

The Role And Importance Of International Experience In Improving The Educational Process And Teaching Information Technology In Education

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Abstract: *The article reveals the importance of studying foreign experience in the field of education, as well as teaching methods and evaluation criteria used in developed countries. Below I generalize my thoughts about it.*

Keywords: *International experience, computer science and information technology, interactive method Web Quest, Project method.*

1. INTRODUCTION

In the twenty-first century, fundamental changes are taking place in our state. As an example, we can witness the improvement of the teacher's activities and the teaching process itself, the systematic formation of freedom of love among students, a thirst for knowledge, love for the homeland and humanity.

In this regard, attention is drawn to foreign experience for the development of the education system and for the introduction of information and communication technologies in the educational process, which is common knowledge [1]. In our country, it is the issue of introducing positive, developing aspects of international experience into the educational process. Diplomatic meetings and international conferences are organized to study the experience of developed countries.

Let us look at developed countries such as Germany, Japan, Korea, India and Switzerland to study international experience in improving education and training. Let's start with learning from international experience in the system of continuous learning from preschool education. Preschool education in Germany has a long tradition. A beautiful kindergarten, or German kindergarten, was developed almost two hundred years ago by German educator Friedrich Frebel. The first kindergartens were opened in Germany and the name of the kindergarten was introduced in other languages, such as English-language kindergarten. The first school for young children opened in 1840 on the initiative of the German teacher F. Frebel (1782-1852). The concept of pedagogical basics of playing with children in such places was initially considered by F. Frebel as a model for mothers and did not involve the creation of a special kindergarten. However, the ideas of the mind and body, freedom and amateur alignment soon turned out to be very attractive, as in the 19th century, kindergartens appeared in Germany and abroad [2]. Since 1996, under the Child and Youth Assistance Act, pre-school institutions in the Federal Republic of Germany have been working to develop, serve, educate and educate children on their independence and responsibility for society. He has set himself a goal. Pre-school should address the disadvantages of family education and provide children with the best conditions for their development. Thanks to games and other activities with children, they enter the world of group activities to prepare for school. German teachers guide their ideological, spiritual, religious, and pedagogical orientation in terms of professional freedom and organize work with children and

their parents. At the request of the parents, preparatory classes (Vorklassen) will be opened at the request of parents to prepare five-year-olds for school. Classes are held in games voluntarily and do not duplicate the curriculum of the first year of primary school. Five-year classes for preparing children for the first time associated with elementary school [3]. The main goal of preparing a kindergarten for six-year-old children is to create the necessary conditions for the healthy and normal development of mental abilities, will and emotions of students. This goal is achieved through individual work on the development of abilities, physical education, adaptation and the development of voluntary attention of these children.

2. DISCUSSION

In addition to general kindergartens, Germany has special forest kindergartens. In Germany there are about seven hundred “forest kindergartens”, and their number is growing. The Germans believe that children should spend as much time as possible in the fresh air. They find it helpful for children to be closer to nature. Preschoolers not only walk in the fresh air all day, but also learn to control their body, discover opportunities for themselves, and no one sets an artificial schedule for them. Comparing German students from “forest kindergartens” with urban kindergartens, professionals are more cautious and hardworking than their predecessors, communicate more easily with friends, are usually more calm and less emotional. They discovered this feeling. One reason for this behavior is that they spend less time in limited areas. As a result, their creative abilities develop.

In Korea, special attention is paid to preschool education and the wishes of parents, says Oh Kyung-mi. - For example, the classroom consists of different angles (designers, books, soft toys, etc.), where the child spends time in the right direction. In addition, after lunch, the children go to bed at the request of their parents. If the parent does not want this, the child engages in passive activity [4]. The Japanese government also uses various games to improve the creative abilities of preschoolers. For example, children can play sand and clay or make a game. But in fact, the child measures how much water and clay can be used to make clay and sand harder in making the body out of clay and sand. This process may not be understood by adults, but such games can encourage children to think independently and develop their creative abilities.

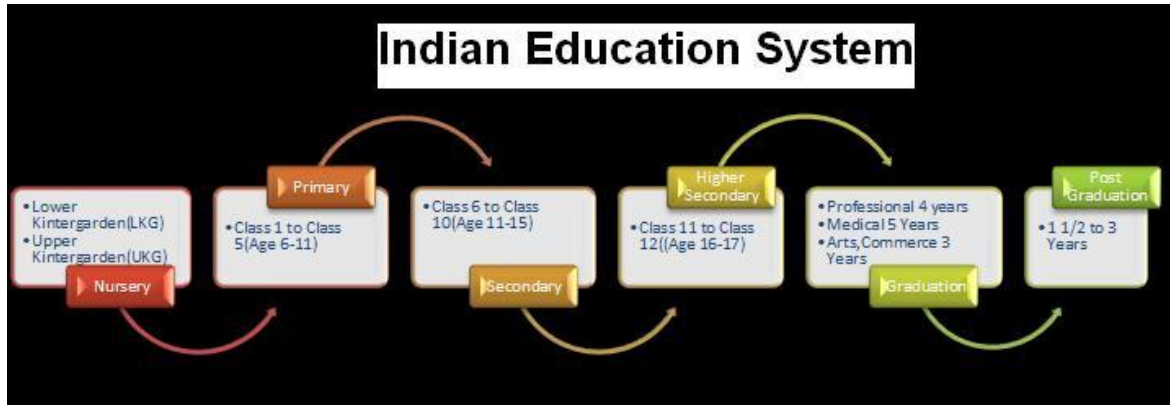
We know that the current 21st century is the century of information communications. The role of information technology in the development of any country is significant. Today, information is the most valuable and dangerous concept. Developed countries spend billions on billions of dollars to create the latest technology to ensure their information security. The creation of these technologies requires a strong staff. Each strong state has a strong education system and strong cadres. That is why many countries are now focused on strengthening the education system. Currently, a number of countries occupy leading positions in the teaching of information technology in education.

