

## Higher Technical Educational Institutions Systematic-Functional Model of Developing Techno ethic Culture of Students

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**Annotation:** The goal of this research is to develop a pragmatic, system-functional model. This type of model helps students in higher education institutions to find tools to manage the process of developing a techno ethic culture, as well as to reflect the research processes that allow distinguishing between the initial and final level of training.

**Keywords:** techno ethic culture, integration of production, methodological support function, practical-empirical function, social order, pedagogical design, axiological and reflexive approaches.

### INTRODUCTION

Today, the formation of the technoethic culture of future professionals, especially students of higher technical direction, is one of the important pedagogical problems. As a phenomenon, technoethic is an intellectual-cultural tool between techno-optimism and technopessimism, which combines the knowledge used in technology, different moral and cultural approaches to the role of technology in the system of human-society-nature relations and technical behavior of people.

Systematic reforms have been carried out in our country to form the content of higher technical education on the basis of the integration of science and industry. In the Strategy of Actions for the Further Development of the Republic of Uzbekistan in the implementation of priorities such as “development of mechanisms for assessing the quality of education, improving the availability and effectiveness of educational services” [5] and “arge-scale training and retraining in the required specialties” the formation of holistic and systematic integrative knowledge, skills and competencies, and diagnostic assessment of learning outcomes play an important role. In this regard, the study of the state of development of technoethicculture of students of higher technical education requires the study of their professional competence in their field of specialization, the development and implementation of innovative methods of pedagogical diagnosis.

### MATERIALS AND METHODS

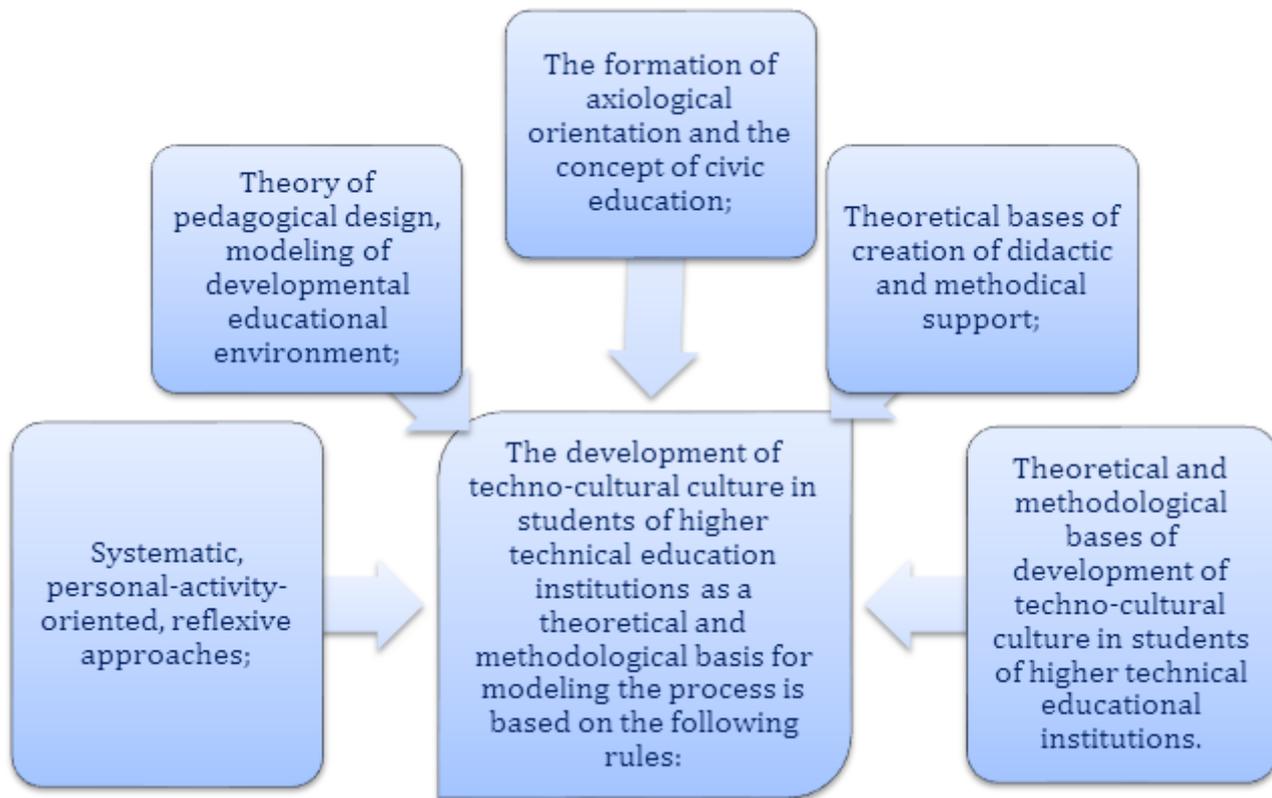
At the beginning of the last century, a modern civilization called the “man-made civilization” was formed and developed. In its bosom there are various forms of engineering activity, design, mass industrial production, modern forms of technology. All this makes it possible to implement a social project to meet the growing material needs of man and society. As a result, not only unprecedented opportunities and conveniences will be created to meet human needs, but also global crises will occur. Today, man is again faced with the problem of re-understanding technology. Today, the engineering method of creating technology has lost its former importance to this day. The technological method has become the main method of creating techniques. In inculcating such problems in students of higher technical education institutions, it is important to create a pedagogical model of pedagogical education, technology and the creation of pedagogical conditions for its implementation. The most effective tool in this process is modeling. On the basis of modeling, an educational model for the development of technoethicculture among students of higher technical education institutions will be created. The model of education is a system of

