

# ОБЩИЕ ВОПРОСЫ ОБРАЗОВАНИЯ

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## THE ROLE OF EDUCATION IN THE FORMATION OF KNOWLEDGE SOCIETY

**Abstract.** *The article aims to define opportunities of education in the formation of knowledge society, which is an integral part of information society and closely related to such an important determinant of the level of society's development as social capital.*

**Methods.** *Methodological basis for analyzing this problem lies in a systematic approach to studying social processes, while a monographic method in methodology. Based on this method, the author tried to define the philosophic mission of educational institutions, which they had performed before the emergence of knowledge economy. This was a significant foundation for further development of society.*

**Results.** *In the age of knowledge economy international competition is based on search for talents. The author defined that in knowledge society students receive necessary knowledge, which gives them an advantage over others. University education is the focus of attention on a global scale. Ensuring prosperity and well-being of society requires better use of human mind.*

**Scientific novelty** of the article concludes in well-founded proof that countries where education is built at an academic level can ensure the formation of a new, promising generation and can withstand international competition.

**Practical significance** lies in the conclusion that the system of vocational education should cover all spheres of economy, science and culture meeting the needs and interests of the country.

**Keywords:** knowledge society, paradigm shifts, adaptive knowledge, information process, social harmony, individual learning.

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## **РОЛЬ ОБРАЗОВАНИЯ В ФОРМИРОВАНИИ «ОБЩЕСТВА ЗНАНИЙ»**

**Аннотация.** Цель данной статьи – обсуждение возможностей образования в формировании «общества знаний», которое является составной частью информационного общества и отражает уровень его социального капитала.

**Методы и методология.** Методологической основой рассмотрения указанной проблемы стал системный подход к исследованию социальных процессов, а ведущей методикой – монографический метод, при помощи которого выявлялась философская миссия образовательных учреждений, выполняемая ими до возникновения «экономики знаний» и послужившая фундаментом для дальнейшего развития социума.

**Результаты.** Констатируется, что в эпоху «экономики знаний» международная конкуренция подразумевает эффективные меры по поиску талантов и созданию условий для максимально полного раскрытия потенциала одаренности и креативности. Для укрепления благосостояния и процветания общества учащимся на всех уровнях образования, и особенно в период профессионального обучения в университетах, необходимо предоставлять те знания, которые будут способствовать выявлению и развитию их индивидуальных талантов и дадут им преимущество в конкуренции с другими на рынке труда в будущем.

**Научная новизна** работы заключается в аргументированном доказательстве того, что страны, системы образования которых сосредоточены на качественной академической подготовке, могут обеспечить формирование нового перспективного поколения, что позволит выжить в международной экономической конкуренции.

**Практическая значимость** предпринятого исследования состоит в том, что система профессионального образования должна охватывать все сферы экономики, науки и культуры, соответствующие потребностям и интересам государства.

**Ключевые слова:** общество знаний, парадигматические изменения, адаптивные знания, информационный процесс, социальная гармония, индивидуальное обучение.

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*Statement of the problem in general and its relation to important scientific and practical tasks.* At the time of rapid development, society is strongly influenced by social, political, cultural, economic and other factors. These changes certainly have implications for education too.

A philosophical approach to the problem highlights the role of education in the formation of knowledge society. But in reality if knowledge plays the role of the main factor, which creates socio-cultural reality, this means the emergence of a new situation. In this sense, education becomes the core productive force of society, where harmony with social and practical activity is at the forefront.

*Analysis of latest studies and publications.* US scientists took an interest in this problem back in the 1960s. One of the first authors to employ the term of «knowledge society» was American political scientist Robert E. Lane (1966). He studied the impact of scientific knowledge on politics and governance. In the 1990s the term knowledge society started to be separated from the notions of industrial and post-industrial society and used as an independent term. In this context, studies of Peter Drucker and other researches should be emphasized. According to Drucker, in western societies knowledge has become the means of production and creates value by «productivity» and «innovation» through its application to work. That is knowledge creates knowledge. This is a qualitatively new situation, which completely changes socio-cultural dynamics of society and adds a new meaning to the role of education in society. For example, Drucker believes that education should teach a man to learn [5]. Education of the classical period was just giving ready-made knowledge. But information technologies help improve individual and professional qualities. Therefore knowledge society needs to possess such a system of education that teaches. It should be noted that humanity reached this level through the long-term historic evolution.

