emotions of students; acutely feel individual differences; demanding of all students, but without excessive overload; use assessments that correspond to learning goals, with a strong emphasis on formative feedback; contribute to the relationship between subjects. The skills students need to contribute effectively to society are constantly changing, but our school systems are not keeping up with them. Teachers themselves often do not develop the practice and skills necessary to meet the diverse needs of modern students [4].

With the support of effective policies, professional development, and a digital curriculum, teachers receive unprecedented tools and information to customize the learning experience of students and provide an academically rigorous education that focuses on search, research, independent learning, and collaboration. Under the guidance of highly qualified teachers, students in a transformed environment use powerful mobile devices as personal learning platforms. With access to a huge number of digital learning resources and following modern pedagogical strategies, students can:

- 1) manage their time and take control of their learning;
- 2) interact with the world and use various learning tools to improve outcomes;
- 3) use a wide range of creative methods to demonstrate what they are learning;
- 4) take responsibility for their learning and participate in meaningful social learning.

All students should be prepared to become lifelong learners, creative, sociable, problem-solving, and happy people who contribute to the common good in today's globally interdependent world. It is necessary that our training systems promote the development of young people's vision of what it means to communicate and thrive in an ever-evolving world, and equip them with new skills to realize these visions [8].

Students of the 21st century should not only master the basic concepts but also be able to apply, expand and deepen this knowledge. Students should:

- 1) work independently, throughout life;
- 2) work collaboratively and respect different points of view;
- 3) critically evaluate new tasks;
- 4) apply their knowledge in new situations to solve new problems;
- 5) communicate using various technologies and methods;
- 6) work hard in the face of difficult tasks.

As part of the training program, future teachers should possess critical ideas, skills and abilities to reflect, evaluate and learn lessons from their teaching activities so that it is constantly improved. Teaching and learning methods are undergoing significant changes, and the field of academic literacy goes beyond reading and writing. The focus of teaching is on preparing students for modern learning and developing the qualities of a global citizen. Thus, teachers and schools are required to transform the learning landscape and achieve fundamental changes in student learning outcomes, measured

by their ability to think critically, work collaboratively, solve problems and become lifelong learners.

G. Masters identifies five main problems faced by the developers of educational policy today [9,10].

Firstly, to improve the quality of teaching, it is important to raise the status of teachers. To develop teaching as a knowledge-based profession, it is necessary to attract more capable graduates to teacher training courses. Successful education systems (Singapore, Finland, Japan and South Korea) recruit graduates from the cohort of the top 10%-30%. In Finland, only one out of 10 applicants are selected for the position of a primary school teacher. Graduates enrolled in pedagogical courses undergo rigorous training in the content of the subject, the pedagogy of teaching and the integration of technology into teaching and learning.

Secondly, the OECD PISA shows that some countries (Germany, Mexico and Turkey) have succeeded in improving academic performance and reducing differences related to the socioeconomic background of students.

Thirdly, the school curriculum should try to prepare students for a significantly changed and changing world. Instead of teaching the subjects individually and focusing on the assimilation of factual information, it is more useful to teach the curriculum, paying attention to the topics, and students solve issues collectively.

Fourth, it is necessary to use more flexible ways of individualizing teaching and learning with the help of technology to better focus on the current level of academic performance and learning needs. Thus, for the individual development of students, it is necessary to apply flexible forms of education.

Fifth, it is necessary to determine the learning trajectories of students with low academic performance to identify students at risk at an early stage and solve their problems.

Given the pace of technological change and globalization, higher education institutions in many countries have made it their top priority to train high-quality graduates. Pedagogical institutes in many countries have begun to modernize their teacher training practices, striving to provide quality education from the primary level (primary and secondary school) to higher education. A high-quality and operational education system is vital for professional development, which in turn contributes to increased labour force participation and productivity.

Universities were once revered as ivory towers for learning, but today they are forced to view their students as consumers and customers. Many universities are torn between market forces and growing public expectations and accountability. They are expected to develop a world-class reputation in research (academic agenda) while simultaneously educating an increasing number of students (economic agenda). They are required to be the engines of economic development while maintaining a comprehensive scientific profile.

The missions of universities should be rethought, and the meaning of the scholarship revised to meet modern urgent academic and social requirements [11]. In the 21st century, due to globalization, the ICT revolution and the belief in the growing importance of knowledge, universities face huge challenges to meet the needs of the

market and competition. The landscape of universities has changed significantly. The rise of the knowledge economy requires universities to provide lifelong learning and wider and fairer access to a more diverse student body.

