

CURRENT PROBLEMS OF EXACT AND NATURAL SCIENCES AND POSSIBILITIES OF DISTANCE EDUCATION

Rushana Erkinova Khoshim qizi

*Shakhrisabz State Pedagogical Institute Faculty of Languages
3rd level student of foreign language and literature department*

Abstract: In recent years, the development of science and its fields, as well as technologies, has been developing rapidly. Currently, we can see the problems and their solutions in the exact and natural sciences, as well as the convenience of distance education. This article considers these problems and opportunities, and also shows some factors in the field of education and their results.

Keywords: exact science, natural science, current problems and solutions, distance education opportunities, development, creation innovation.

Introduction. Exact and natural sciences are the main subjects that students know and can use. By studying these sciences, a person can not only develop his knowledge, but also improve his outlook and thinking. Nowadays, science is especially clear and many opportunities are being created in the study of natural sciences, and we also see that we are facing many obstacles. Now, in the current age of information technology, teaching through old methods and methods requires a lot of time and complicated learning processes. At the same time, thanks to the development of technologies and their improvement, we can now learn quickly and conveniently using online, that is, distance learning opportunities.

About exact and natural science. Exact sciences are considered to be a field of science that studies and uses specific methods of checking laws and theories that are clear. Exact sciences rely on proven investigations and rigorous logical reasoning. By the words “exact science” I shall mean mainly an idealized physics-like science, which since Galileo exists as a component of many actual sciences, like physics, chemistry, molecular biology. The idealized physics-like science does not depend on natural characteristics of natural systems, but proceeds entirely from a mathematical projection. All the physical-mathematical sciences can be treated as the exact science. Mathematics, geometry, physics, computer science and chemistry can be applied to specific sciences. These recognize absolute certainty as their result, especially in mathematics. Physics also belongs to the type of exact sciences,

because it is based on the measurement of fundamental quantities. The main goal of science is to find the truth behind the various processes taking place in the universe. Natural sciences are a branch of science that studies the laws of the environment, universe and nature. There are five main branches of natural science, including: 1. Astronomy, 2. Biology, 3. Chemistry, 4. Astronomy, 5. Physics. Natural sciences are based on evidence from observation and experience. Studying, understanding and describing natural phenomena is important in this. The foundation stone of natural sciences was measured with precise quantitative data [Rongxing Gou, 45].

This science mobilized all fields of scientific and technical development to realize its interests, using sciences such as biology, physics, chemistry, geology, biophysics, which have risen to the highest level of modern development, and methods of quantitative analysis. Over the past five centuries, the natural sciences have changed the way we live and think at a rate far greater than in any previous era of human civilization.

Current problems of exact and natural science. We know that we are all human, that is, a member of society. Also geniuses and heads of state. All people and even scientists and professionals make mistakes, and through these mistakes we learn and succeed in uncovering the secrets of science. The efficiency of working without mistakes is almost zero and this work is considered impossible.

At the same time, there are a number of problems in the exact and natural sciences. Especially in the current age of information technology, we face many problems in teaching young pupils and students, and many solutions are currently being found in these problems. There are many disputes between the two generations. The reason is that our parents and grandparents were educated without information and technology, and they prefer to teach their children and young generation through old methods and methods, and sometimes they are very reluctant to use social sites and networks. They also make a lot of resistance. This creates problems for our young people to easily and conveniently learn concrete and natural sciences. The field of exact and natural sciences is developing day by day, and new changes and laws are being introduced, and at the same time, various problems are brought to light. We know that no innovation will appear by itself and it will be created and presented to the public after a lot of research, difficulties and mistakes to create it. In the same way, we can see a number of problems in the field of science, especially the exact and natural sciences. They include the following:

1. Financial crunch in academia.

2. Poor study design in published papers.
3. Lack of replication studies.
4. Problems with peer review.
5. Problem related to research accessibility.
6. Lack of adequate and accurate science communication.
7. Stressful nature of academic life.

Clearly there are bad outputs of, science and technology. A major challenge is access to funding and resources. Since scientific research typically requires expensive equipment, manpower, and significant financial investment, scientists need to compete for funding support from the government, corporations, and foundations to conduct their research.

In Uzbekistan, the initial stages of the establishment of the Academy of Sciences, the scientific potential was mainly formed - advanced scientific schools, numerous research institutes and a number of unique scientific complexes and facilities were established. But academic science in many cases was aimed at solving problems that are not relevant for Uzbekistan. Since its establishment, the Academy of Sciences of the Republic of Uzbekistan has been the largest, most prestigious and important scientific organization of the country during its scientific activity. In the first years of independence, the Academy of Sciences of the Republic of Uzbekistan had many problems in the field of training personnel, strengthening their social protection, and developing the experience base of science. In total, there is a need to fundamentally revise the scientific and technical policy of the republic, the principles of organizing the activities of the scientific institutions of the Academy, its Presidium, the foundations of the formation of the mechanism of management, planning, and financing of scientific research in the current conditions [U.Abdurasulov: 103].