In our general secondary education, information technology is taught in the name of computer science. In foreign countries, computer science is mainly called computer science and information technology. If we look at the education system of foreign countries, computer science begins in elementary school (elementary school, or at least in primary school) after preschool education. The study showed that, although the educational systems of foreign countries differ slightly, the framework of the educational process is similar. In today's globalized information age, everyone should be able to freely communicate with computers. This is one of the basic requirements for building an informed society. The user must have computer skills and information technology, no matter what industry he represents. Therefore, in the education system of foreign countries much attention is paid to this area.

India is a unique country in the world. India is growing year after year. Of course, many factors play an important role. One of them, of course, is the country's education system. Today you can see that many of the leading and leading companies in the world are experts in Indian

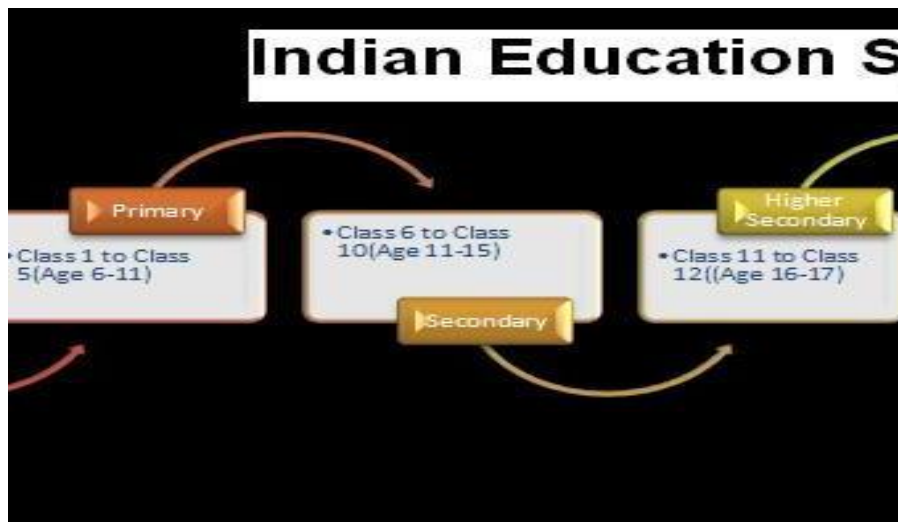
education systems. Every year, the number of foreign students coming to study at Indian universities is increasing. All this shows that the country's education system is in a strong position and quality.

The following is a schematic of the Indian education system:

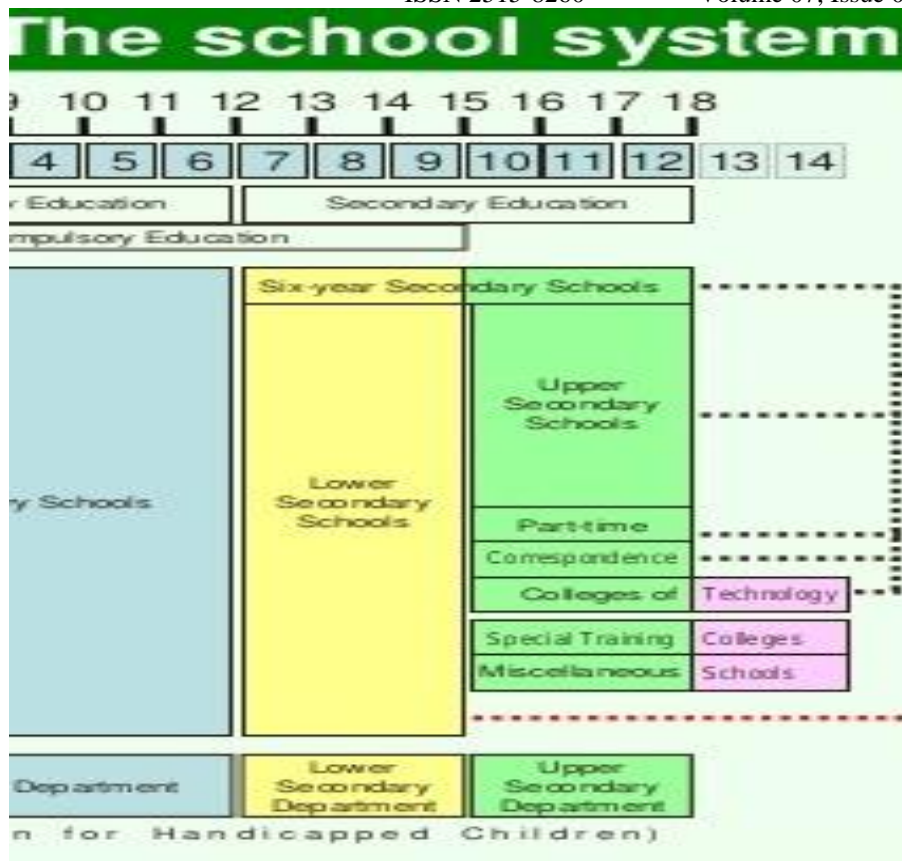


1-picture. Indian Education System

In Indian education, computer science begins to develop from the following stages (Picture 2). In the elementary education of the Indian education system, the computer science program is fundamentally different from ours. If the subject of computer science starts from the 5th grade, then it starts with the 4th grade.