*Highlighting unresolved parts of the problem, which this article addresses.* Since ancient times, human beings have been trying to study and comprehend the outer world alongside with providing their physical needs. In order to create and develop knowledge and then pass it on to the next generations people had to make tireless efforts. And they still continue doing so. Long-lasting attempts to make information more functional paved the way for the emergence of new areas of science and development of education as a new applied field of social sciences.

In knowledge society education, in other words, shifts necessary to get and spread knowledge are characterized as a vital development tool. From this point of view education is of crucial importance for its value. Value is a set of generalized fundamental moral principles, which reflect goals and ex-

pectations, common thinking and sense of society or social group. Values are a source of conduct and are understood as the notions that encourage discourse on them.

In addition, values reflect people's choice. [17, p. 45]. Here it should be noted that value is an idea open for development. In a certain period of time values can shift in order to meet emerging needs. These shifts are of unique nature in knowledge society.

In this sense, as it was earlier said, education should not be separated from the shifts taking place in other areas of society (social, political and economic).

In knowledge society, a paradigm of production changes scientific basis, and influences approaches relating to education and learning and also a new vision of an educated person. Thomas Kuhn calls the approaches replacing one another «paradigms». In his «The Structure of Scientific Revolutions», Kuhn defines paradigms as universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners [8].

Paradigm shifts, which exist in scientific production, are reflected in new values related to the nature of information. The most important is that a contemporary notion of science and education is not indifferent to anything: «It deals with the minor, any actual knowledge. Surprisingly, modern Europeans pay attention to everything, even what is disgraceful. Everything that has empirical reality attracts their attention». [15, p. 140].

*Statement of the objectives of the article.* New hypotheses related to education define that learning is in human nature. According to them, all human beings without exception are capable of learning if they are provided with necessary conditions. Focusing on teaching in education influences the changes in public processes. Development processes in democratization and human rights lead to democratization of education, emergence of alternative education programs and individualization of education. These changes also influence the content of education programs. In Azerbaijan, for example, until recently curriculums, education programs and assessment methods used in general schools had been aimed at developing reading, writing and rote learning, vocabulary, and other skills.

However a new program of reforms aiming to improve the quality of education focused on team work, intuition, senses, discourse, arts, etc. This laid at the heart of the goal of this study – to define the role of education in modern society in terms of the formation of knowledge society.

*Statement of the core material of the study with complete substantiation of the achieved scientific results.* There is a frequent question: what boosts the

education system? And there is a variety of answers. But the quality of assessment of education institutions does not depend on nice buildings or the number of pupils in the classrooms, and not even curriculum. But it depends on the quality of teachers. In the 21st century, the future of any country will depend directly on education, the level of knowledge [20].

The reality is that teachers inspire students. It should be noted that countries such as Singapore, South Korea, Canada, Finland, which have high education ratings, took very effective measures to ensure high-quality training of teachers. In some of them, for example, if there are 600 vacant places in schools, authorities hire 700 people. This stimulates a very tough competition for those seeking teaching employment. By using such a complex mechanism these countries make teaching profession the most attractive one. The education system in Azerbaijan needs wide reforms of curriculums.

In general, apart from explaining the young generation the standards in any field of knowledge, national and subject curriculums must also shape students' world view. This is one of the key priorities in the «State Strategy for the Development of Education in the Republic of Azerbaijan». One of the five priorities of the strategy is the essence of education.

Famous education researcher John Dewey makes a strong case for the importance of education not only as a place to gain content knowledge, but also as a place to learn how to live. In his eyes, the purpose of education should not revolve around the acquisition of a pre-determined set of skills, but rather the realization of one's full potential and the ability to use those skills for the greater good [6, p. 123].

