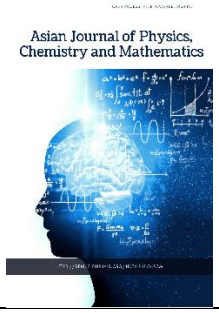


Advanced Foreign Experience in the Development of Technical Thinking of Students of Academic Lyceum

Umirov Habibullo Bakhodirovich

Teacher Of Karshi Eei Academic Lyceum

ABSTRACT

This article talks about the advanced foreign experience in the development of technical thinking of students of the academic Lyceum. The author, relying on pedagogical data, analyzed the problem on the basis of existing scientific literature and studied the existing peculiarities of foreign advanced experience in the development of technical thinking of students of the academic Lyceum.

Keywords: Academic Lyceum, physics, pupils, development, foreign experiments, teaching.

Introduction:

At present, intensive work is being carried out on improving physical education around the world, the objectives of physical education, the principles of selecting the content of educational material are being clarified, work is being carried out to modernize textbooks and other educational tools, effective forms and methods of teaching are being developed. This process involves the development of the interaction between science, science and technology of the present time, the results of the scientific and technical revolution, based on the widespread introduction of new information technologies into all spheres of society.

In connection with this, the objectives of teaching physics in academic lyceums are also changing. And the acquisition of relevant information requires the improvement of the structure of instructional materials. This shows the extent to which the students have mastered the general principles and laws of physics and how to master them on the basis of theoretical thinking techniques.

Main part:

In many countries, the goals for teaching physics are almost the same: the formation of the foundations of scientific and technical literacy in educational science; the development of creative abilities, the formation of scientific thinking, the development of independent cognitive skills with the help of various sources, literature and experiments.

In almost all countries, the efforts of teachers to change the character of their activities are evident: from the issuance of knowledge in a simple way, to the management of the process of cognition is being taught. The main attention is paid to the transformation of the content of textbooks (experiments, multiplication of various independent assignments, etc.), forms, methods and techniques of organizing the educational process, which provide students with cognitive activities. Conscious and extensive use of models is of great importance as the study of methods of scientific research, historicity, etc.methodological knowledge.

As the structure of the physics course, which is characteristic of many countries of the world, we can look at the following system of teaching: the first stage is in secondary schools, the second stage is the academic Lyceum. 50%

of the time is allocated for the teaching of basic sciences (language, literature, mathematics, etc.). The use of integrated courses is common, while in the upper classes – special courses are taught more.

System of teaching physics in Japan: the formation of Japanese education began in 1867-1868 years. Japan puts before itself two tasks: the first — enrichment, the second - the introduction of Western technology into Japanese production, and it was said that in order to carry out this work, it is necessary to radically change the educational system in the first place.

In 1872 year, the "law on education" was adopted. Bunda Japanese education was harmonized with Western education. In 1908 year in Japan, primary education was transformed into a compulsory 6-year. In 1893 year, the first College in the direction of the profession appeared. The Constitution, adopted in 1946 year, defined the rights and duties of citizens in the field of Education. It sets out that all children receive free general education. In Japan, the structure of modern educational systems is as follows: kindergartens, primary school, Junior Secondary School, upper secondary school, educational institutions that are part of higher education systems.

In such a developed country as Japan, the system of teaching physics can be a specific direction that interests us.

US physical education system: the structure of the education system in the United States is as follows:

- pre-school educational institutions where children are brought up from 3 to 5 years of age;
- 1- 8 - primary schools up to classes (in such schools they study from the age of 6 to 13 years);
- 9 – 12 - secondary schools consisting of classes (in these schools children under the age of 14-17 receive education). It consists of the lower and upper stage.

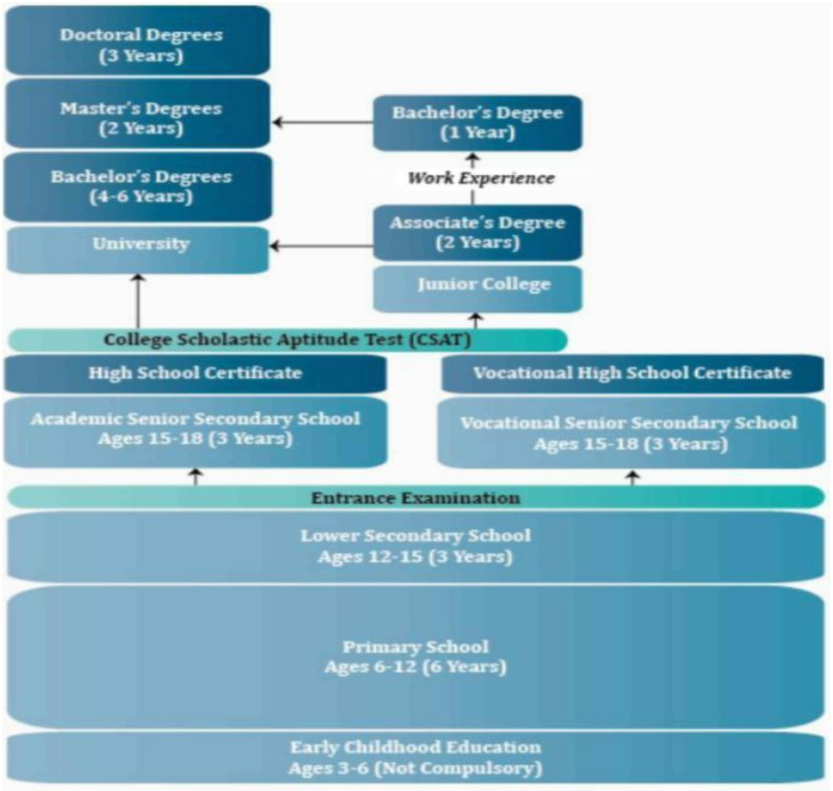
System of teaching physics in South Korea: The Republic of South Korea is a state located in the eastern part of Asia with a population of 48 million and a territory of 110,000 km2. That is, the population of the world is considered one of the densest countries: 1 m2 to 476 people. Excavated a state that does not have wealth. Main exhibitorti information technology, robotics, automotive, shipbuilding, electronics, etc. Apparently, there is no such fossil wealth, but it is clear that natural sciences occupy a huge place in one of the richest countries of the world. Especially physical and Mathematical Sciences.