The scope and impact of higher education have changed radically over the past few decades. Higher education institutions have become much more diversified and include new types of educational institutions to meet the needs of the labour market. There is a diversification of sources of funding for universities, and public funding is increasingly linked to competitive indicators.

There is an increasing focus on accountability, efficiency and quality assurance. Universities are much more connected to the world through regional integration, networking, research collaboration, student and staff mobility, and transnational education.

If historically universities have played a crucial role in the development of research and innovation due to their autonomous freedom to conduct research for their own sake, without pursuing commercial goals, today universities are increasingly encouraged to conduct applied research that can be commercialized.

Higher education is obliged to promote, create and disseminate knowledge through research and scientific activities. The policy of admission to universities based on meritocracy tends to give preference to socially privileged groups who have a better chance of admission. The dilemma for universities is to reconcile the contradictions between fairness and other imperatives, such as quality and excellence, in the face of reduced public funding [12].

In the 21st century, universities are expected to produce knowledge that directly benefits society and the economy. More and more emphasis is placed not on pure research, but on innovations in solving applied problems, and economic and social impact. This requires university research to commercialize, innovate and accelerate research results through direct collaboration with industry.

Higher education institutions in many countries have made it their top priority to train high-quality graduates. The role of our higher education institutions should be to constantly review pedagogical practice and train teachers preparing to work at the university, who would ignite passion and zeal for teaching to create both internal and external interest in learning. At the level of higher education, a lot needs to be done to train high-quality teachers, administrators, education leaders and high-quality teachers. Pedagogical institutes should adopt a dynamic approach to providing future graduates with the necessary tools. The University provides opportunities for the development of critical thinking to test new ideas and theories. This intellectual excitement takes place in a lively and benevolent social context. There is an openness to differences and challenges.

Most OECD countries, Australia and New Zealand, Singapore, South Korea, Hong Kong and Japan belong to highly effective education systems. The most common thing for these countries is the importance of maintaining excellent teachers in the classroom, continuous improvement of pedagogical knowledge and skills of teachers, as well as recognition and encouragement of expert practice. These education systems involve teachers in setting their teaching and learning goals, as well as creating a

productive learning environment. The main purpose of these education systems is to develop teachers as professionals and experts in their field of teaching. Exemplary teachers are rewarded for their dedication and professionalism.

In Australia, only 10% of 8th-grade students now show about the same level in mathematics as the top 50% of students in Singapore [13].

The discrepancy between what is taught in school and what society or the world of work requires is a problem that needs to be solved.

The discrepancy between the curriculum and the learning process contributes to an increase in the gap between educational institutions and the world of work and leads to a high dropout rate, which leads to an increase in unemployment.

In the new economic environment – the «new economy» - most developed countries invest heavily in improving the quality of human capital because they understand that this is crucial for their economic competitiveness and growth. Successful education systems set high expectations for all students and provide a high degree of support for each student. They focus on attracting high-quality teachers and supporting their professionalism, continue to invest in them, coordinate evaluation and reward innovative teachers.

Results and Discussions

Technology is a favourable force for the development of entrepreneurship and works with knowledge. Evidence shows that the link between education and economic growth is strengthening as the pace of technology transfer increases. Many sectors of the economy today are in the process of developing and updating business strategies based on how people use ICT as a means of individual and collective expression of experience and its interpretation. The competitive advantage of a nation or region (for example, ASEAN) is now based on the skills of the general workforce. Innovation, rapid dissemination, accumulation and effective application of knowledge on a large scale allow the nation to be competitive at the global level. In this rapidly changing and interconnected world, the Internet has made knowledge universally available. The modern global economy pays for what you can do and what you know. In the digital world, no organization can succeed without introducing technology into every aspect of its daily activities. The capabilities of computers and related technologies have expanded so much that computer-controlled machines replace human labour when performing routine tasks. Technology has become an integral part of life and learning models in the 21st century.

