

## MODEL OF DEVELOPMENT OF DESIGN COMPETENCE OF FUTURE DRAWING SCIENCE TEACHERS

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### ABSTRACT

In this article, general information about the model of development of design competence of teachers of the future drawing science is given, which mainly focuses on the development of design competence in the graphic and pedagogical activity of future teachers.

**Keywords:** Competence, design, construction, design, model, graphic education, block, graphic knowledge, communicative, individual, method, motivation, creative activity, operation, didactic, synthesis.

### INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The quality of training of competent specialists in higher educational institutions is determined in many ways by effective teaching of universal and specialized subjects. Teaching general professional and specialized subjects in graphic education is more focused on practical education and covers the processes that directly provide deep, thorough knowledge, creating relevant skills and skills, reflecting the characteristics of specific specialties in specific areas of production. For this reason, numerous scientific researches and researches are carried out by pedagogical scientists of the Republic and CIS countries and foreign countries on the problem of development of design competence of teachers of the future drawing science.

In the development of the design competence of future drawing science teachers, first of all, it is necessary to clarify the essence of this concept, to determine the legalities, principles, conditions and directions of the competent approach in the educational process, as well as to determine the components that make up the design competence.

In clarifying the concept of designing competency, initially the content of the concept of "designing" was analyzed.

In the direction of "Fine Arts and engineering graphics" education, it is understood that the image of the work as "design" is figuratively created, giving an understanding of its structure, instructions for the preparation of the state of drawing and other special technical requirements, checking the quality of use, testing, etc. are expressed in the material State. Designing means creating an image of a workpiece that must be prepared, giving an understanding of it, bringing it to the state of the working drawing. Graphic knowledge and skills include: leading graphic concepts used in designing - drawing reading, image, appearance, detail and form elements, dimensions, conditional character and writing; reading simple drawings and kinematic schemes, sketching and technical drawing of simple details<sup>1</sup>.

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<sup>1</sup> Nasriddin AAT, Abdugafforovich TK. MODERN COMPOSITION OF TERMEZ STATE UNIVERSITY // European Journal of Research and Reflection in Educational Sciences. – 2020. – S. 192-197.

Design competence in graphic education process of preparation of an item (development of technology of preparation of an item, design of equipment, devices and equipment, etc.) planning is characterized by the ability to select and practically use the appropriate equipment and suitable equipment in the production of the direct product.

Based on the above analysis, we have described the general design competence of the teacher of drawing science as follows: the ability of the teacher to apply knowledge, skills and skills that ensure the quality of the design activity, as well as personal qualities in graphic and pedagogical activity on the basis of integration.

We have further improved the model of development of the design competence of future drawing science teachers (Figure 1). The design made it possible to identify the components that make up the competence (motivational-valued, creative-active, operational-technological), to specify the content of the model "development of competence in the design of teachers of the future drawing science". The Model consists of the following blocks: the target block, the diagnostic-motivational block, the meaningful-activity block, the pedagogical process block, the evaluation-the result block.

I. The design of the target block requires future specialists in the development of competence to develop knowledge, skills, qualifications and competences, as well as to study the requirements of the employer, to take into account the requirements established in the standards of public education, as well as to study the requirements of the international labor market.

II. The diagnostic-motivational block includes the tasks set forth in the development of the design competence of the drawing science teacher, the professional motivation, as well as the professional interest, needs of the drawing science teacher, the process of determining the inclination to the profession and motivation.

III. The meaningful-active block includes motivational-valuable, creative-active, operational-technological components of the development of the competence of the design of future teachers. Also given are the stages of development of design competence (organizational preparation, practical-process, analytical-correction).

IV. The pedagogical process Block describes the forms, methods and tools of education in the development of design competence. The principles of the process of development of student design competence are provided for by the initial rules that determine the content, methods, organizational forms and didactic tools of Education. Depending on the specific characteristics of the tasks that are solved at different stages of activity, the importance of didactic principles is diverse, and under different conditions the significance of this or that principle is manifested.