intellectual imagination or its material appearance, which scientifically reflects the subject of research, allowing to obtain new information about a particular object [116; 432]. Also, from a modern point of view, the goal of any activity can be considered as a model that reflects the outcome of the activity.

Many scientists try to show the dual nature of technical progress. On the one hand, the development of machinery and technology allows man to solve many problems and tasks, ensure the well-being of the population, serve as the basis of modern man-made civilization. On the other hand, technical progress leads to an increase in unexpected negative consequences that are neither predictable nor controllable. Technological progress has no goals of its own, no one knows where it is going. Because of this, it is impossible to predict its consequences. The stronger the technical progress, the greater the sum of its unintended consequences. As technology advances, so does the number of conflicts, obstacles, and crises it creates. In particular, environmental pollution, reduction of non-renewable resources, globalization of potential risks. Consequently, a recalculation of funding for research is required on a regular basis to compensate for the damage caused or to find a replacement for declining resources. Only after such a calculation can one get an idea of the real value of the product of technical development, the real cost of technical means. For example, the equipment that causes severe poisoning requires the construction of treatment facilities, the establishment of health rehabilitation centers. Therefore, it is required to include their value in the total cost estimate.

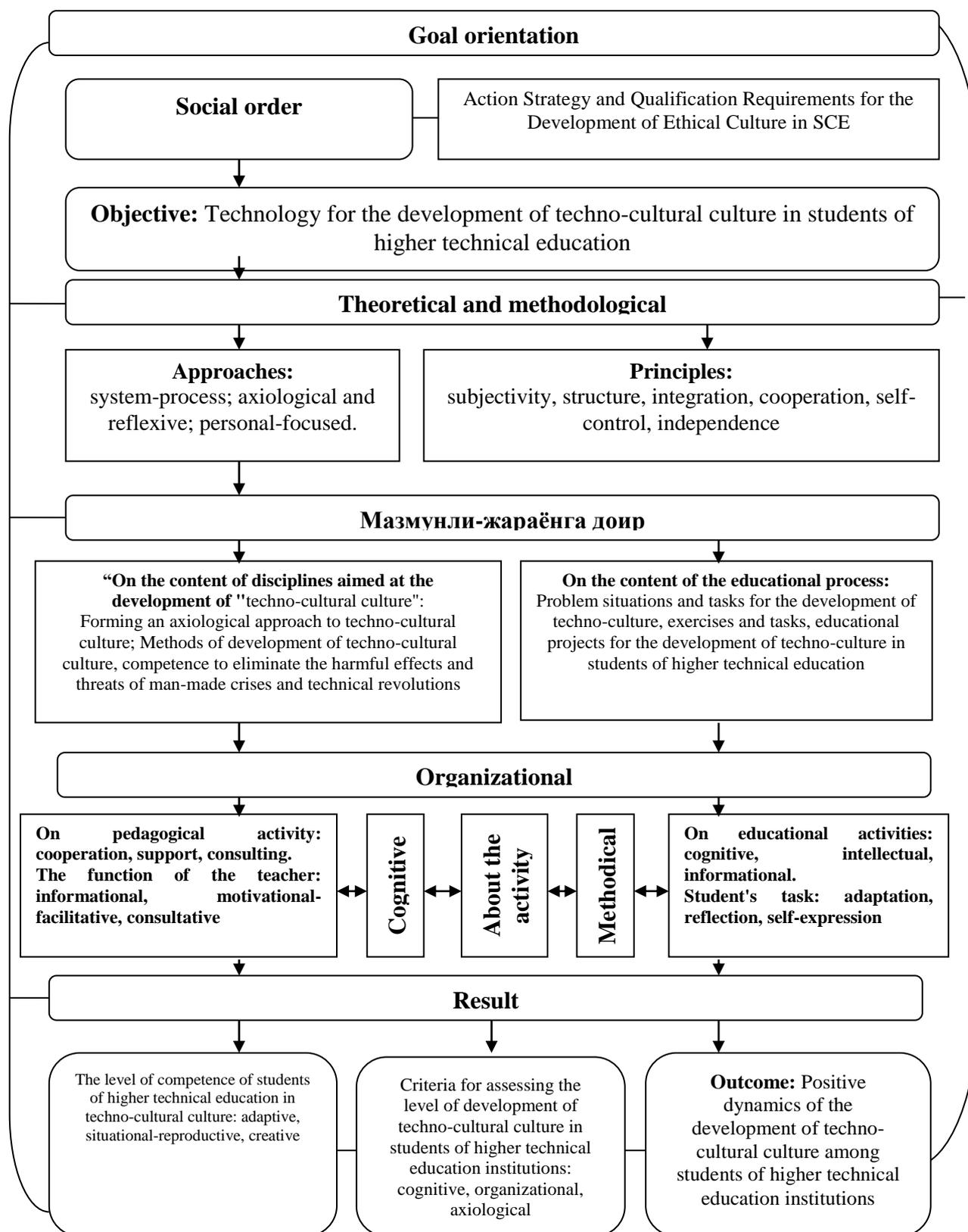
## RESULTS AND DISCUSSION

- In our study, the process of development of technoethicculture in students of higher technical education institutions as the object of modeling, and the subject, the content and methodological system of development of technological culture in them.
- In modeling the pedagogical system aimed at the development of technoethicculture among students of higher technical educational institutions, the following functions are envisaged:
  - methodological support function. The implementation of this function is associated with the normative legal acts and the social order, which determines the theoretical basis for the development of technoethicculture in students of higher technical education institutions;
  - regulatory support function. This function requires the identification of the principles, content, objectives, pedagogical conditions, diagnostic tools for the involvement of students in higher technical education in the development of technological culture;
  - methodological support function. Requires the definition of methodological conditions (content, form, methods and means) for the development of technoethicculture among students of higher technical education institutions;
  - practical (empirical) function. This function allows to solve a number of tasks: to form value-oriented attitudes and stable motives in relation to knowledge, skills, abilities and competencies for the development of technoethicculture in students of higher technical education, to analyze the research process and make certain adjustments; evaluation and analysis of results, etc.



### **1-пачм. Theoretical and methodological basis of modeling the process of development of technoethicculture in students of higher technical education institutions**

The system-functional model of the development of technoethicculture among students of higher technical education institutions reflected the components of goal-oriented, theoretical-methodological, content, organizational and performance.