Today we have a huge stock of information and knowledge and face unprecedented challenges caused by the converging impact of globalization, the growing influence of knowledge as a major growth factor and the ICT revolution. In the digital age, technology has made it possible to access the world's best experts and specialists in any part of the world, allowing them to use the world's most brilliant methods of interactive multimedia communications and making it easier for anyone to learn anything in a way that suits everyone's lifestyle. Society is changing at an alarmingly high rate, but schools are still sluggishly adhering to the structures that developed in the 19th century. In many developing countries in the 21st century, the

average level of education has reached the level of Western countries in the early 20th century [4]. Many of these countries are struggling to change their teaching practices mainly due to political and social beliefs and a lack of resources. Schools teach outdated skills that are not needed in the digital age. Too many children graduate from school without mastering the minimum set of cognitive and non-cognitive skills. «The whole structure of the school, including its age division by classes and the content of the curriculum, is determined by the obsolete characteristics of the technologies of the pre-digital era. Trying to use computers to improve an outdated system is akin to using a jet engine to improve transportation by attaching it to a stagecoach» [14].

The main changes introduced by ICT in society require the study of specific new forms of learning, concerning how learning takes place and how knowledge appears outside of traditional education systems.

These emerging challenges and opportunities have important implications for educational policymakers. Knowing how we learn, how to turn information into knowledge, and how to document and analyze lifelong learning is very important in the 21st century. New skills are required at all levels [15]. In many countries, especially in developing countries, teachers and students are forced to work according to outdated curricula that will be of little use to them in their future lives. In the 21st century, education systems face numerous challenges. The new economy is driven by entrepreneurs, technology and innovation. The emergence of a «knowledge society», the growth of the service sector, and dependence on knowledge products and highly educated personnel for economic growth are new phenomena [4]. With the rapid development of knowledge, technology and skills, they become key factors of development. The knowledge economy is the generator of most jobs, and it will require citizens who can identify problems, work in multidisciplinary teams to find solutions, manage complex and multidimensional tasks, synthesize ideas and communicate effectively. In the knowledge society, the most important task of the country's education is to coordinate curricula and training with a completely new economic model based on the emerging global knowledge-based workforce [5]. To achieve this goal, it is necessary to transform the process of teaching children at school and beyond and involve them in the acquisition of skills and knowledge of the 21st century.

Investments in human capital are crucial for competitiveness and economic growth. Knowledge is its main production resource. The knowledge economy is driven by two major forces: the growth of knowledge-intensive economic activity and the globalization of this activity. Knowledge-intensive economic activity, in turn, is conditioned by the information technology revolution.

Therefore, employment in the knowledge-based economy is characterized by a growing demand for highly qualified workers, known as «knowledge workers» [6].

The term «knowledge society» usually refers to a society in which knowledge is the main source of production instead of capital and labour. In a knowledge society, people create, share and use knowledge for the prosperity of their people.

There is a broad consensus that yesterday's lecture-oriented approach cannot prepare students for modern challenges, let alone those that will appear during their lifetime. New paradigms of education in the 21st century require a holistic

transformation of education - drawing up a comprehensive roadmap covering curriculum reform and evaluation, new strategies for hiring and training teachers, leadership development and integration of collaboration technologies.

In the 21st century, graduates should be able to invent and respond effectively to innovations. The new world will require them to constantly train and update their knowledge and skills in the field of information literacy.

Labour markets have become more polarized as many of the mid-skill jobs that developed during the 20th century, especially in manufacturing, have been eliminated by new technologies or outsourced to emerging economies. In the 21st century, there is a need for a workforce capable of using a range of electronic technologies to access, synthesize and apply information, capable of thinking creatively and critically, as well as able to communicate and collaborate effectively with other people, especially in a diverse and multicultural environment. A different approach to education is needed to prepare citizens with a cosmopolitan worldview and intercultural understanding.

To increase students' ability to work, they need to be equipped with skills that allow them to cope with the complexities of the modern world, where education plays a key role in everyday life. We must teach students how to learn, how to turn accessible and ubiquitous information into knowledge and analyze the effectiveness of their learning.

The term «21st-century skills» refers to a broad set of knowledge, skills, work habits and character traits that are critical to success in the modern world. Literacy and numeracy, ICT skills, the ability to learn, evaluate and solve problems, interpersonal and civic competencies, entrepreneurship, knowledge of culture, flexibility, adaptability, independent work, critical thinking and self-directed learning are some of the most important skills that are essential attributes of the 21st-century workforce. Other core competencies include global citizenship, financial literacy, the ability to solve complex problems individually and in a team, respond to changes, work in highly effective teams, communicate effectively in various forms in the face of emerging problems and act in a global context. International competition from countries with strong education systems and millions of highly educated, skilled workers dominate the markets.