The principle of Fundamental and vocational orientation-differentiation of knowledge on the basis of science-based communication, development of students' scientific outlook, increasing their interest in the profession and science; leads to the formation of skills of applying the theoretical knowledge gained in practice and applying it in labor activity<sup>2</sup>.

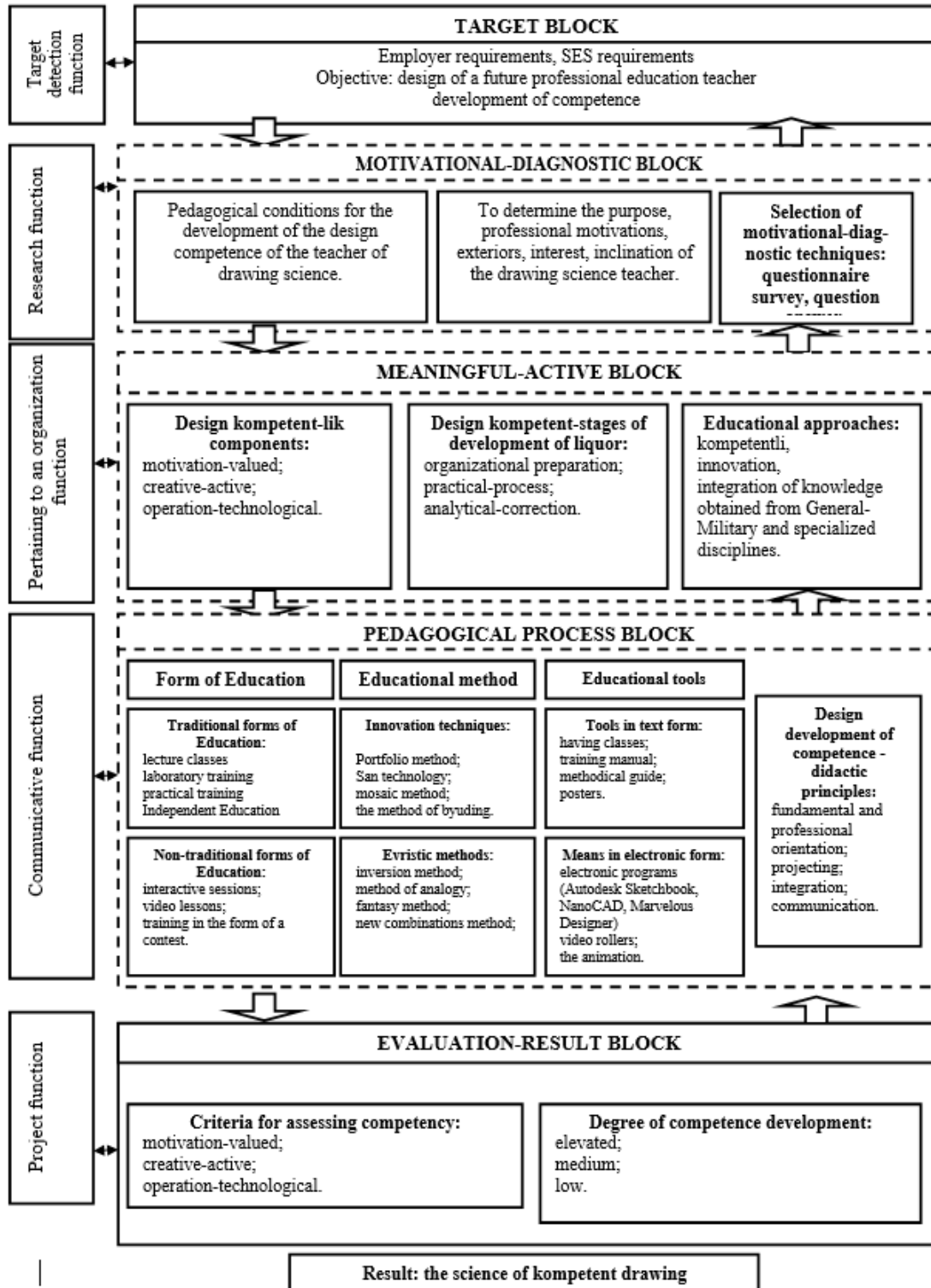
The principle of integration is the formation of skills in the preparation and design of items in the creation of portfolios in the field of design, the involvement of knowledge, skills and skills in various fields of science. The principle of integration is used in the development of