2-picture. Information science education course in Indian education system

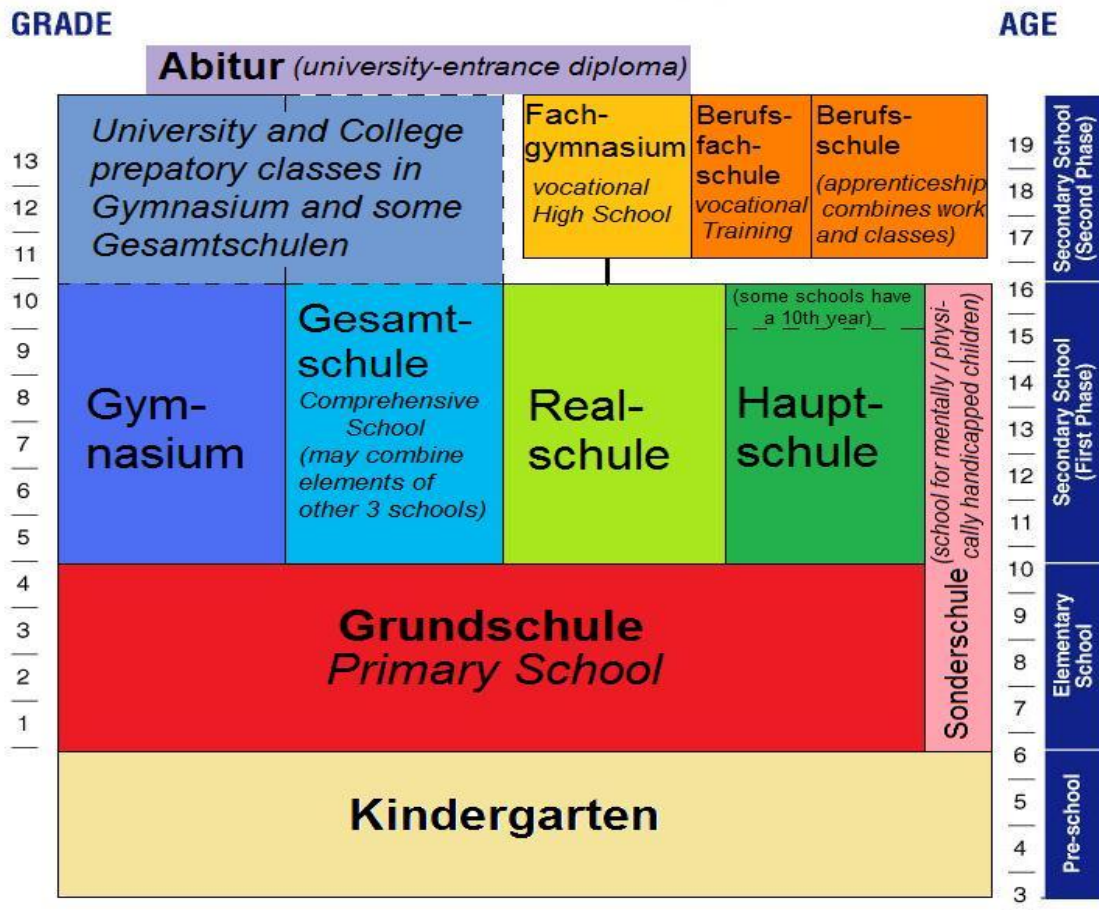


3-picture. From 4th grade in schools

German education is unique and complex. At the same time, new studies are underway to reform the German education system. Education Structure:

- Preschool education
- elementary education
- secondary education
- Higher secondary education
- higher education
- referenda
- Research Institute

The following is a diagram of the German education system:



4-picture. German education system

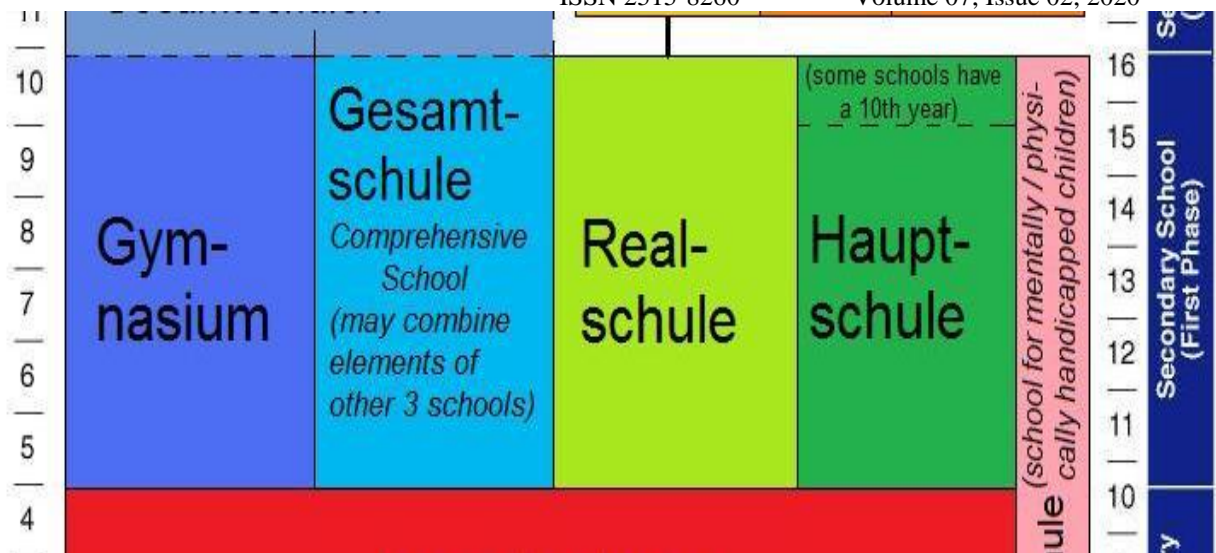
Baccalaureate:

- 6 semesters
- 180 points training and practice load
- Training programs are valid for 5 and 7 years. The standards are approved by each federal minister
- Accredited every 2 years
- Accreditation is conducted by the Accreditation Agency
- 7-8 subjects are taught each semester
- Practice 3 times in 6 semesters

Master's:

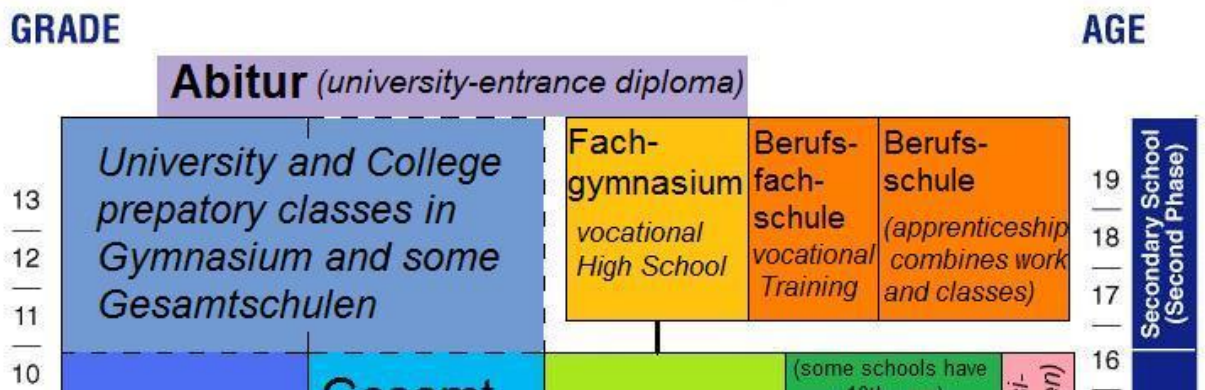
- 4 semesters
- 120 point study and practice downloads
- 3/1 of the 120 points are theoretical training
- Training programs are valid for 5 and 7 years. The standards are approved by each federal minister
- Accredited every 2 years
- Accreditation is conducted by the Accreditation Agency
- 4-5 subjects are taught each semester
- Works on 4 projects during 4 semesters.

From 10 to 16 years:



5-picture. Stages covered from 10 to 16 years

If you look at the average level of the educational system of foreign countries, including Germany, the following picture will appear:



6-picture. Average age

Now we are talking about modern pedagogical and information technologies that are used in the international experience of teaching information technology in education. Extending the use of international experience in teaching information technology in education, we can make the learning process more interesting, integrate the results of international scientific research into our national methodology and use advanced teaching methods abroad. During the observation, I studied several systems for teaching advanced skills and learned about various teaching methods. For example, studies in the German education system have shown that they use the following 20 types of instruction in their studies[8]:

Table 1

20 different types of teaching methods used in the computer science lesson

Deutsch	English
Problemorientierter Unterricht	Problem-oriented teaching
Lernen entdecken	Discovering learning
Computersimulation	Computer simulation
Projekt methode	Project method
Modellmethode	Model method
Lernen durch Lehren	Learning by teaching
Fallstudie	Case study
Planungsspiel	Planning game
Verwaltungsprogramm	Management program
SWOT	SWOT
Direkte Anweisung	Direct instruction
Lernaufgaben	Learning tasks
Vorstellung	Presentation
Gruppenrätsel	Group puzzle
Versuchsmethode	Experiment method
Führende Textmethode	Leading text method
Konzept-Mapping	Concept Mapping
WebQuest	WebQuest
Gegenseitige Lehren	Reciprocal teachings
Portions methode	Portion method

The above methods will not only improve the quality of the course, but will also help students gain a deeper interest in science. That is why German professors use these methods in computer science lessons.

It is believed that the use of the above methods in teaching theoretical and practical knowledge of foreign countries when teaching a computer science course is the most effective, and we have chosen the following methods for teaching the subject “Information Technologies in Education”.

We have chosen a project method from the above methods. Because this method helps students to independently think and develop their creative abilities.

3. METHODS

The project method is a means of achieving educational goals in one way or another through the detailed development of technology that gives a real, tangible result. This is a set of primes that solve this problem in a specific sequence. The main goal of the project methodology is to provide students with the opportunity to learn and solve problems or problems on their own in

order to adapt their knowledge in various disciplines. If the project method is considered pedagogical technology, this technology is a combination of research, problematic and creative methods. Within the project, the teacher will be assigned the role of a developer, coordinator, expert and consultant. Thus, the projection method includes the development of cognitive skills and abilities of students, the independent design of their knowledge, the orientation of information and the development of critical and creative thinking. The project method developed in the first half of the twentieth century on the basis of the pragmatic pedagogy of John Virgo is especially relevant in the modern information society. The project methodology is not something new in world pedagogy: it began to be used in pedagogical practice long before the famous article by the American teacher W. Killatrick, "Project Methods (1918)." In this article, he interpreted this concept as a "heartbreaking idea." This method was known in Russia in 1905. At that time, a group of Russian teachers headed by S.T. Shatsky was working on introducing this method into a regular school.

In the project process, the following skills are formed:

1. Reflexive knowledge;
2. Research skills;
3. Skills and cooperation;
4. Management skills and qualifications;
5. Communication skills;
6. Presentation skills.

Project creation methods can be started as follows:

1. Analysis of data from additional literature (encyclopedia, Internet)
2. Synthesis

As an example, we will present the topic "Webpage, Website, Web Design" using the "Project" method.

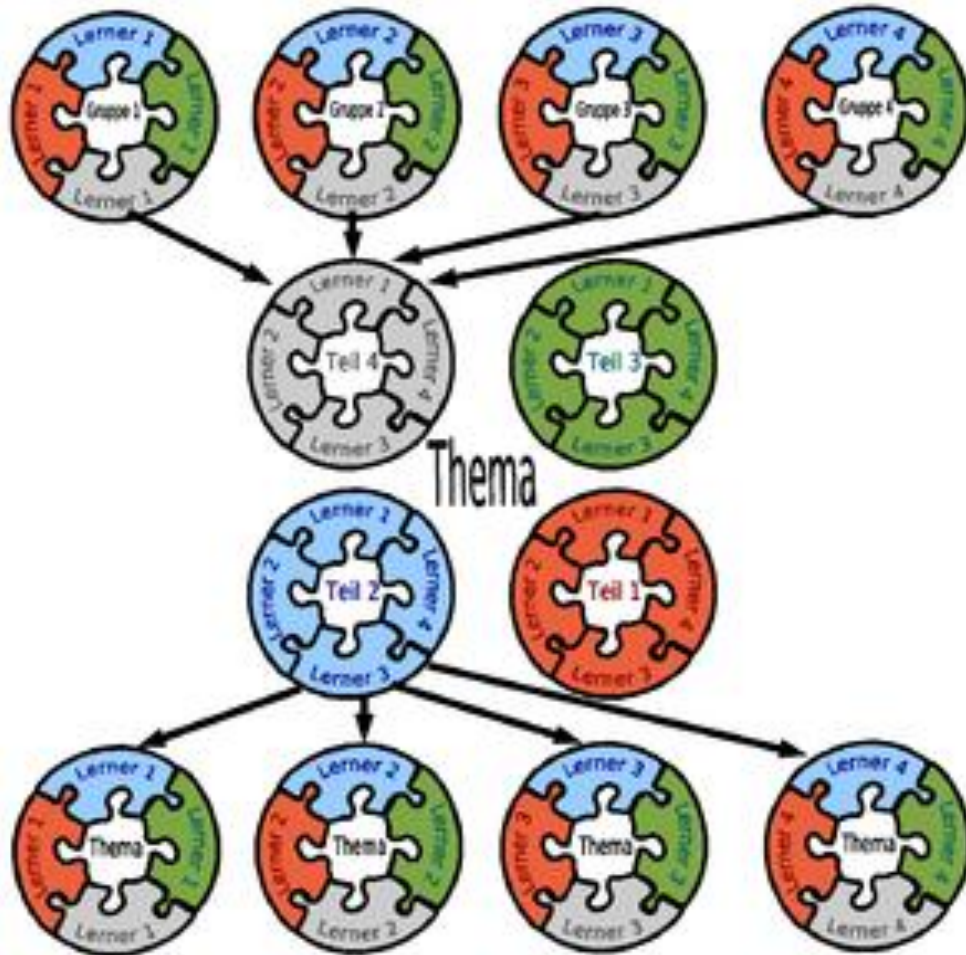
First of all, the teacher explains to students the basic concepts of the topic. He then presents datasets that work within a topic. During practice, students begin to create a new project using the "project" method. Students can use a variety of patterns. An example of this is the Turbosite website and the software used to create various projects. The project method is presented to students by the teacher.