The educational systems of these countries have directed their curricula to the development of the skills indicated here: critical thinking, problem-solving, reasoning, analysis, interpretation and synthesis of information; research skills and practice of asking questions; creativity, curiosity, imagination, innovation, personal expression; perseverance, self-direction, planning, self-discipline, adaptability and initiative; oral, written communication, public speaking; -leadership, teamwork, collaboration and global awareness; ICT literacy, scientific and environmental literacy; civic, ethical and social literacy, multicultural literacy, financial literacy.

In a rapidly changing, interconnected world, education must change to prepare students for success in life. Countries aspiring to a knowledge economy invest in training students who know how to creatively use what they know and apply their knowledge in a different context. The transition to a knowledge economy has caused widespread concern that young people are entering the labour market without the skills

that employers value the most, as indicated above. Currently, there is a growing understanding that a different approach to education is needed to prepare citizens with a cosmopolitan worldview and intercultural understanding. Japan's economic success is explained by the high literacy and education of the population. This skills gap has led to a focus on school reforms. In addition, it is of great concern that young people lack opportunities to practice skills outside of school. In the workplace, young people get real opportunities to develop skills such as responsibility and independence [8]. They also develop social capital, i.e. create informal networks and interact with adult role models who encourage good work habits.

The focus of teaching is on preparing students for modern learning and developing the qualities of global citizens. Expectations from educational institutions to transform the educational landscape and radically change the results of students' education have increased. To achieve success both at work and in their personal life, students will have an advantage if they learn to apply their knowledge to solve real-world problems, and not just reproduce the information in tests.

Traditional schooling is experiencing a crisis of confidence as students drop out in record numbers and juvenile delinquency is on the rise. To make fundamental changes in the current practice of education and the thinking of practitioners, actions are needed at all levels of education. It has never been more important to prepare the workforce to solve the problems that arise under the influence of the combined forces of globalization and technology. In the 21st century, the context of education has changed, and a new context requires new thinking. Education leaders and policymakers face the difficult task of transforming their education systems to train a workforce with competencies appropriate to these challenges.

Modern thinkers in the field of education offer various approaches to transform the teaching and learning model of the 20th century. Transformative systems allow the development of 21st-century competencies. They recognize that in the 21st century it is impossible to communicate effectively, collaborate, innovate or solve problems without technology. As globalization intensifies, it is becoming increasingly important that the academic performance of students in our schools matches that of other countries. Schools of the 21st century will include project-based curricula involving students in solving real-world problems and issues important to humanity. This is a sharp departure from the factory model of education of the past, based on textbooks, focused on teachers and paper and pencil. The new paradigm of education in the 21st century requires a holistic transformation of education, guided by a comprehensive roadmap that covers curriculum reform and evaluation, new strategies for hiring and training teachers, leadership development and integration of collaboration technologies. In the 21st century, literacy is reading for learning, the ability and motivation to identify, understand and interpret, create and transmit knowledge using written materials related to various situations in constantly changing contexts.

Transformation in schools occurs when school leaders engage their communities and stakeholders in a dialogue about the 21st-century competencies that they will implement in their schools. Transformational use of education requires changes in pedagogy, curriculum, assessment and policy.

Modernization of the education system in the Republic of Kazakhstan as one of the priority directions provides for the digital transformation of education, which in turn implies the widespread use of new information technologies in various fields of education. Nevertheless, the study and experimental substantiation of organizational psychological and pedagogical conditions for the use of information technologies, i.e. mastering appropriate new learning tools, information technologies and resources in the direction of developing an optimal learning strategy in distance education.

In order to find out: how much the university teachers and students themselves are adapted to interact in the new educational environment, we conducted a study in which students and their teachers took part. The psychological and pedagogical specificity of adaptation to distance learning was studied. The age of the participants in this stage of the study is from 25-75 years.

Figures 1 and 2 show the results of a study conducted with teachers and students, where the advantages of distance learning were indicated by teachers: the development of the ability to learn independently (48.3%), automatic knowledge control (15%), the realization of the possibility of inclusive education. (30.8%).

The students indicated as an advantage of distance learning:

- develops the ability for independent learning (62.7%);
- learning activity of students is controlled automatically (21%);
- the possibility of inclusive education is realized (13.8%).