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<sup>2</sup> **Mamatkulov S. N., Ibragimova K.** National and Universal Content of Fine Arts. Ancient History and Development of Fine Arts of Uzbekistan //The American Journal of Social Science and Education Innovations. – 2020. – T. 2. – №. 08. – C. 195-198.

educational and methodical materials on the basis of educational projects in accordance with industry and curriculum.

The quality of training of specialists with competences in higher educational institutions is determined in many ways by effective teaching of universal and specialized subjects.



1-picture. Design-technological competence development model of teachers of future vocational education

The teaching of general professional and specialized disciplines in graphic education is more focused on practical education and covers the processes that directly provide in-depth, thorough knowledge, creating relevant skills and qualifications that reflect the characteristics of a specific specialty in specific areas of production.

The principle of communication is the establishment of an effective relationship with students based on the individual characteristics of the subject, the specific task, the specific characteristics of the student's personality, taking into account the specific situation, confirming the necessity of izlash the most effective ways of cooperation<sup>3</sup>.

The main component of the model for the development of competence in the design of future teachers is the method of innovative education.

Methods of education – this is the joint activity of teachers and students aimed at mastering the content of education in the field of pedagogy and graphics; formation of knowledge, skills, qualifications and competences. It is worth noting that the choice of techniques will depend on the purpose of education; the level of preparation of students; the material support of the educational process; the level of theoretical, practical training and qualifications of the teacher.

V. Evaluation-the result block includes the indicators of the development of the competence of the design of future drawing science teachers in the field of education, as well as the criteria for evaluation.

The criteria for the development of competence in the design of teachers of the future drawing science include indicators that reflect the subject's attitude to the activity characterizing professional competence in the field of education and the object aspects of the results of the activity<sup>4</sup>.

Design-each of the components of technological competence development is an indicator of the level of competence in the design of teachers of the future drawing science (Table 1).

The process of development of design competency is carried out on the basis of the knowledge acquired in the general professional and specialized disciplines. It is not possible to develop the design competency or its constituent components within the framework of a single science.

**Table 1: Future vocational education structural components of teachers ' design and technological competence and criteria of development**

Criteria	Indicators of preparation for designing activities
Motivational-valuable (requirements, motivations, values and personal qualities)	1. To understand the specificity and social significance of graphic activity in education. 2. The fact that motivation is formed in order to master the competences necessary for future graphic activity. 3. Availability of interest in design activities. 4. Positive and emotional attitude to designing activities.