Instructions on the organization of individual work of students, the distribution of educational tasks.

1. Go into Turbosite and create a new project (think about what small project you want to create).
2. In the "Template" section, select a template suitable for your project.
3. Save the sequence of your actions using the "Generate Site" command, otherwise your actions will not be performed.
4. Go to the "Options" section and give a name to your site. This is the name of your project.
5. After saving, go to the Pages section and name the main section of your project.
6. Use the "Add" command to give your site a name, save your work after each action.
7. Save using the generate site command and click on view site. This will give you a preview of your first small project.

Next we use the Group Puzzle method.

The group puzzle method (German Gruppenpuzzle) is a group work method developed in 1971 by the American psychologist Elliot Aronson. The application of this method creates a positive relationship between students who learn to be responsible and work in a team.



7-picture. Group puzzle method

The essence of the method

The entire class of 15 people is divided into 3 groups. Each group learns about a specific subject, but each group member has only one of the most intense aspects of the problem. Thus, in each group there is only one “expert” on this issue. At this stage, each group will have a general idea of the problem, and “experts” will delve into some aspects of the problem. The initial groups will eventually be abolished and new groups will be formed with experts on various aspects of the problem. At this stage, experts exchange ideas so that they can understand the problem and eliminate mistakes made at the initial stage of the study. As a result, at this stage, “experts” must master the training material so that they can consciously transfer content to other students who are not aware of this aspect of the problem. In the third stage, the “experts” return to their original group and transfer their knowledge to other members of the group (who are not aware of this aspect of the problem, but are “experts” in a different spectrum). At this stage, students learn to listen to their colleagues, independently explain new materials, ask questions and answer them. At the last stage, the teacher studies the level of understanding of each student in all aspects of the problem. Monitoring can take place in all forms, and this ensures that the work of the “experts” is carried out properly. The basis for the use of gaming technology is the active and accelerated activity of students. The use of games in educational activities should not be intended to please students. This should be didactic, that is, taking into account the specific educational tasks that are discussed in the lesson. Therefore, the game is planned in advance, the role of the lesson is carefully thought out, the order of its conduct and compilation of games. Gaming technologies are as effective as other forms and methods of

training. The goal of the game should be to give the student a modern level of knowledge in any subject, especially in the field of computer science.