The ability to consider what is important for students – observation, experience, intuition, discourse and other means – are non-material forms of expression of «materialized» knowledge, its use, analysis and assessment in the consciousness of students. Thinking can be expressed as departure from typical information. Most popular forms of thinking include critical thinking comprehension of the essence of the problem, scientific thinking, analytical thinking, inductive thinking aimed at making decisions (from general to specific), deductive thinking (from specific to general), and immediate thinking.

At present there is an apparent contradiction between views of students with respect to obtaining knowledge. In knowledge society, development of deep topics rather than superficial knowledge offered by education programs is the focus of attention. That is, education process should be aimed at forming critical thinking. Therefore the volume of information is too huge to fully comprehend. This is why students should learn to go beyond the classroom walls. The aim should not be confined to just giving students certificates. It is vital to coordinate knowledge that they receive with the real life.

This can be achieved if teachers explain and demonstrate students how their knowledge is reflected in life. The topics of the lesson should not be confined to book pages and walls of the classroom. The topics should be correlated with the real life, students should realize the benefits of the lessons. In this context, outstanding Turkish education researcher Irfan Erdogan rightly says that «education and learning should not be confined to school, and school atmosphere should pave the way for out-of-school self-development of students». [17, p. 190].

These methods lie at the heart of transition to knowledge society. Equal opportunities in education means providing all people, persons with education opportunities for optimally developing their talents and capabilities. Therefore in order to ensure the development of interests and capabilities of persons, educational institutions should provide equal chances at the initial stage. One of the crucial factors in knowledge society is development of advanced technologies, knowledge sector, knowledge creation and investment in knowledge. Continuous education is the main focus of attention. Information technologies, E-commerce contribute to the economic, social, cultural and political development of society, which, in contrast to industrial society, can be characterized as the level of development leading to more significant achievements [6, p. 345].

Formation of knowledge society requires «existence of men of knowledge and institutions of knowledge», which, for its part, requires the existence of «learning persons» and «learning institutions». So the main characteristic of knowledge society is also formed as «learning society». [4].

First computers, which were heralds of information age, started to be used around hundred years after the industrial revolution. These rapid changes strongly influenced human habits. So a question arises: What changes in knowledge society in comparison with industrial societies? What are the values of knowledge society? Howard Gardner, Professor of Education at Harvard University, points out five ways of thinking in knowledge society in his *Five Minds for the Future* book. They are disciplined mind, synthesizing mind, creative mind, respectful mind, and ethical mind [3, p. 11]. In a short period knowledge society has spread all around the world. The following conclusions can be drawn when comparing main qualities of knowledge society and peculiarities of industrial society:

- if in industrial society it is financial capital that boost production, in knowledge society this role is played by knowledge and human capital;
- if «steam engine» is the main driver of industrial society, in knowledge society it is information technologies; This recognizes the fact that technology is an integral part of cultural evolution, a creative product of our imagination,

our hope and inspiration, and that eagerness to create new technologies is, in fact, an instinctive process [12, p. 41].

- power of mind in knowledge society is an alternative to power of hand in industrial society;

- if industrial society involves human capital in production, knowledge society focuses on a highly-educated human capital [21];

- industrial society includes production of goods and provision of services, but knowledge society creates knowledge and technologies, with information technologies taking topicality;

- the role of factories typical of industrial society, is played in knowledge society by network systems that apply knowledge. We are likely to witness in the near future the improvement of not only means of getting knowledge, but also creation of means of creating means of knowledge generation [16, p. 25];

- general education and learning in industrial society are replaced by individualization of education and extension of its duration;

- industrial society includes first, second and third degree industry, agriculture, industrial products and services. But in knowledge society the fourth sector – knowledge sector – is added to this;

- in contrast to specialized socio-economic institutions typical of industrial society, knowledge society (information society) emphasizes the importance of volunteer institutions;

- if in industrial society main factors of production include labour, nature, capital, entrepreneur, in knowledge society the fifth factor is added to this – technical knowledge;

- the main problem in industrial society is lack of products and services. But in knowledge society there is no lack of information, knowledge. Knowledge is rapidly improving, profitability is increasing [10, p. 78];

- if distance and expenses matter during the shipping of products and provision of services in industrial society, in knowledge society the factor of distance between knowledge and producer comes to minimum through knowledge and information storage devices;

- in industrial society mobility (intensity) of goods and services while executing producer's requests is very low, while in knowledge society mobilization of information is a common phenomenon.