**Figure 2. System-functional model of development of technoethic culture in students of higher technical educational institutions**

- The goal-oriented block plays a leading role for other blocks of the system of development of technoethicculture in students of higher technical education institutions. Based on the definition of the content of this block, the educational standard and social order, regulatory framework in the field of research were determined. The goals and objectives of the model were also clarified.
- The development of technoethicculture among students of higher technical education institutions is defined as a social order through the Action Strategy for the development of the Republic of Uzbekistan, the Law "On Education", the State Standard of Higher Education, as well as regulations for the development of moral culture.
- The analysis of educational standards and normative-legal documents in the field of moral culture showed the need to optimize educational and preventive work aimed at the development of technoethicculture among students of higher technical education institutions.
- The goal-orientation of the system is determined by the achievement of certain results. Goal setting is done by focusing on a number of questions that the system being developed must answer. In order to successfully address the problem of developing a technoethicculture among students of higher technical education institutions, the final result of this process must be clearly reflected. The purpose of the model was defined as the development of technoethicculture among students of higher technical education institutions through the integration of social sciences and technical sciences.
- In the process of developing a model for the development of technoethicculture among students of higher technical education institutions, the following tasks were addressed:
  - 1) identification of methodological approaches to the development of a model for the development of technoethicculture among students of higher technical education institutions;
  - 2) determination of the block structure of the model;
  - 3) reveal the relationship between the model block and the elements;
  - 4) describe the block structure and elements of the model.
- ✓ The above-mentioned goals and objectives of the development of technoethicculture in students of higher technical education institutions are related to complex methodological approaches. The object of study of the methodological approach is interpreted as a strict methodological orientation of the research in terms of the principle of guiding the overall strategy of the research.
- ✓ Effective approaches to the development of technoethicculture among students of higher technical education institutions include:
  - ✓ The system-process approach is characterized by setting a problem that reflects the logic of scientific research, defining the main and local goals, identifying conflicting views and opinions, and provides a model for the development of technoethicculture among students of higher education institutions;
  - ✓ Axiological and reflexive approaches, as a theoretical and methodological basis of the strategy, determine the directions of theoretical research, reflect its general appearance. These approaches allow to define the system of values and provide feedback in the system of development of technoethicculture among students of higher technical education institutions;

- ✓ A personal-oriented approach is a practical-oriented tactic aimed at identifying the mechanisms and procedures for organizing the activities of faculty and students to achieve the set goal, to reveal the specifics of the practical use of the studied phenomenon.

In our view, the approaches should be analyzed in a coherent manner. Only the complex application of approaches allows an objective study of the problem of developing a technoethicculture among students of higher technical education institutions.

Below we describe the essence of these methodological approaches.

The systematic approach is a direction of scientific knowledge and methodology of social practice, which is based on the perception of objects as a system. The systematic approach directs the researcher to reveal the integrity of the object, to identify the different types of its connections, and to bring them into a single theoretical view. Hence, from a systematic approach, the specificity of a complex object (system) does not negate the individual properties of its components, but rather creates connections and connections between specific components.

## CONCLUSION

The rules of the system-process approach are reflected in the proposed model as follows:

1. The ability to express the object of research as a whole, stable and internal self-organizing structural components, a set of functional connections and relationships. It is expedient to consider the development of technoethicculture in students of higher technical education institutions as a system-oriented, theoretical-methodological, semantic-process, organizational, result-oriented blocks, their components and interrelated functional interaction and interaction.
2. Through the versatility of this approach, management emerges as a set of interrelated and universal management processes (planning, organization, motivation, control and related processes). In our study, this process is reflected in the methodological support (support, friendliness, counseling and development of technoethicculture in students of higher technical education institutions).
3. As a result of training specialists in higher education, focus on the needs and satisfaction of all consumers of education and achieve its continuous improvement. The most important aspect of the system-process approach is that the "output" results of each process are objectively related to the "input" (need) state. Thus, through the integrity and continuity of all components of this process and model, interdisciplinary cooperation is achieved in the development of technoethicculture among students of higher technical education institutions.

Each methodological approach is associated with a specific system of principles that allows to achieve the set goal. The principle means the requirements for the process of developing pedagogical models, systems, etc., the basic rules. The principles reflect the objective requirements for the formation of the direction under study.

The main principle of the systematic approach considered in the development of technoethicculture among students of higher technical education is the principle of integrity, which requires the analysis of this system as a whole and as a set of parts (blocks). This principle is aimed at the analysis of the "internal structure" of the system, while maintaining a holistic view of the system. The model of development of technoethicculture in students of higher technical educational institutions can be considered as a system consisting of a set of interconnected blocks and elements. This principle allows not only to see the learner's attitude to a particular behavior, but also to teach him to perceive a particular reality as part of a whole universe.

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