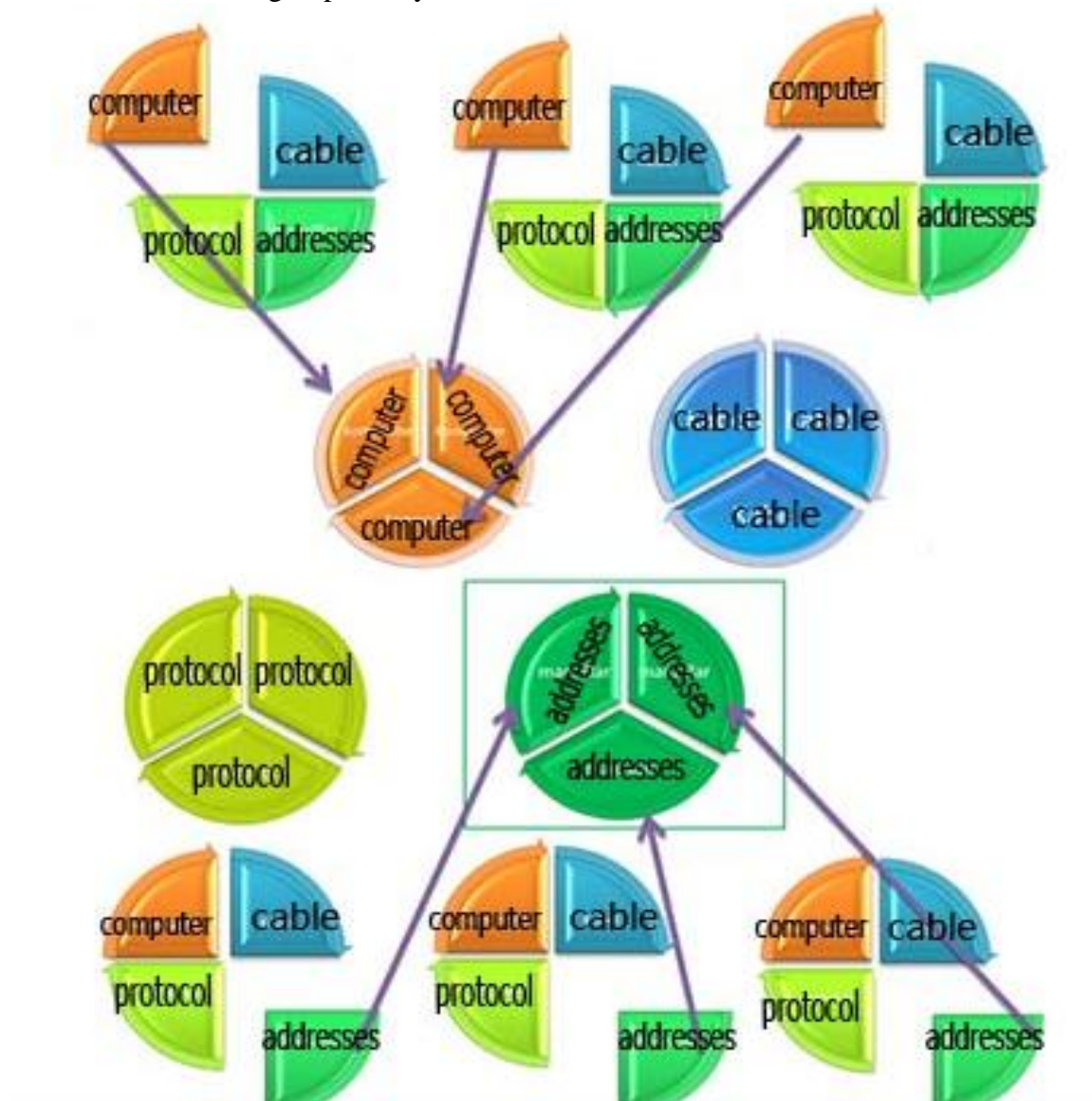
4. RESULTS

As an example, we will present the topic “Computer Networks” using the “Group Puzzle” method [5]:

Students in the group are divided into 3 subgroups:

1. Local
2. Global
3. Regional

We send these groups to separate subgroups for the same task and provide the necessary information there. He shares information with each other in the same task groups and tells them to use it to return to their groups. They are interconnected with each other.



8-picture. Group puzzle method

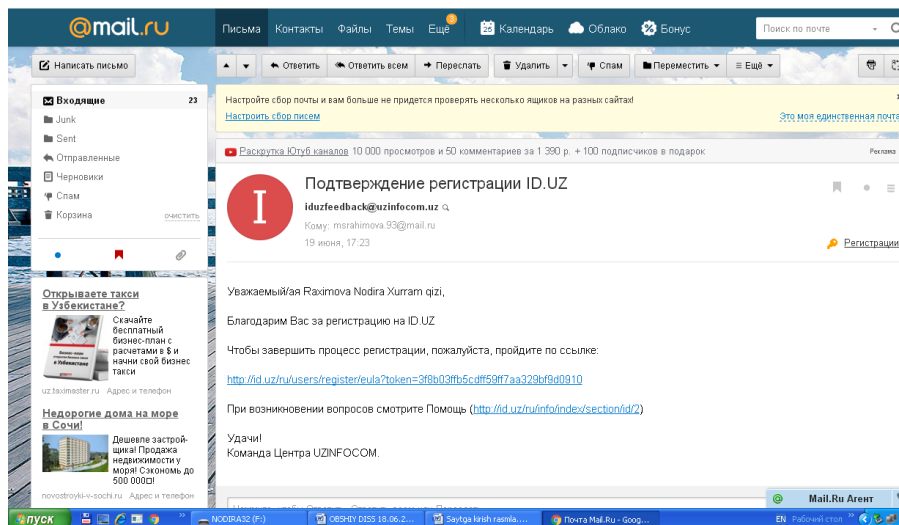
As a result of applying this method, students will learn basic concepts related to the topic of how to solve actual problems, work with and manage a team, and develop independent solutions that will help them master the subject and put it into practice.

Another method used in international practice is a Web Quest. The use of information and computer technology opens up for the teacher new opportunities in teaching his subject. One information and computer tool is the educational web quest. There are several definitions of web quest that you can combine into one. So, an educational web quest is a challenge, which includes elements of a role-playing game and has a goal, I conclude that is, in practical consolidation of the obtained theoretical knowledge in any discipline, as well as in introducing students to the sky, design activities using the resources of the Internet [6]. One of the key features of educational web technology The quest is that its use, taking into account didactic principles, design chips allows you to:

- organize the educational process based on a combination of design ideas method and game training, team interaction, information and communication technology;
- to form cognitive motivation and universal greasy learning activities;
- develop students' imagination, provide them with the opportunity to conduct your own research, guided by logical arguments and guesses;
- develop critical and creative thinking skills;
- use the time of students with benefit, so that they focus namely on the use of information, its analysis and synthesis, and not just on her search;
- provide students with the opportunity to study tasks and give their clear answer;
- develop the ability of students to process information with their own forces and methods [7].

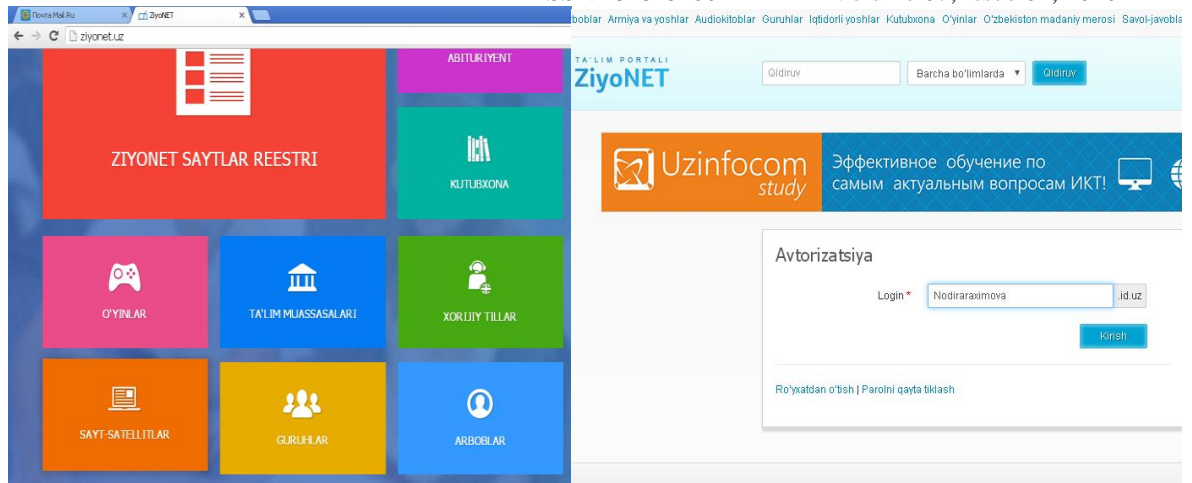
A teacher can create their own website using various forms of web quest. That is, when using a web quest, he can use the site he created. You can create your own free website on the Internet by selecting the site-satellite command on the portal Ziyonet. To do this, you must do the following:

1. The teacher enters the ID.uz site and creates a personal ID number;
2. The following e-mail will be sent to the teacher's e-mail confirming the creation of the ID number.



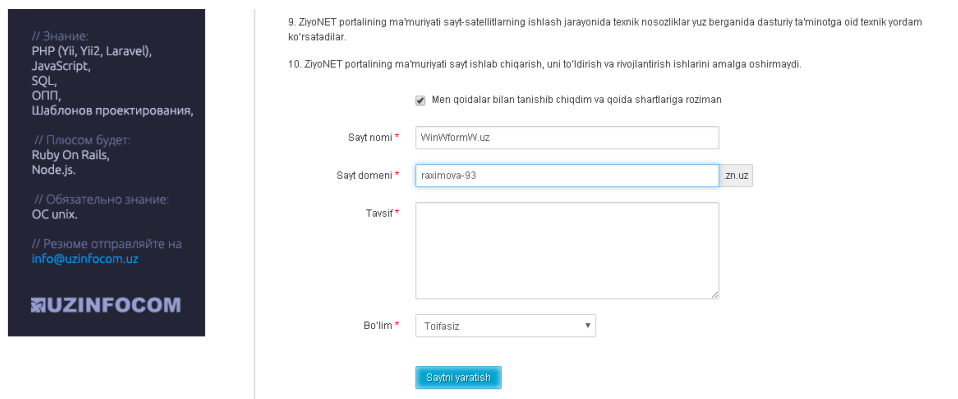
9-picture. Message about creation of id on ID.uz.

3. Go to Ziyonet.uz and select the site-satellites section;



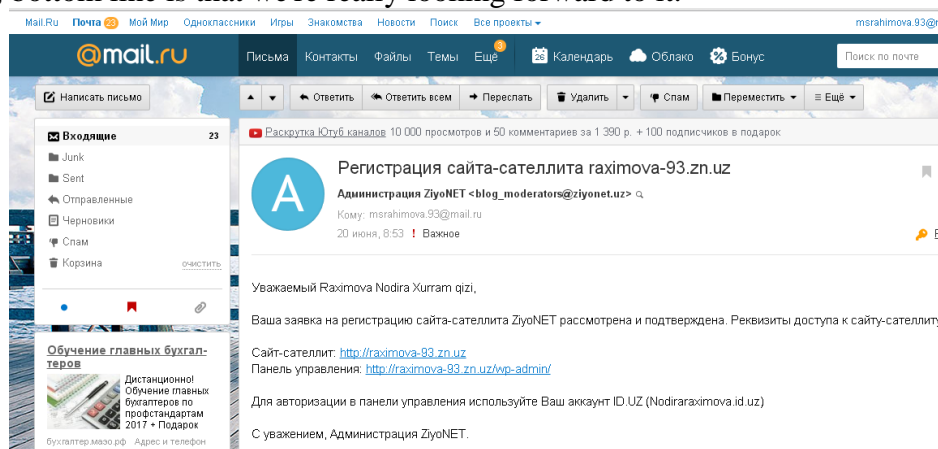
10-picture. authorize to create a site.

4. Then the button to create a site-satellites is clicked and authorized;
5. Get acquainted with the rules of creating a satellite site and fill in the form below;



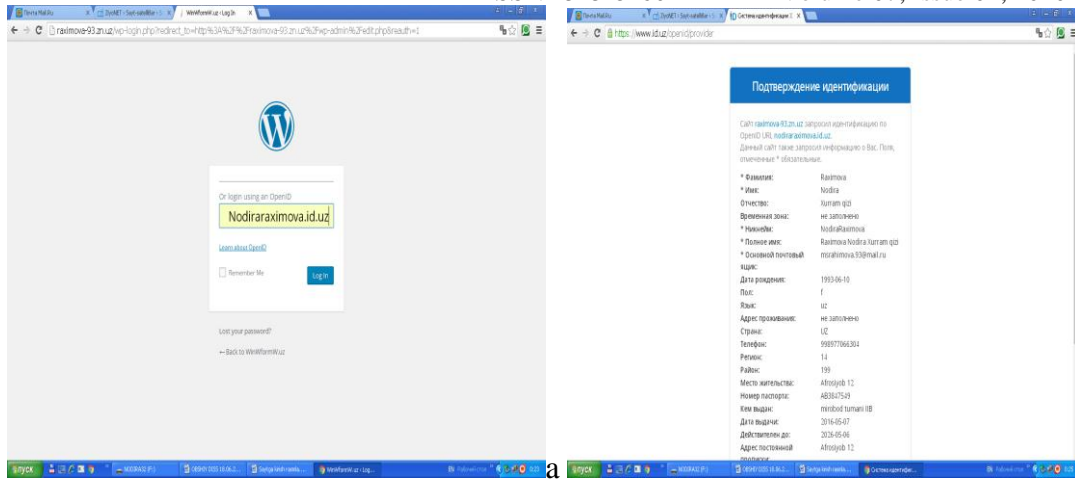
11-picture. The first stages of site creation (naming, domain acquisition, etc.).

6. Within 3 days after the request, the teacher will receive a letter confirming or denying the request. So, bottom line is that we're really looking forward to it.