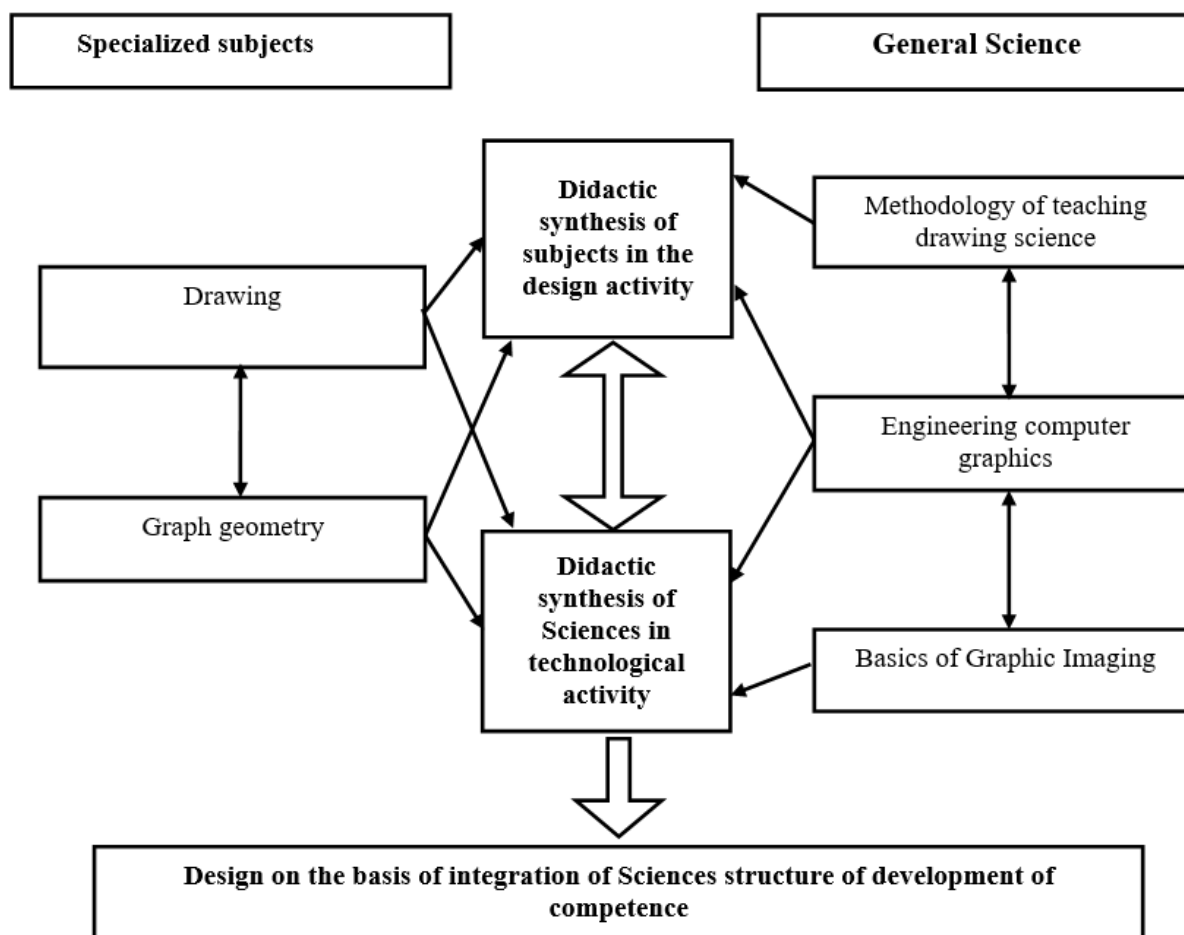
<sup>3</sup> Тураев Х.А. и др. МЕТОДИЧЕСКИЕ ИНСТРУКЦИИ РАЗРАБОТКИ ЭЛЕМЕНТОВ ТВОРЧЕСКОГО РАЗВИТИЯ СТУДЕНТОВ //Фундаментальные и прикладные научные исследования: актуальные вопросы, достижения и инновации. – 2018. – С. 185-188.

<sup>4</sup> Muhammadiyeva Z. B. HISTORY OF FINE ART IN UZBEKISTAN, ITS TYPES AND GENRES //Theoretical & Applied Science. – 2019. – №. 12. – С. 53-59.