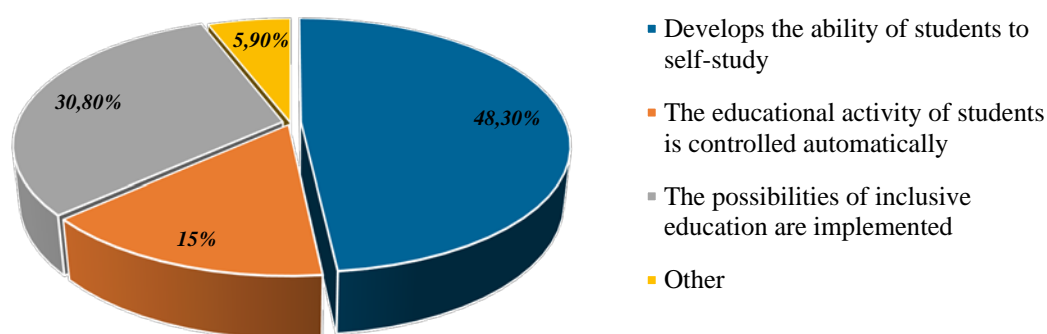


Figure 1 - Advantages of distance learning from the position of teachers.

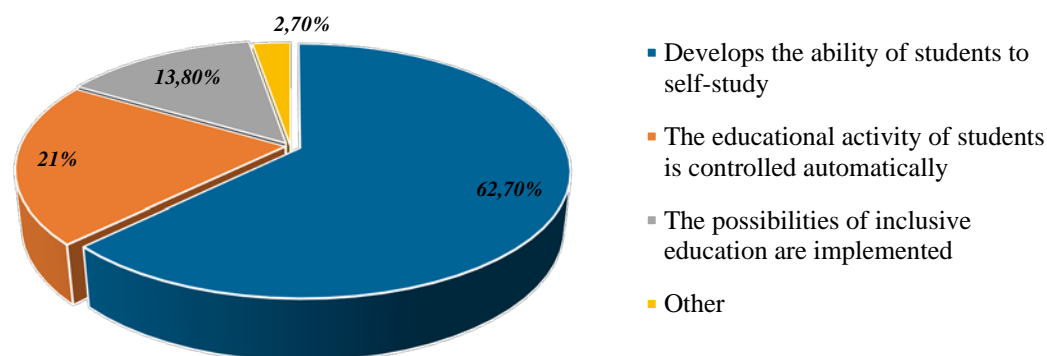


Figure 2 - Advantages of distance learning from the position of students.

The respondents highlighted the general - the main advantage of distance learning, which is the development of independent learning activities of the teacher.

When considering the disadvantages of distance learning, teachers indicated the following:

- students can massively cheat and violate academic integrity (39.7%);
- it is impossible to assess the psychological characteristics of the student (33%);
- the process of spiritual and moral education of the student is not fully provided (23.5%) (Figure 3).

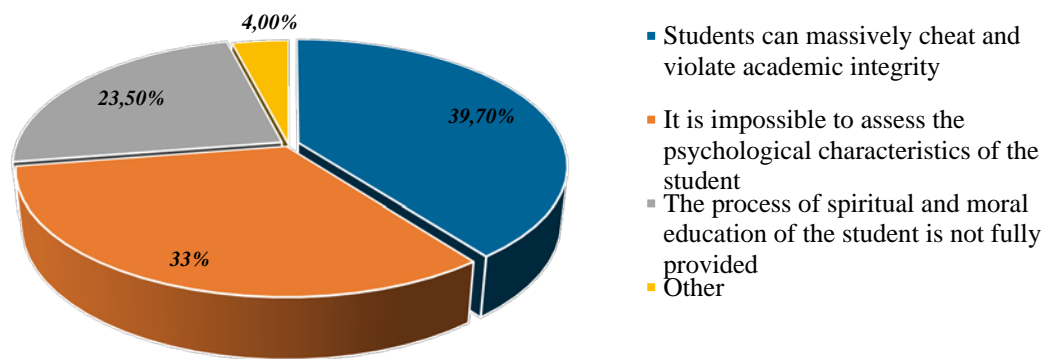


Figure 3 - Disadvantages of distance learning from the position of teachers.

