

# Scientific and Theoretical Bases of Didactic Principles of Development of Information – Communicative Competence in Masters of Higher Pedagogical Education of the Republic of Uzbekistan

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## ABSTRACT

The article contains recommendations on the role and tasks of masters of higher pedagogical education in the organization of education in the Republic of Uzbekistan, the full integration of information and communication competence in the future, the President of the Republic of Uzbekistan Sh.M. Mirziyoyev's decisions on the development of information technology will be considered. Ways and methods of using didactic principles in the development of information and communicative competence in masters of higher pedagogical education, why didactic principles are needed in higher pedagogical educational institutions and universities, the role and relevance of didactic principles in the development of information and communicative competence, lectures, practical, seminar, laboratory will be able to connect and use information communicative competence to the principles of didactics. The article presents the results and discussions of research methods obtained from 275 masters of Tashkent State Pedagogical University named after Nizami, Fergana State University, Chirchik State Pedagogical Institute of Tashkent region, ie theoretical analysis and generalization, pedagogical observation, experiment, mathematical statistics, survey methods. In the current process of globalization, in the age of information technology, in the development of information and communication competencies, masters of higher pedagogical education can effectively use information technology in their work and work at a high level in computer programs MS Office Word, MS Office Excel, MS Office Power Point, MS Office Publisher and Internet. The results of scientific research and their discussions on the effective use of the network, ie the ability to independently create websites, receive information on Internet sites, conduct pedagogical analysis of received data, send information to the appropriate place, will be considered openly.

## Keywords

information - communicative competence; information technology; didactic principles; research, information technology; computer literacy; internet; operating principle; continuity principle; integrity principle; psychological convenience principle; variability principle; creativity principle.

## Introduction

President of the Republic of Uzbekistan Sh.M. Mirziyoyev's Resolution No. PP-4851 of October 6, 2020 "On measures to further improve the education system in the field of information technology, development of scientific research and their integration with the IT industry" The issues of gradual establishment of specialized schools for in-depth teaching of informatics and information technologies (hereinafter - specialized schools) on the basis of existing secondary schools in the districts (cities) of the Republic of the Ministry of Secondary Special Education. As part of the curriculum of higher education institutions, graduates of computer science and information technology were allowed to teach "Informatics and Information Technology" in specialized schools and secondary schools, the purpose of which is to fully organize information technology in all areas of education in Uzbekistan. In particular, in higher pedagogical educational institutions we can say that the education of masters with sufficient pedagogical skills, who can reflect the information-communicative competence.

In the era of information and communication technologies in the Republic of Uzbekistan, the development of information and communication competence in the system of higher pedagogical education is one of the most pressing problems in the field of education. In recent years, information and communication competence in higher pedagogical education is to some extent covered in the scientific and pedagogical literature and legal regulations. Information-communicative competence is used by modern teachers, students, masters of higher pedagogical education, confusing it with the concept of information and communication technologies. From a scientific point of view, the two concepts are fundamentally different.

**Information - communicative technology** - it is a general concept and includes mechanisms, algorithms, and methods for generalizing information. Modern information and communication technologies receive and send information using computer software and telecommunications.

**Information - communicative competence** -the ability to use information and communication technologies to use, search, create, process, evaluate and transmit information in order to operate effectively and successfully in an evolving information society.

Information-communicative competence is defined by skilled educators of their time as follows:

A.A. Elizarov: information - communicative competence - is the sum of knowledge, skills and abilities, the presence of experience, which is very important in the performance of professional duties.

L.N. Garbunova and A.M. Semibratov: information - communicative competence - is the readiness and ability of the teacher to use information technology independently and in their professional activities.

V.B. Burmakina: information-communicative competence - the ability to apply all the skills acquired in the field of information and communication technology literacy in solving problems that arise in the process of education and other activities.

## Methods

In 2008, UNESCO developed the System of Information and Communication Competence of Teachers.

As noted in the UNESCO Recommendations on the System of Information and Communicative Competence of Teachers, it is not enough for a modern teacher to be literate and develop students' skills and competencies in the field of science. The task of a modern teacher is to acquaint students with modern information technologies, to teach them to use information and communication technologies in solving problems, mastering the subjects specified in the program. According to the recommendations of UNESCO, in the structure of competence, the teacher's competence is divided into 6 aspects:

- be able to understand the role of information and communication technologies in education;
- development and evaluation of educational programs;
- pedagogical practice;
- knowledge of hardware and software of information and communication technologies;
- organization and management of the educational process;
- professional development.