Possibilities of distance education. Currently, distance education has rapidly emerged not only in our country, but throughout the world as an important tool for individuals seeking knowledge and personal development. Distance education, also known as online education or e-learning, refers to the use of technology to deliver educational programs at a distance to bridge the gap between students and quality education. Distance education provides learning content and education at a distance outside of traditional face-to-face classrooms. It allows students and teachers to get high-quality education regardless of their location, it allows them to overcome geographical barriers and time constraints, and it allows them to save time and get

financial relief. The importance of distance education lies in its ability to democratize education, making learning accessible to a wider audience worldwide.

Distance learning offers many advantages and opportunities that make it a popular choice for students and individuals of all ages and background:

- **Flexibility:** Students can tailor their study schedules to fit their personal and professional commitments. This allows them to feel comfortable in the audience and to freely exchange ideas and talk with students.
- **Cost-effectiveness:** Distance education eliminates all the costs associated with traditional education, including the need for transportation, housing, and other expenses.
- **Accessibility:** This will enable people with physical disabilities in remote areas to access education and training opportunities, and also save their time or, on the contrary, get education whenever they want, and at the same time support their practice.

Although there are different opinions on distance education, most distance education researchers emphasize the following:

- modularity - the content of distance learning is expressed in modules, which allows students to create an individual learning trajectory according to their educational needs;
- mobility - it is understood that feedback is established between the teacher and the learner;
- comprehensiveness - providing education to many students at the same time;
- technology-based - use of new information and communication technologies in the educational process;
- social equality - students have equal opportunities for education, regardless of their place of residence, health, and financial situation;
- internationality - the existence of mutual exchange of educational achievements in the world community to achieve educational goals;
- changing the role of the teacher - coordinating the process of acquiring knowledge, correcting the current course, giving advice when creating an individual curriculum, managing educational projects tasks are assigned. He leads mutual support study groups, helps students to determine their professional destiny. In the distance education system, the asynchronous interaction of the students and the teacher usually includes the exchange of messages by sending them to the addresses of the correspondents. This allows to analyze incoming information and respond to

reporters at a convenient time. Asynchronous methods of interaction are e-mail or electronic computer networks;

- specialized monitoring of the quality of education - in the distance education system, final monitoring, interviews, practical training, project and design work, externship, computerized intellectual testing systems are used as forms of monitoring. It should be noted that controlling the quality of distance education, solving the problem of its compliance with educational standards is important for the success of the entire educational system [Федорова Г. 102]

Conclusion. The general conclusions that can be drawn from the foregoing discussion are as follows. The outlook in scientific progress, both in theoretical elaboration and technological application, is unlimited. The wonders we have witnessed so far are nothing compared to the wonders awaiting future generations. We believe that distance education has a huge potential to improve the knowledge of teachers on virtual technologies.

Currently, there is an order for an advanced education system for educational services in the field of virtual technologies, which, in our opinion, could be organized most effectively through distance learning. Thus, the analysis of many pedagogical studies devoted to the problems of using distance education in the system of retraining and professional development of teachers shows the use of this form of education to increase the knowledge of teachers in virtual technologies. made it possible to identify the main advantages: creative, critical thinking skills are formed in teachers during learning programs using distance education technologies. The level of awareness of virtual technologies will increase significantly .

In educational activities, the tasks of distance education centers are to organize course activities for improving the qualifications of pedagogical staff in two directions: information and communication technologies and training of pedagogical staff by subject. For users who have just started in the field of virtual technologies, courses are held on the formation of computer skills, as well as on the use of virtual technologies in the professional activities of teachers [БОВТЕНКО М. 46]. In the field of subject preparation for teachers, distance courses related to the issues of teaching general education subjects are organized, and in the educational process, using Internet resources, the subject-oriented training of teachers and the organizers and participants of distance courses educational consultation is conducted between.

REFERENCES

1. У. Абдурасулов , Ш. Асадова. Ўзбекистон Фанлар академияси мустақиллик йилларида: ривожланишнинг янги йўналишлари / O‘zbekiston tarixi (Илмий журнал). 4/2013. 145 б.
2. Федорова Г. А. Профессиональное развитие педагогов в условиях интегрированной информационно-образовательной среды «школа-педвуз» [Электронный ресурс]: диссертация ... доктора педагогических наук / Г. А. Федорова. – Красноярск : СФУ, 2016. – 371 с
3. Бовтенко М. А. Структура и содержание информационно-коммуникационной компетенции преподавателя русского языка как иностранного: автореферат дис. ... доктора педагогических наук. 2006
4. Rongxing Guo, in Cross-Border resource Management (third Edition), 2018