All this encourages innovations and unlimited consumption of information. In industrial society main areas of knowledge include physics and chemistry. But in knowledge society new research areas emerge – quantum electronics, molecular biology, nano and biotechnology.

If democracy is an example of political system in industrial society, scientific society features participatory democracy. The development of informa-

tion technologies stimulates the emergence of brand new criterion in communications – electronic voting, TV-democracy.

Given the fact that knowledge society changes dynamics (rate) of new production, the changes in traditional notions of public life and education become inevitable. In this process a new definition of education is the following: in knowledge society education is the process of development of high intelligence capabilities through forming the thinking of the nature of human self-education, the process of creating adaptive conditions of education through gradual improvement of knowledge, capabilities and competence. This prioritizes the role of schools in knowledge society. So the organization of education and learning process is a key to understanding the content of knowledge. Since knowledge plays a multifaceted role in knowledge society, the way schools are organized and the peculiarities of their functioning are of particular importance.

In this context it should be taken into account that such methods as programs, classes, classrooms, textbooks, which are main elements of educational institutions, emerged back in Medieval ages. Laboratories, examination venues and workplaces were added to this after the industrial revolution. Elementary schools and universities are the products of the Medieval ages, while secondary schools and elementary vocational schools are the products of the industrial revolution. This means that at the modern stage there is a need in schools that will meet development tendencies of knowledge society. One should consider the functions, objectives and content of schools as organizations shaping educated people, who are the biggest capital of knowledge society.

More precisely, effectiveness and responsibility of schools in a knowledge society is the focus of attention. Although there are not any satisfactory standards, Peter Drucker believes that:

- schools, which knowledge society needs, should provide high standard of knowledge, capabilities and habits;
- at all stages and at all ages students should be educated about the rules of continuing education and motives of learning;
- schools should be open for both people who received good education and those who because of certain reasons did not get education;
- there is a need in schools that teach science and ensure that it is imparted;
- knowledge is everywhere today. So schools should not be just organizations imparting knowledge, but they should be institutions creating science, teaching people to understand, analyze, solve problems, and other habits.

In terms of modern requirements, the notion of an educated person – that is one who can write and read – has changed. An educated person is not that who can just read, write or count, it is a person who has elementary



computer skills. In order to become an active citizen, a person of knowledge society, one should master advanced technology.

There is a very rich network of information technologies so that people can realize their education. Automated and high-technology opportunities took a human being to a new search level. This requires focusing on knowledge and humane values. This is why in the 21st century people should be able to enrich their thinking and intellectual potential. So the notion of a human being lies at the heart of the notion of knowledge society. An educated person is a symbol of society, defines the volume of its productivity, and at the same time represents the values of society. An educated person should be able to think freely and clearly express his thoughts, he should be able to obtain information about society and environment, he should be able to approach this information selectively.

This is why in order to be a consultant, a teacher should, first and foremost, realize that he should be literate and educated himself, and should acknowledge his responsibility. A teacher should know the level of his knowledge, he should know that knowledge is power, that capabilities can be gained only through a long process of education. Knowledge technologies are means easing the work of a teacher and supplementing education. A teacher should, first and foremost, master these technologies and create conditions for interactive learning.

In information society borders between a teacher and a student are blurred [2, p. 121–125]. Teacher should grab students' interest, involve them in research and assist them in doing their systematic work [18, p. 145].

In knowledge society, teachers should teach students think globally, rather than focusing their attention on insignificant events [7, p. 177]. Students should be capable of broadly thinking of any events, they should know how to apply knowledge of other fields in addressing problems, they should have critical thinking. Many researchers believe that critical thinking should be focused on the problem, students should be able to analyze the problem, ask questions that provide an insight into the topics, study authenticity of the source, get involved in debates on the data obtained, draw conclusions, assess assumptions and build contacts with others [19].