And according to the students, as disadvantages of distance learning, it is indicated that students can massively write off and violate academic integrity (30.6%); it is impossible to assess the psychological characteristics of the student (37%); the process of spiritual and moral education of the student is incomplete (23.5%) (Figure 4).

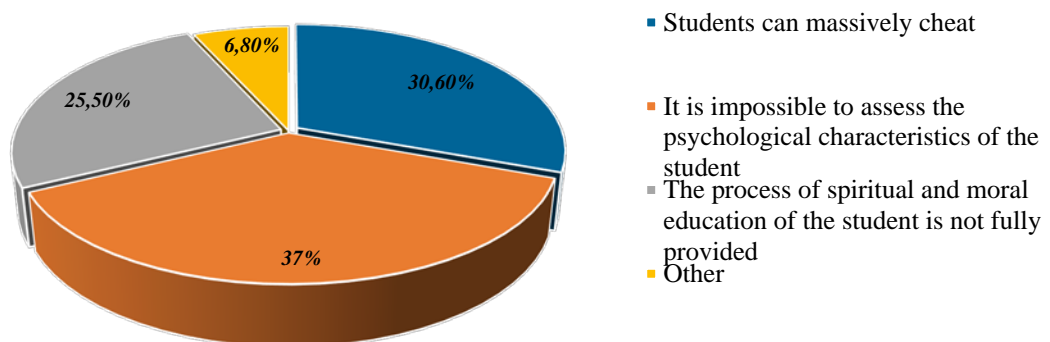


Figure 4 - Disadvantages of distance learning from the perspective of students.

The results of the surveys allowed us to conclude that the ideas of teachers and trainees about the disadvantages of distance learning are not particularly different in their content.

The development and analysis of the experimental results allowed us to theoretically substantiate approaches to adaptation to the newly emerged educational conditions.

Managing these changes requires highly qualified leaders who can inspire strong-minded people, implement significant changes and promote an educational culture to increase collaboration, inspire innovation and establish a continuous cycle of continuous improvement.

With the help of ICT, teachers can transform the learning environment by attracting students and promoting student-centered learning; personalized learning, connecting all learners; supporting virtual learning spaces; improving the work of a teacher, learning through online materials, collaborative learning communities, capacity building through partnerships

Before we start improving the school, we need to formulate a clear vision and roadmap to achieve our goal.

Critics of GERM and standardized curricula argue that we can change almost everything in the system - schools, leaders, teachers, the number of hours and days of training - and still not provide an education that will interest our students and make them dive deep into their own learning and what they need to succeed in the 21st century. We must change what and how we teach.

When we believe that success in our current education is what is important for today's and tomorrow's students, we put students at an extreme disadvantage in this rapidly changing time.

When our education leaders believe that the task of teachers is to recreate the old education, they deprive our students of the opportunity to cope and succeed in the 21st century.

All children should be able to achieve the highest and most creative levels of education. We cannot afford to risk a future in which teachers will not prepare students for either the knowledge economy or social and moral challenges. Education must continue to innovate and empower students to succeed in a future that we cannot foresee.

There is a misconception that only economic growth can lead to a happier society. However, the existing inequality in economic development, leading to a huge gap between rich and poor around the world, as well as within countries, is a source of tension and practical problems. The success of humanity depends on the adoption of a positive mental attitude by the current generation.

That's why education is of great importance. Knowledge is like a tool, and whether this tool will be used constructively depends on motivation.

Conclusion

Modern education is very reasonable, but it seems to be based on universal recognition of the importance of brain development. Not enough attention is paid to the development of the personality as a whole and the promotion of a sense of self-worth. It is important to solve moral issues related to the whole life of a person. Parents have a special responsibility to introduce their children to the benefits of basic human qualities such as love, kindness and a warm heart.

In the conditions of a multipolar world, the Kazakhstan educational system, which is adequately integrating into the world educational space and dynamically developing, should preserve its achievements, priorities based on national educational traditions.

It should be noted that Kazakh education is based on cultural and pedagogical national traditions and priorities, has deep historical roots, and was formed taking into account the Kazakh mentality. Therefore, the transformations should be carried out gradually, taking into account the value educational priorities of the Kazakh society.