	<p>5. Valued attitude and formed professional qualities: creativity, competence, mobility, accessibility, erudition.</p> <p>6. Formed personal qualities: obtaining independent education, striving for self-development, self-affirmation in designing activities.</p> <p>7. Design is the manifestation of individual and personal requirements in the activity (Portfolio).</p>
Creative-active (experience in creative use of skills and skills in designing activities)	<p>1. Self-realization of design as a creative subject of activity.</p> <p>2. Ability to creatively solve professional problems in designing activities.</p> <p>3. Ability to develop original Portfolio for the project, create ideas, provide original solutions.</p> <p>4. Ability to independently organize and plan research and project work.</p> <p>5. Ability to predict the final result in advance.</p> <p>6. Ability to apply innovative educational technologies to the organization of designing activities.</p> <p>7. The formation of communication skills associated with working in a creative team.</p> <p>8. Ability to apply modern computer technologies.</p>
Operation-technological (designing knowledge, skills and competency)	<p>1. Creative mastering of design skills and tools.</p> <p>2. To examine the need for a designed object; to determine the historical and modern dimensions of model design, quality indicators of consumers.</p> <p>3. Ability to identify and analyze different sources of information at different stages of new product development.</p> <p>4. Ability to design, design, model, prepare items, taking into account the high level of consumer characteristics and aesthetic qualities.</p> <p>5. Ability to prepare and present sketches (creative sketches, working sketches) to demonstrate creative thinking.</p> <p>6. Ability to analyze products (identify defects, causes of their occurrence and methods of elimination).</p> <p>7. Ability to create rational technological sequence of product production.</p> <p>8. Application of various methods of technological processing, taking into account the choice of materials, modern equipment, projects.</p>

It is not possible to develop the design competency or its constituent components within the framework of a single science. In the development of this competence, it is necessary to ensure the continuity and continuity of Science, the existence of science communication, the formation of Knowledge Integration. Therefore, in this process, each subject included in the curriculum has its own percentage.

In the course of the study, we developed a structure for the development of design competence based on integrated knowledge and skills in the field of General Science and specialty Sciences block (Figure 2). Design competence in the structure is associated with the formation of two types of competence of the future drawing Science Teacher: 1. Competence to apply knowledge, skills and skills related to design in Practice; 2. Competency of pedagogical knowledge, skills and skills to apply in practice.



**2-picture. Structure of development of structural-technological competence on the basis of integration of Sciences.**

By studying and analyzing the composition and content of the blocks of subjects included in the curriculum, the disciplines aimed at the formation of the above abilities were divided into two groups: General and specialized Sciences. An integrative approach was implemented by systematizing output according to the content of each Science and its function to be formulated.

One of the important conditions for the development of design competency in the educational process is explained not only by the correct selection of training techniques in the training, but also by the clear definition and successful implementation of training forms. In the course of the work carried out within the framework of the study, the study and research on the forms of interactive training organized on the basis of innovative educational methods and technologies were included among the main objectives. It can be recognized that the following innovative educational techniques have effective opportunities in the development of design competence of students of the direction of Fine Arts and engineering graphics education: Effective practical result, Team creative collections and budding<sup>5</sup>.

"Effective practical result", "Team creative collections" educational techniques are important in the formation of skills of creative activity in students and the skills of organizing collective creative performance. In the application of these educational methods, cooperation between the main participants of the educational process – the teacher, the student and the group of students-

<sup>5</sup> Afzal A.Y.M., Ergashovich T.A. DEVELOPMENT OF A PLAN FOR THE MODERN CITY OF BANDIKHAN // European Journal of Research and Reflection in Educational Sciences. – 2020. – S. 186-191.



occurs, that is, as a result of the execution of various projects in cooperation, the creation of a creative environment divided into groups, is organized on the basis of the ability to create different project collections, intense discussions, exchange; they include free thinking, a double statement of their creative vision, joint izlash skills of solutions in problematic situations; and in the method of "Buddying", the roles of specialists (artist, designer, constructor, technologist) performing various tasks by students are distributed and an environment of constructive posts is formed. All of these techniques are focused on practical activities and develop creative creativity, designing competences in studentstiradi.

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