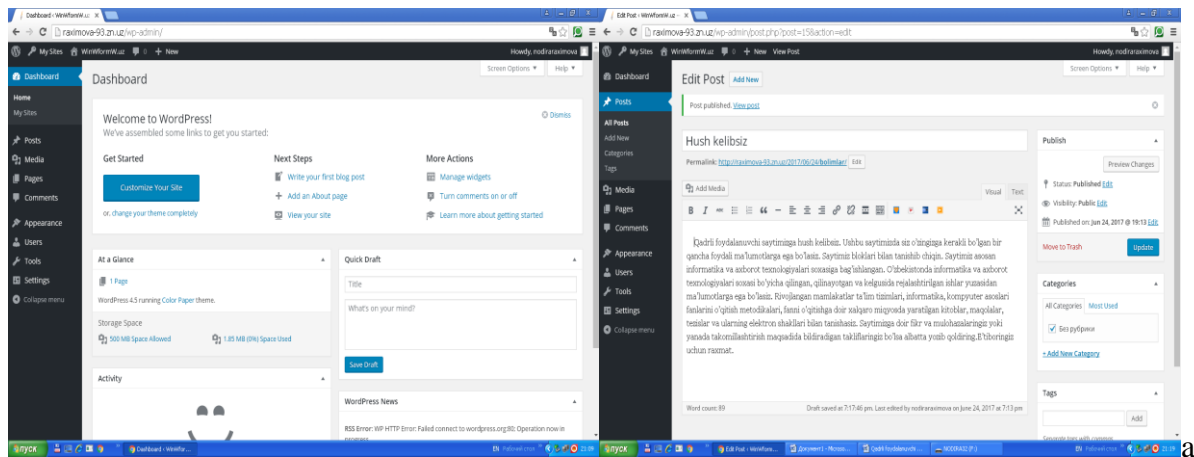
12- picture. A message that the request has been approved

7. You will be logged in as an admin to create your site, which will ask you to:

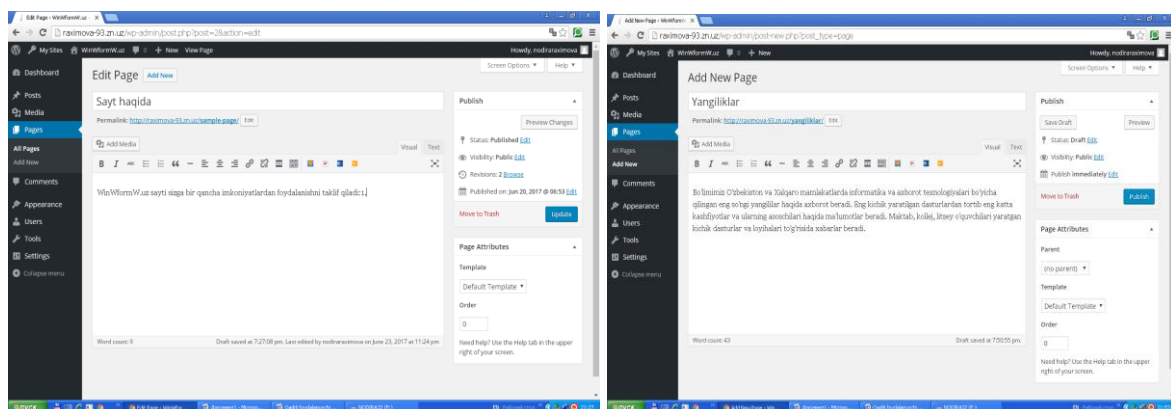


13- picture (a, b) -pictures input via id.

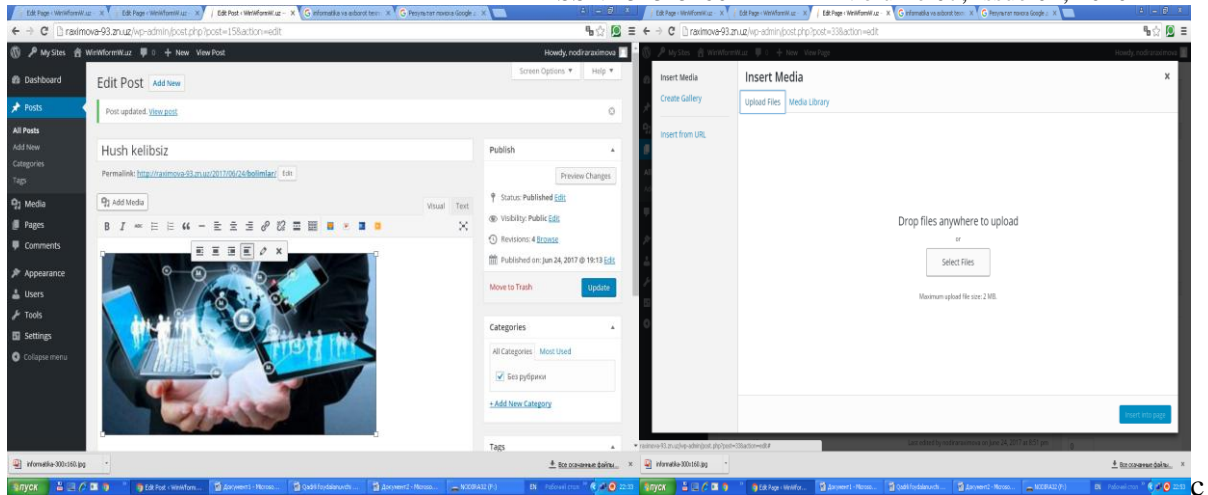
8. Once logged in, the following windows will appear. You will work with several sections to create your site. Here are a few steps you can take to create your site in the Dashboard window, and create new sections in the Posts window. You can create new pages in the Pages window.



14- picture. (a) is the introductory part of the site in the Dashboard and Post windows



14- picture (b) Create new pages in the Pages window



14- picture (c) Insert media files

9. This way you create sections and pages of your site, place media files in them, select the templates you like and enter the information. You will be able to describe your sections and talk about the features of your site. The quality of your site depends on your creative and professional abilities. Below you will find links to sections of the site.





15- picture (a, b, c) is a view of the site sections

There is no doubt that we will achieve significant results by applying the teaching methods used in our education system at the international level.

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