Based on the recommendations developed by UNESCO, it serves as a program for the development of information and communication competence of masters of higher pedagogical education. Effective use of information and communication competence in social and personal activities in the development of masters of higher pedagogical education of the Republic of Uzbekistan is widely used in modern higher pedagogical education. We can say that information-communicative competence is the effective use of computer technology and literacy in other technologies on the basis of intelligence and knowledge, skills in masters of higher pedagogical education. That is, information-communicative competence requires the study of both large and small problems that are relevant in the field of education.

In the current era of information technology, one of the most pressing issues is the development of information and communication competence in higher pedagogical educational institutions of the Republic of Uzbekistan. In particular, masters of higher pedagogical universities and institutes cannot perfectly organize their independent pedagogical activities without a thorough knowledge of information technology. The development of information-communicative competence means that 75% of current graduate students of pedagogical universities and institutes do not have sufficient knowledge and skills. This is due to the fact that master's degree specialists do not increase their knowledge enough, as well as some factors in the social environment.

Information-communicative competence is not only the use of information technology by masters, but also the ability to convey information in a way that is understandable to learners. We

can say that in higher pedagogical educational institutions, masters can use information and communication technologies, computer programs, video projector technology, tablets, large electronic monitors and deliver them to students as an innovative course. It is necessary to develop information-communicative competence in lectures, practical, seminars, laboratory classes. This will require didactic approaches and principles. To the principles of didactics we can add the following in Table 1.

**Table 1. Principles of didactics**

<b>№</b>	<b>Principles of didactics</b>
1.	<b>Principle of operation</b>
2.	<b>The principle of continuity</b>
3.	<b>The principle of integrity</b>
4.	<b>The principle of psychological comfort</b>
5.	<b>The principle of variability</b>
6.	<b>The principle of creativity</b>

With the help of these principles, masters of higher pedagogical education are expected to be able to search for knowledge and information, to find them, to use them independently in their activities, to have sufficient knowledge, skills and abilities. One thing is clear in all branches of science, that it is the fact that every professor-teacher conducts his daily activities according to a regime, which leads to the rapid development of the field.

**The first principle of didactics is the principle of operation** - it is a type of activity in which it can be said that a master's student can invent the main component of the data in himself and transmit the information to others independently. When a master is presented with one or more pieces of information, the master searches for that information, analyzes the information (s), understands its components, and acquires skills in his or her field of activity.

**The second principle of didactics is the principle of continuity** - step-by-step organization of education, as well as the organization of development, taking into account the methods and content of education and the psychological and age characteristics of students. The psychological aspects and the use of individual, private, frontal methods of education play an important role in the perfect improvement of master's education.

**The third principle of didactics is the principle of integrity** - it consists of rounding and systematizing the general opinion of the masters about the world around them. Through this principle, we can understand that master's degree specialists can apply their knowledge in the field of education in practice and scientifically-theoretically by combining it with secular knowledge.

**The fourth principle of didactics is the principle of psychological convenience** - eliminating stressors in the learning environment and building a healthy learning environment. The ideas of collaborative pedagogy in the learning process, as well as the implementation of communicative forms of communication.

Psychologically, we can say that masters have a strong will, are able to remain calm in any situation, are communicatively close to students during the lessons. Every master's degree specialist must be mature in all respects, i.e., a master's degree must also be at the level of a psychologist. The master must be able to organize the monitoring of how each student is effective in their practical activities.

**The fifth principle of didactics is the principle of variability** - consists of the ability of masters to develop the ability to systematically search for options in specific alternative situations and select appropriate solutions. Master's degree specialists are required to be able to find options in the field of education and to expand the field of knowledge from the maximum point of view.

They will need to incorporate their broad-minded considerations into the principles of education variability. Variation in didactic education is as interrelated as the construction of a mathematical theorem. The use of options in the educational process, depending on the circumstances, plays an important role in the development of skills and competencies in masters of higher pedagogical education. It is now important for every master of higher pedagogical education to have all-round skills in terms of information and communication competence and its application in the field of education.