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**ӘЛЕМ ДАМУЫНЫҢ ҚАЗІРГІ ЖАҒДАЙЫНДА БІЛІМ БЕРУ
ЖҮЙЕСІН РЕФОРМАЛАУ МӘСЕЛЕСІ**

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Аңдатпа. Жаһанданудың, АКТ-ның және білімнің жаңғыруының әсері біздің бүгінгі өмір салтымыздың барлық аспектілеріне күмән тудырып, қазіргі қоғамды таңғаларлық өзгерістерге әкелді. Осы жылдам өзгерістерге үндесу үшін біз цифрлық дәуірімізге тән әртүрлі электрондық технологиялармен жұмыс істеу дағдылары бар жұмыс күшін дайындауымыз керек.

Азаматтарды дүниетанымы, мәдениетаралық түсінігі, көпмәдениетті ортада топтық жобалармен жұмыс істеу қабілеті, сондай-ақ шығармашылық және сыни ойлау қабілеті бар тұлға ретінде дамыту үшін білім берудің басқа тәсілі қажет. Бұл мақалада, әсіресе дамушы елдерде, бүгінгі және ертеңгі «цифрлық аборигендерге» білім беру тәсілін түбегейлі өзгерту қажеттігі жайлы тұжырымдалған. Білім - бұл қозғалтқыш, елдің күші оның сапалы біліміне негізделеді және ел әлемдік деңгейде бәсекеге қабілетті азаматтарды тәрбиелеу үшін жан-жақты талқыланған білім беру жүйесін енгізуі тиіс деп қорытындыланған. Мақалада кейбір табысты білім беру жүйелерінде жүргізілген әртүрлі білім беру реформалары қарастырылған, бірақ бұл жүйелер тәжірибесін Индонезия немесе АСЕАН аймағы сияқты дамушы елдер үйренуі керек екендігі ескертілген. Сонымен қатар, олар бір әлеуметтік-экономикалық ортада табысты нәтиже берген идея екіншісінде тиімді болмауы мүмкін екенін айта келе, әлеуметтік-саяси жүйелердің өзіндік рөлі болатындығын көрсеткен.

Тірек сөздер: GERM (Білім беруді реформалаудың жаһандық қозғалысы), PISA (Студенттердің оқу жетістіктерін бағалаудың халықаралық бағдарламасы), TIMSS (Математика және жаратылыстану бойынша білім беру сапасын халықаралық зерттеу зерттеу), PIRLS (Оқу сауаттылығы мен мәтінді түсіну бойынша халықаралық зерттеу), білім беру бағдарламасы, білім беру стратегиясы, педагогты даярлау, кәсіби даму

ПРОБЛЕМА РЕФОРМИРОВАНИЯ СИСТЕМЫ ОБРАЗОВАНИЯ В СОВРЕМЕННЫХ УСЛОВИЯХ РАЗВИТИЯ МИРА

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Аннотация. Совокупное воздействие глобализации, ИКТ и взрыва знаний привело к поразительным изменениям в современном обществе, поставив под сомнение все аспекты

нашего современного образа жизни. Для того чтобы справиться с этими быстрыми изменениями, нам необходимо подготовить рабочую силу, обладающую навыками работы с различными электронными технологиями, характерными для нашей цифровой эпохи.

Необходим иной подход к образованию, чтобы развивать граждан с мировоззрением, межкультурным пониманием, способностью работать над групповыми проектами в мультикультурной среде, а также способностью мыслить творчески и критически. В данной статье утверждается, что необходимо радикально изменить, особенно в развивающихся странах, способ предоставления образования «цифровым аборигенам» сегодняшнего и завтрашнего дня. Утверждая, что образование - это двигатель, что сила страны основана на ее качественном образовании, и что страна должна обеспечить выверенное образование, чтобы производить конкурентоспособных на мировом уровне граждан. В статье рассматриваются различные образовательные реформы, проведенные в некоторых успешных системах образования, но при этом делается оговорка, что развивающиеся страны, такие как Индонезия или регион АСЕАН, должны учиться на опыте таких систем. В то же время они должны понимать, что идея, которая работает в одной социально-экономической среде, может оказаться не столь эффективной в другой, поскольку социально-политические системы играют свою роль.

Ключевые слова: GERM (Глобальное движение за реформу образования), PISA (Международная программа по оценке образовательных достижений студентов), TIMSS (Международное исследование качества математического и естественнонаучного образования), PIRLS (Международное исследование качества чтения и понимания текста), образовательная программа, стратегия образования, подготовка педагога, профессиональное развитие

Статья поступила 24.12.2022