

# REQUIREMENTS FOR THE INFORMATIZATION OF EDUCATION IN PREPARING FUTURE TEACHERS FOR PROFESSIONAL ACTIVITY BASED ON DIGITAL

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## Abstract

This article deals with the issue of scientific and methodological justification of the requirements for the informatization of the content of education in the preparation of future teachers of technological education for professional activities based on digital technologies.

This article can be used by those who deal with the problems of improving the training of future specialists for professional activities.

**Keywords:** Digital technologies, future, technological education, teachers, education, activity, professional activity, informatization, students, information, information bank, automation, systems, development; driving force; information; processing; processes; direction; pedagogical; management; development; sequence; research; indicators; relational; functional.

## Introduction

It is well known that the 21st century is referred to as the “age of the information-oriented society.” One of the reasons for naming the century in this way is that informatization is not only an achievement of science and technology, but is also becoming a driving force behind development in education, upbringing, the economy, management, art, medicine, industry, agriculture, and many other fields.

In this sense, it can be noted that in almost all spheres of our lives, concepts such as data, databases, information, information banks, information technologies, information systems, computerization, automation, technologization, automated data-processing systems, and automated educational management systems are being widely and actively used.

Thus, there are no strict boundaries to informatization; that is, this process is currently clearly manifested in various spheres (directions and sectors) of human society. This idea is further supported by the widespread implementation of informatization in management, science, engineering and technology, the creation of pedagogical innovations, education and upbringing, economics, art, industry, and many other areas of social life. This viewpoint can be further substantiated through the following source:



> “Informatization is a comprehensive set of means and conditions for the development of information processes, which implies a broader approach to computerization, including the creation of an appropriate technical base and the development of organizational and economic reforms. On this basis, informational foundations for the functioning of various social systems are formed. The replacement of paper-based information within permissible limits by ‘human–computer’ interactive systems makes it possible to create new information systems in human activities.”

[TXA, Hasanboev. Fundamentals of Scientific Research. Textbook. Tashkent: Fan va texnologiya, 2011, 484 p. (p. 350)]

From this, the necessity arises to collect data related to the research object, transform them into information, and prepare the educational process for the informatization of training future vocational education teachers (BTTO) for professional activity. In the course of our research, this was carried out in the following sequence:

Collection of data related to the research object.

At this stage, the issue of collecting data related to the research object and dividing them into logical sequences, taking into account the research goals, objectives, and working hypothesis, is addressed. For this purpose, the specific characteristics of the research object—namely, the process of preparing future vocational education teachers for professional activity—are analytically studied from the standpoint of problem formulation.

The significance of this stage lies in the fact that a deep analytical study of the research object serves as an initial functional basis for determining the research strategy and substantiating the working hypothesis. The materials obtained at this stage also provide an important didactic foundation for learners to acquire new knowledge in the process of preparing for professional activity. Moreover, this stage can serve as an essential basis in the development of an intellectualized instructional system for preparing future vocational education teachers for professional activity.

Formation of a database on support systems.

At this stage, the issue of forming a database related to the system of support for preparing future vocational education teachers for professional activity is considered, with attention given to the following types of support:

- data related to legal and regulatory documents are prepared;
- a collection of data on normative and legal documents is compiled;
- a set of data related to the formation of informational support is prepared;
- a separate complex is developed for the formation of technical support;
- data on software support are prepared;
- data on organizational support are prepared;
- a collection of materials for methodological support is prepared;
- a set of data for ergonomic support is prepared;
- and others.

It should be emphasized that the aforementioned types of support are important not only in the study of individual disciplines, but also in studying groups of disciplines in their interrelated and integrated form. Conducting the educational process by utilizing such a system of support



creates broad opportunities for improving the structure of the educational process, which, in turn, represents an innovative educational technology.

Formation of a database of scientific and methodological support.

At this stage, the issue of forming a database related to the development of the structure of scientific and methodological support for preparing future vocational education teachers (BTTO) for professional activity is considered. Particular attention is paid to the following types of support:

- instructional and didactic support;
- instructional and methodological support;
- instructional and informational support;
- instructional and software support;
- software and methodological support, and others.

These elements constitute the structural components of scientific and methodological support. One of their main characteristics is that they provide extensive opportunities for developing an information-based educational environment aimed at mastering a specific discipline. Such an environment reflects the content, essence, and all relevant information related to the discipline to be mastered.

Formation of an information bank on training stages.

At this stage, the issue of establishing an information bank related to the stages of improving scientific and methodological support in the process of preparing future vocational education teachers for professional activity is addressed. Initially, the stages of improving scientific and methodological support for preparing future vocational education teachers for professional activity are scientifically and methodologically substantiated in the following sequence:

- preparatory stage;
- formative stage;
- substantiating stage;
- implementation stage.

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