**The sixth principle of didactics is the principle of creativity** - implies the predominance of creativity in the learning process of students, as well as the active participation of the student in certain creative activities. Every master's degree specialist must be able to develop his / her creativity in the field of information and communication competence. The course will be able to effectively use information technology in the process of lectures, seminars, practical, laboratory classes, to explain the content to students at a high level.

In higher pedagogical education, through the didactic principles of information-communicative competence development, it is important for each master's student to improve their pedagogical skills based on their creative abilities and to organize the teaching process in accordance with modern requirements of information technology.

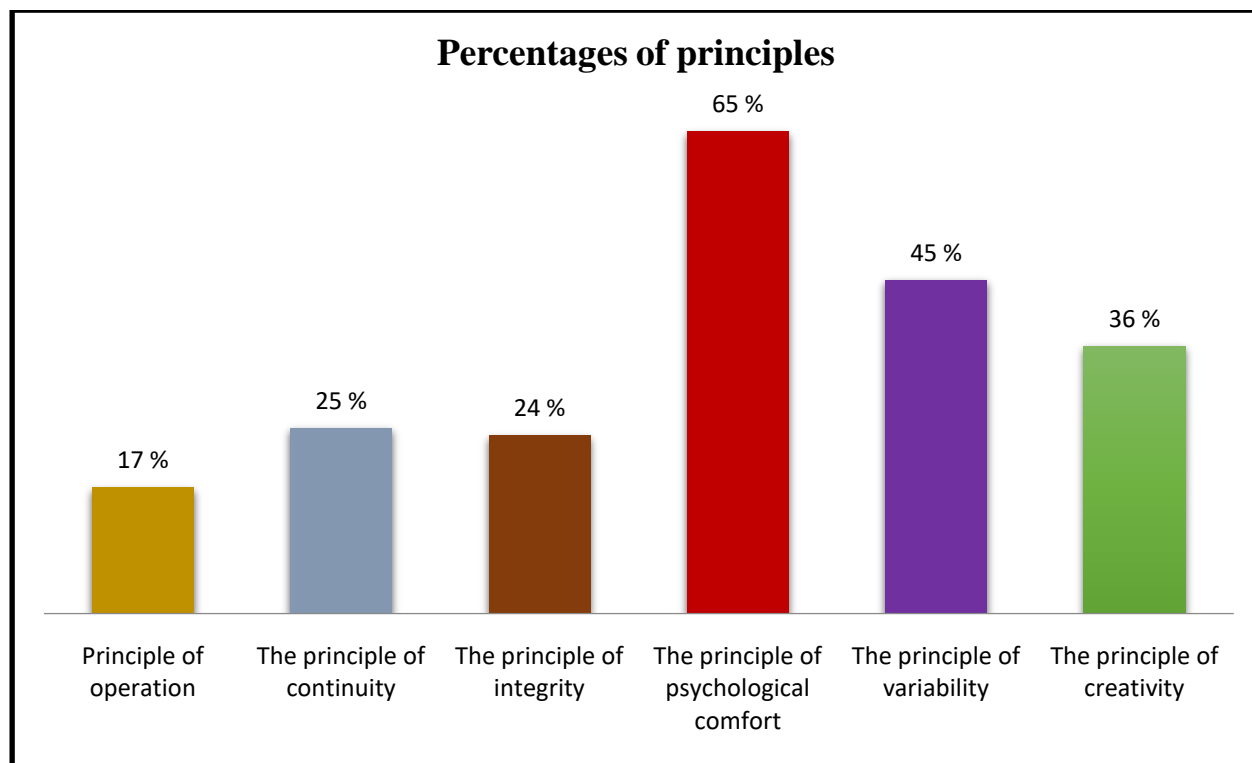
### **Data Analysis**

In the Republic of Uzbekistan in 2018-2020, scientific research was conducted on the radical development of the activities of masters of higher education in the field of pedagogy with the help of didactic principles, the application of didactic principles with information and communication competence. Based on the following research, the extent to which masters used didactic principles was examined. Theoretical analysis and generalization, pedagogical observation, mathematical and statistical methods, types of experiments (modular, natural, laboratory), the use of questionnaires and questionnaires, scientific research methods were widely used.

### **Results**

The research was conducted at the Chirchik State Pedagogical Institute of the Tashkent region of the Republic of Uzbekistan, the Tashkent State Pedagogical University named after Nizami, Fergana State University. More than 275 master's degree students participated in the research.

