OPERATIONALIZE THE AIMS
OF TECHNOLOGICAL EDUCATION

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ABSTRACT: One of the main conditions for achieving high performance in education is setting specific targets and search for adequate ways to achieve them. The purpose of this research work is to operating educational objectives of the educational process of technological learning, as training and educational process in all scientific fields are subject to specific purposes.

The development of mankind towards perfection which is enshrined in every educational system. The pursuit of efficiency is timeless and extremely important. One of the main conditions for achieving great results in the educational process is the placement of specific goals and seeking appropriate ways for their implementation.

The purpose of this scientific work is to operationalize the educational goals of the educational process in technological training as educational process in all scientific fields is subject to specific purposes.

Each educational objective is the actions planned to achieve a result through the educational process. According to E. Eladzhem [2] aims serve as *a planning activities, as starting position and as a criterion for evaluation of the actions* that can be defined as the basic characteristics of the educational goals and are closely interlinked (Figure 1).
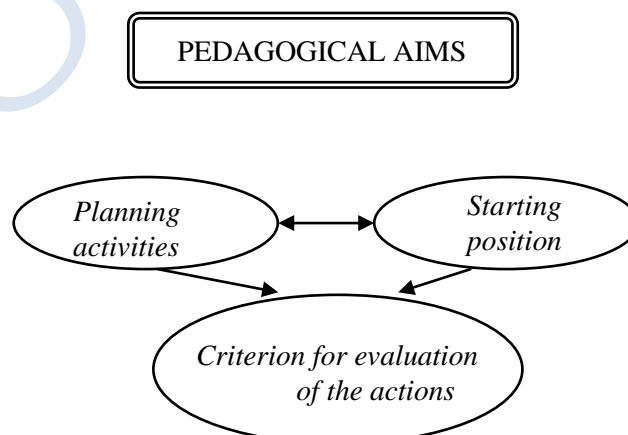

Fig. 1 *Key features of the educational aims*

Total Education goals are hierarchically arranged in three categories:

- **The first category** is the *common aims* of education.

World organization of associations in the field of technological training (WOCATE) [11] based Europe and International Technology and Engineering Educators Association (ITEEA) [10] based US aim to "create a system that develops people sufficiently prepared to understand, develop and control technology in its complex context".

And in Bulgarian educational system general *aim of technological training is to build the foundations of technological literacy and competence of students as an essential element of their common culture.* "Learning objects in this area represents a kind of steps for moving the process of building a culture of bits of the individual to the construction of basic skills for her future career". [6]

Operationalize of the common aim of technological training is focused on:

1. The notion of organization and planning of activities at home to move to the building of knowledge and skills of organization and planning of activities in the world of technology and outside the home.

2. The notion of modern household equipment and technology in a nearby world that communicates the family to move to build a picture of the major relationships in the complex world of the techno sphere of our planet.

3. Knowledge management of the household income and consumer behavior to move towards the construction of knowledge, and understanding and differentiation of basic economic concepts and concepts.

4. Understand the impact of various occupations and sectors of activity on the life of the family to move to the planning skills of their professional career in simultaneous depending on individual performance and prospects of the labor market.

So students understand the role of the individual technological culture, understanding and application of engineering and technology in daily and widespread practical activities. Students rediscover the manmade world, his relations with the environment, realize the power of science and technology and participate in it, as designed, constructed, model, manufactured different products and technological systems [6].

The Bulgarian educational system technology training is realized through cultural and educational area "Life and Technology", divided into three separate items: "Domestic Habit and Technique" I - IV class "Domestic Techniques and Economics" V - VI class and "Technology" VII - VIII class. Each of these subjects in turn also has a common goal.

The overall objective of the subject "Domestic Habit and Technique" in I - IV class is the initial entry into the diverse world of engineering and technology in the light of the understanding of everyday activities and resources that are present in real life of the child.

The overall objective of the subject "Domestic Techniques and Economics" V - VI class is the development of technological literacy of students in the direction of initial understanding of the links: Culture of bits - equipment and technologies; scientific discoveries - equipment and technologies; Economics - Engineering.

The overall objective of the subject "Technology" VII - VIII class is building a common basis of technological competence of students completing primary education, laying the foundation of career choices in the field of social or industrial technologies.

• **The second category** is private (*intermediate*) objectives of the various components of education and upbringing.

Private (intermediate) objectives of technological training can be considered separately for each subject.

Private (intermediate) goals of the subject " Domestic Habit and Technique" in I - IV class are related to the enrichment of knowledge of engineering and technology and their role in society; formation of skills for generating and clarifying ideas and suggestions; expanding the knowledge and skills available for processing materials; formation of skills for modeling and the use of mechanisms.

Private (intermediate) goals of the subject "Domestic Techniques and Economics" V class are [7]:

- *To form a basic knowledge of the technical resources (equipment, instruments, apparatus, machines, devices, equipment) that a modern home can have to form safety skills of the main ones.*

- *To expand the understanding of the application of engineering and technology in everyday practical human activities and the role of technology to improve the way of life and sustainability of the environment.*

- *To build an attitude of care and attention to the products of human labor in and outside the home and differentiating concepts of consumer and producer.*

- *To increase the degree of autonomy in detecting and solving real technical and technological problems of everyday life and thus to develop qualities such as initiative, communication, activity, pragmatism.*

- *To form the initial orientation in the creation and implementation of small projects related to improving the culture of life and technology, and to form available knowledge and skills in this area.*

Private (intermediate) goals of the subject "Domestic Techniques and Economics" VII class are [8]:

- *To form a more comprehensive picture of the technical support activities in the modern home and individual household and skills for safe operation and maintenance of the main elements of its furniture and equipment.*

- *To expand knowledge of consumer behavior, consumer value of individual materials, products, tools, labor and skills to assess the technical means according to their quality, price, influences on people's lives and the environment.*

- *To provide skills to detect, formulation, monitoring and analysis of technical and technological problems within the household, increase autonomy in decision-making to overcome them, is taking into account more precise and take into account the personal abilities and skills.*

- *To create conditions for the formation of basic life skills through testing solutions to improve the workstation, nutrition, recreation, hobby activities, energy saving products, maintaining ownership, separation of less waste in the household nature conservation and relations with it, improving communication and cooperation within the family.*

- To build an understanding that work must be planned and carried out in terms of personal initiative, creativity, collaboration, accuracy and security of the actions with the resources that the quality of the result depends on the quality of work.

- To form knowledge about the rules of interaction in the implementation of joint activities and projects and skills to aspire to carry out individual and group activities through the basic principles of quality and safety.

- To expand knowledge about the differences between "working for yourself" and "work for another," the role of the private sector in providing the family budget and its prosperity, and the professions to ensure the rise in the attitudes and habits of modern citizens.

Private (intermediate) goals of the subject "Technology" VII and VIII class are [9]:

- To build an understanding of the essence of the art and technology as the basic phenomena emerging spirit of modern civilization, knowledge of the main factors in their development and the key implications of their presence in society and the life of the individual;

- To form a general idea of personal and national economy and the place of social and industrial technologies in ensuring harmony between needs, consumption, production and technology.

- To form the knowledge of technical objects, technical systems, technology and production processes, labor relations, management and administration of business and skills to use and control of widespread technical means and technological processes.

- To develop the technical, technological, economic and environmental thinking by working with technical documentation and skills for carrying out technical projects and technologies.

- To develop skills in planning their own career, taking into account their individual personality and prospects of the labor market.

- To improve personal qualities which ensure unity of labor discipline within the employment and entrepreneurial spirit, integrity and loyalty, thrift and pragmatism, creativity and imagination, collaboration and skills for teamwork and striving for successful personal realization in the world technology.

• **The third category** is the so-called *concrete (operational)* aims of the current educational work.

The specific objectives of technological training implemented in three stages in the educational work through individual course units in each summarized topic of educational content.

First stage students *solve problems, design, modeling and design, trying, experimenting, inspect, evaluate, produce, plan and carry out small projects to adopt different roles and positions in the learning process by distributing activities, performing assigned tasks, evaluation, self-assessment, adjustment, work independently and in a team.*

The second stage is to offer students *prove express doubts and plan their own activities in design and manufacture of various products and utilization of different technologies to choose, make decisions and assess themselves.*

The second stage is that students understand that *the work must be planned, organized and carried out in terms of creativity, cooperation and provision of resources and the basic principles are accuracy, quality and safety. They not only need to know and apply the basic technical tools, processes and solutions to technical problems, and to assess the technical*

means according to the relation between quality and price, consumer value and their impact on social and environment.

In the functions of the educational process in technological education aims are divided into *educational* (from cognitive field), *educational* (from the affective domain) and *developing* (the psychomotor domain), which are closely interlinked and which produce relevant taxonomy.

The main *essence of the aims* is expressed in the quality of the acquired form of knowledge, skills, attitudes and attitudes towards that area.

The most common understanding of the quality of knowledge and skills set personal qualities and experience of the students in technological education is characterized by **four levels of absorption**.

➢ *Level of awareness* – a kind presented, signs, features, images, descriptions student may know already studied element of the educational content (both theoretical and practical). Activities at this level are:
  - *Recognition* (correct answer to the question "Is this .....")
  - *Distinction* - between multiple objects, phenomena, processes, etc.
  - *Correlation* between the "subject-object"; "Object-function", "concept-concept."

➢ *Level of play* – implemented through two types:
  - *Literally* and
  - *Reconstructive* (partial amendment, clarification).

➢ *Level of skills and habits* – in technological education are distinguished two types - cognitive skills and practical skills.
  Forming process (stages) is:
  - *Degree of assimilation*;
  - *Durability of the acquired*;
  - *Degree of applicability*.

➢ *Level of creativity*:
  - *Self-orientation in new situations;*
  - *Solving creative tasks*
  - *Maximum interest to the new (unknown)*
  - *Need and ability to acquire new skills*
  - *Demand and skill acquisition for self-development and self-improvement;*
  - *Ability to search for targets for detection purposes of formulating targets.*

Due to the specifics of the educational content of technological training active verbs objectives are:
➢ motivation,
➢ formation of beliefs,
➢ acquiring knowledge

- ➢ learning skills
- ➢ formation of concepts
- ➢ achievement of competence,
- ➢ development of specific thinking
- ➢ development of personal qualities:
    - *Attitude to ....*
    - *Sustained attention*
    - *Technological discipline*
    - *Belief in the need to develop individual qualities*
    - *Communication skills*
    - *Responsibility for social knowledge*
    - *Belief in the relationship between the self and the society and achieve a balance between them,*
    - *Responsibility for the choice of profession and career development*

CONCLUSION

In conclusion, it can be concluded that the aims of technological training are directly related and fully meet the requirements of society for better technical and technological trained individuals.

Technological education is the criterion for the formation of knowledge and skills and understanding of their practical application and turning them into general technical labor skills most necessary activities in family life and material production. This can only be achieved by better realization of the objectives of the educational process. Goal setting decades of technological training is one of the most important components of technological literacy, considered as being functional.

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