Education in Korean schools is carried out through the 6-3-3 system. In 6 year Primary Schools (Primary school), students under the age of 7(8)-12(13) are enrolled from the 1st grade to the 6th grade. They study in 3-year secondary school (Middle school) 7,8 and 9-th grades. Students under the age of 16 (17) - 18(19)receive education in 10, 11, 12 classes in the next 3 years corresponding to secondary special education in Uzbekistan(High school). J.The structure of the Korean educational system is presented in Figure 1.

In 10-12 classes, heavier loads are imposed on students. Bunda they emphasize that thought, cause, creative criticism, etc., knowledge and skills that are necessary to continue education in the future develop in accordance with the interest and talent of the student.

Up to the 1st grade, students learn Natural Sciences in general. Even in the 10 Class, 4 directions of the above-mentioned Natural Sciences are taught. In the 11th and 12th grades, students will have to choose one of the areas of mathematics /natural sciences direction (Math/Science track) or languages/ humanities (Languages/Humanities track). Students who choose the direction of languages /humanities do not study Natural Sciences.

In the direction of mathematics,natural sciences, physics is introduced as a separate science. In this, students will continue to study physics in a deepened state.



1. Structure of the South Korean education system

Results and Discussions:

In all foreign countries it is important to solve issues in the process of teaching physics. In France, after reading the relevant material, special attention will be paid to the classification of issues related to it. In the US, Sweden and other countries, tests are used to check and control students ' knowledge. In the countries of England, the USA, France, more attention is paid to the issues on which various experimental cases are based. In general, issues of different content are used.

To improve the quality of education, it is necessary to carry out continuous monitoring of its status and development trends and to carry out an obyektiv and adequate assessment of the educational achievements of students. This is especially important at the level of general Secondary Education, which will lay the foundation for further personal development and civil development of students.

PISA research: Pisa (software for International Student Assessment) is an international program of assessment of students ' knowledge, a study aimed at studying the way in which 15-year-old children acquire vital skills in mathematics, natural sciences and native language.

PISA studies begin from 2000 year and are conducted in a three-year period. The periodicity of the study allows students of the participating countries to observe the dynamics of educational achievements, changes in the educational system, the formation of the main directions of Secondary Education Reform and the results of identifying obstacles to their implementation and carry out analytical work.

The purpose of the international PISA study is to assess the literacy of 15-year-old students in mathematics and Natural Sciences as well as in reading. The study is not aimed at determining the level of development of school curriculum, but at assessing the ability of students to apply the knowledge and skills acquired in the process of teaching in a living environment. The main issue of the study is: "do 15-year-old students who have received primary education have the knowledge and skills necessary for their full performance in the society?». It is important to assess the ability of students to apply the knowledge they need to

successfully adapt to the modern world at this young age when they have completed compulsory school in many countries.

Lessons from PISA studies

- Most students are not ready to live in the 21st century, that is, they do not have full-fledged compensation arising from the needs of modern society.

- In many respects in academic lyceums, this is not directed to the formation of compensations.

- Students do not know where the knowledge and skills they possess will be used.

- The academic Lyceum will have to "teach" its students to learn, that is, to teach them to acquire independent knowledge.

- Textbooks and the content of the teaching assignments in them are also not intended to fulfill such a task.

Conclusion of experts:

The main goal is the literacy of physics science by the students of the academic Lyceum and the main means of achieving this goal is the study of Natural Sciences on the basis of scientific knowledge.

Conclusion:

Changes are necessary in the organization of the process of teaching physics in the academic Lyceum. The learning process involves analyzing the data presented by the students in various forms, basing and discussing the results of the experiment, asking questions and planning the main stages of the study, forecasting the results ("what happens ...it should help to formulate such abilities as").

In the study of physics, it is recommended to carry out its continuity, as in the most developed countries of the world. Based on modernized programs, it is necessary to develop new textbooks and educational complexes for physics. These textbooks and manuals should reflect the approach to learning on the basis of scientific methods and recommended methodological tools (creative assignments, conducting research, analyzing preliminary scientific data, etc.) to formulate the creative abilities and activities of students.

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