During the research, the results of the study showed how well the masters can use modern information technology and the principles of didactics. As a result of the research, the indicators of master's degree specialists were determined by using the questionnaire method of scientific research method. In Figure 1 below, you can see what level the masters have achieved during the 2 year through the principles of didactics.



**Figure 1.** Indicators of the use of didactic principles in the development of information and communication competence of masters of higher pedagogical education

As a result, it was found that the principle of activity is applied by masters in 17%, the principle of continuity in 25%, the principle of integrity in 24%, the principle of psychological convenience in 65%, the principle of variability in 45% and the principle of creativity in 36%. According to the results obtained, it was found that master's degree specialists do not sufficiently use the principles of didactics in the application of information technology during the educational process. This is seen as a shortcoming in the development of robust information-communicative competence of masters. At the heart of the principles of didactics, the main goal is to ensure that masters and professors are qualified and effectively organize the teaching process. According to the results of the research, higher pedagogical education has played an important role in the effective and efficient implementation of research and teaching methods by masters. It was found that the principles of didactics are unique to the principles of integrity, variability, psychological convenience and have a great positive impact on the effectiveness of educational and methodological work using these principles.

Mathematical statistical methods of scientific research on the effective use of information technology by masters of higher pedagogical education were also obtained. Using the mathematical statistical method, 275 masters were able to use computers, smartphones, tablets and video projectors. The research was divided into two groups: master's and control groups. Table 2 below details the studies obtained.

**Table 2.** Research on the effective use of computer programs by masters of higher pedagogical education

№	The place where the study was conducted	Types of Norm	Control group	Experimental group
1.	Tashkent State Pedagogical Institute	MS Office Word	56 %	69 %
		MS Office Excel	45 %	52 %
		MS Office PowerPoint	58 %	71 %
		Using the internet	43 %	68 %
2.	Chirchiq State Pedagogical Institute	MS Office Word	53 %	65 %
		MS Office Excel	38 %	49 %
		MS Office PowerPoint	51 %	62 %
		Using the internet	40 %	59 %
3.	Fergana State University	MS Office Word	65 %	79 %
		MS Office Excel	49 %	65 %
		MS Office Power Point	56 %	73 %
		Using the internet	46 %	71 %

### Discussions

During the study, the masters of computer programs of Tashkent State Pedagogical University named after Nizami, ie MS Office Word, MS Office Excel, MS Office Power Point, Internet use in the control group increased from 100% to 50.5%, in the experimental group from 100% to 65%. formed.

Studies from the control group of masters of Chirchik State Pedagogical Institute of Tashkent region showed MS Office Word, MS Office Excel, MS Office Power Point, the level of Internet use in general from 100% to 45.5%, in the experimental group from 100% to 58.7%.

Surveys from the control group of masters of Fergana State University accounted for a total of MS Office Word, MS Office Excel, MS Office Power Point, Internet utilization rate from 100% to 54%, in the experimental group from 100% to 72%.

According to the results, in the development of information and communication competence of masters of higher pedagogical education, it is necessary to use the principles of didactics to some extent. Because through the didactic principles of pedagogy, masters improve their pedagogical skills, ie knowledge, skills and abilities. This in itself serves as a tool for them to successfully pass the main part of the learning process. The development of information-communicative competence is the use of modern media to understand all parts of an 80-minute lesson. According

to the research, it is necessary to organize courses on computer literacy in the development of information and communication competence of masters. Through computer literacy courses, masters learn how to use a computer properly, how to use computer programs quickly and efficiently. The main thing is that they will be able to create programs using the Internet and create information sites on the network. It is necessary to organize computer technology and teaching in higher education institutions of advanced foreign countries on the basis of the national education system.

### **Conclusion**

In conclusion, it is important to use the principles of didactics in the development of information and communication competence in universities and institutes of higher pedagogical education, as well as the use of computer programs by masters to organize a systematic, effective work. That is, in the development of information-communicative competence, it is impossible to do without knowledge of information technology. In the development of information and communication competence of master's degree specialists on teaching the principles of didactics of pedagogy, the working curriculum of the specialty will need to create certain conditions for the study of 6 principles of didactics and computer literacy. It is necessary to develop software materials on how much computer specialists have knowledge of computer technology during the month and can apply the principles of didactics in the classroom. It serves as a program for the development of information and communication competence of master's specialists on the basis of the conditions and software materials to be introduced.

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