For students this ability paves the way for confrontation of opinions (comparison). Therefore incomparable knowledge is not real. Objective judgement can be generated only if approaching the problem from different angles. So one can draw a conclusion that in knowledge society teaching methods are built in different dimensions. The main objective of education in the era of knowledge is upbringing of people capable of creating something new. This is what should differ it from education models of previous generations that pass certain values [9].

Application of new education models using information and communication technologies is the main difference of knowledge society. However, in knowledge society it is getting more difficult to define large-scale single education programs, on the one hand, scientific and technical revolution brings new and important sciences to school system, while on the other, the demands of students are permanently changing [13, p. 34].

Teachers should move away from details of education programs and focus on common problems. Education should be implemented without exertion of any pressure, taking into account development rate of each pupil and student. Education should be an independent process, it should be based on cooperation methods, and stimulate intellectual potential. In this context, it should be noted that creativity is a form of existence, it gives people a sense of freedom. So education programs and methods should accentuate creative values. And this can be achieved only through instilling a sense of confidence into students.

In knowledge society, education system ensures transition from public to individual education, and from individual to the type of education where majority is a priority, from tough to flexible programs, from dependent content to independent content.

So education methods prioritize individuality, which makes competence more flexible, necessitates development of programs guiding students into the spheres of life, where they will open up their capabilities and potential. Group and individual learning is aimed at preparing a person for future. Science and innovations lie at the heart of globalization, which is a form of manifestation of knowledge society. Globalization features influence of other social spheres, and changes in every area. [11, p. 17].

Globalization in education, which is typical of knowledge society, means innovations in education based on modernized methods and processes, gradual integration into developed countries. However this integration process is not sufficient for solving problems in education caused by globalization. Apart from being necessary for addressing the problem of conformity of globalization with integration problems, education is also means of addressing the problems caused by globalization. Taking this into account, people should be capable of deriving benefit from changes and take alternative measures to address possible challenges generated by globalization. No doubts that globalization will pave the way for significant changes in education systems.

Studying learning, individual and group learning, teaching to learn are main elements of education in the world. UNESCO Education Commission added one more principle to the aforementioned – collaborative learning. The

philosophy of modern education is based on four principles: to know learning, to teach learning, individual learning, and to teach how to live together.

*Conclusions from this study and prospects for future development in this regard.* In conclusion one can say that knowledge society necessitates multi-fold changes based on innovations in all spheres, including education. So a new characteristic of education emerges in knowledge society.

In all spheres of life, in political, economic, social and cultural aspects, globalization is the main perceived value in knowledge society. In addition, intra-disciplinary studies in education are the main method of globalizing education.

In the 21st century there is a need in persons who are capable of choosing the right things from complex knowledge, persons who can assemble parts into the whole, persons who create notions, sensuality, intuition, persons who are mature from socio-economic points of view. Upbringing such persons in general requires a holistic approach to education process from the point of view of the philosophy of education. In social philosophy, this is considered a complete and self-organizing system. Holism of education means achieving harmony in upbringing highly-educated persons with highly developed moral sense. This increases topicality of the problem of upbringing in education. V. Arshinov and Y. Svirskiy put forward interesting views on this aspect of problem. They analyze the way of upbringing in the context of historic evolution, and define several types. Upbringing at the modern stage differs from upbringing in previous generations. They believe that today upbringing is strongly influenced by mutual confidence, dialogue and exemplary behavior. No doubts that this applies both to education process and its content. In addition, education and learning should be synthesized here [2, p. 121–125]. New knowledge should be obtained in parallel with development of moral values of a human being [1].

Gradually the education system and in general schools, students and teachers, who are parts of this system, will have vision of the future as a result of the rapid education process. In order to study the conditions necessary for this, one should pay attention to the search of opportunities in education, taking into account globalization and innovations in tandem. This is another problem which requires mechanisms of realization and special philosophy of education. So it is worth to be addressed [2, p. 121–125].

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