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EFFICIENCY OF THE PEDAGOGICAL CONDITIONS IMPLEMENTATION IN THE FUTURE CRAFT AND TECHNOLOGY TEACHERS' PROFESSIONAL TRAINING TO TEACHING TEXTILE CRAFTS AT HIGH SCHOOL

Khrenova Viktoriia
Candidate of Pedagogical Sciences
Khmelnytskyi National University
Khmelnytskyi, Ukraine

Abstract. The article deals with the main aspects of outlining and solving the problem of the future craft and technology teachers' professional training at higher education institutions. The main trends of the future craft and technology teachers' professional training are presented. According to the results of the preliminary analysis the pedagogical conditions have been determined. If they are implemented in the educational process, the pedagogical conditions will ensure higher results of the future craft and technology teachers' professional training. The results of a pedagogical experiment, during which the pedagogical conditions implemented in the future craft and technology teachers' training were tested, are determined and interpreted.

Key words: model of professional training, pedagogical conditions, special competence, summative experiment, formative experiment.

An analysis of recent research and publications shows that there are different dimensions in outlining and solving current issues in the future craft and technology teachers' professional training. The first dimension is closely related to the genesis of professional training (Ya. Bobyleva, V. Garin, N. Sliusarenko, A. Romanchuk, Yu. Kuzmenko, I. Shymanovych and others). The second dimension is characterized by the development of content, forms and methods of theoretical knowledge and

pedagogical skills formation and reveals the logic and common factors of the future teachers training (M. Korets, L. Orshanskyi, V. Steshenko, N. Skachkova, S. Stepanov, I. Androshchuk, A. Pedorych and others). The analysis of scientific literature and thesis researches testifies to the increased attention of scientists to the study of the basic tendencies and specifics of the future teachers' professional training with the use in the educational process of modern innovative technologies. However, the problem of optimizing the future craft and technology teachers' professional training to teach high school students the textile crafts remains under-researched.

As mentioned earlier, one of the research dimensions of different aspects of the future craft and technology teachers' professional training is its content as a topical issue of reforming higher education and the main prerequisite for training a highly qualified professional. According to the opinion of V. Zhygir, the problem is associated with the contradictions between the content of tertiary education and its requirements. These requirements are formed by the needs and perspective trends of development both in the educational sector and in the state as a whole. First of all, the content of education is still characterized by relative instability, lagging behind the development of science, technology and production. The ratio of general and professional training of the future craft and technology teachers' is partially determined. The content of the curricula is characterized by the lack of variety while there exists the need for professionals with the most developed individual and creative abilities. At the same time, the author notes, that due to the lack of generalized scientifically credible recommendations, higher education institutions independently address all issues related to substantiating the content of the future craft and technology teachers' professional training. That is why all tertiary curricula differ in structure and content. This situation is also characteristic of educational programs [1].

N. Skachkova highlighted a number of directions for updating the content of the future craft and technology teachers' professional training. They are the following: enhancement of variability, differentiation, individualization and instructional design; facilitation integrity, consistency and integrity with the general and technological

culture of the modern professional; formation of ideology of interconnection of social advancement, personality and content of education; transition to a variety of educational programs as a prerequisite for a real choice of individual educational paths according to the needs and capabilities of the individual; increasing the autonomy and independence of educational establishments in the electives choice [2].

According to S. Korotkov and N. Shevtsov, important components of the content of the future craft and technology teachers' professional training should also be: creative projects; design and ethno-cultural components in the content of the professional training curricula namely the disciplines of technological cycle; advanced modern technologies of various materials processing, production and information technologies, etc. [3].

O. Pyskun considers the artistic and design training of the craft and technology teacher with the help of systemic, personal and activity approaches. These approaches predetermine a number of principles of the future teachers training. Apart from the classical ones, the following principles are employed: the principle of professional training humanization, the principle of educational dialogue, the productivity principle, the principle of personal goal setting, the principle of educational reflection, the principle of variety of forms, methods and means of training. The researcher also underlines the importance of the specific principles of the artistic and design training (the classical principle of visualization, the principle of practical orientation of the educational content, the principle of the aesthetic integrity of the educational environment) [4, pp. 122-124].

Taking into account the views of scholars on teacher education, the future craft and technology teachers' professional training can be considered as a subsystem having specific regularities (parameters, criteria, levels) within the professional training system. The emergence, creation and functioning of the future craft and technology teachers' professional training system are preceded by a certain purpose, which expresses the needs and requirements of modern society. Specification of this purpose is carried out through the model of the future specialist. We also support V. Shakhov's opinion and believe that designing the structure and content of the craft

and technology teacher's training on the basis of a systematic approach will allow to analyze and take into consideration the interrelation of facts and phenomena of the pedagogical process, as well as the interaction of teaching and learning situations and components [5].

A number of synergetic precepts methodologically relevant to the education technologizing process will be taken into consideration in the development of the craft and technology teachers' training technology. These synergetic precepts are the following: a person independently forms the boundaries of self-development; the personal development is not a spontaneous process, it permits pedagogically competent regulation; the leadership influence must be humane and take into account the peculiarities of the student's consciousness and consider it as the main personal value; management of the educational process should be aimed at self-organization of the individual and promote its development; the educational process must be technological; professional training at higher education institutions should be aimed at the social self-development of the individual, promote the development of students as professionals, increase their social adaptability and initiate their creativity. The effectiveness of these tasks fulfilling depends largely on the pedagogical technologies that are a constituent part of a systematic way of thinking in pedagogy. An acmeological approach has been chosen as a methodological guideline for the craft and technology teachers' training in order to create a special «acmeological environment». That is an environment of comfortable teaching and learning which stimulates the pursuit of self-realization, creativity, success and reflection.

Research on the professional activity of the craft and technology teachers testifies to the presence of a number of problems associated with their professional training. The problems include difficulty in choosing the forms and methods of teaching high school students the textile crafts; misuse of the educational and developmental potential of the students' extra-curricular creative activity; lack of practical skills in contending with modern software used for designing clothes (CAD clothing). Besides, the school material base does not meet the requirements of the organization of a specialized training in the textile crafts and students have no interest in this

technological area in particular.

The conducted analysis of Ukrainian and foreign modern researches in the field of competence oriented education, led to the conclusion that a special competence is a generalized indicator of the craft and technology teachers' professional training. The special competence is interpreted as an integrated individual characteristic comprising knowledge, practical skills, ability for professional activity, and consisting of art and design, production and technological, methodological components. In the structure of the art and design component we have distinguished such constituent parts as: production, prognostic, terminological, design, graphic and constructive, technological and control competences. The production and technological component includes: production, prognostic, terminological, graphic, technical, technological and operational, control competences. The methodical component is represented by design and modeling, management, technological, controlling and evaluation components. The elements of the methodological, art and design, production and technological components of a special competence can be divided into general (activity tasks characterize both art and design competence and production and technological competence) and specific (typical for specific activities).

The scientific papers analysis made it possible to distinguish a number of pedagogical conditions. In our opinion, they will promote the efficiency of the craft and technology teachers' professional training. The pedagogical conditions are the following: systematic and expedient development of the students' positive motivation to study and teach the textile crafts, as well as the development of their ability to self-analysis and self-assessment of design and technological activities; scientific designing of the content and structure of the future craft and technology teachers' professional training, which will correspond to the modern level of technological education and garment production development; the use of active and interactive forms and methods of the future teachers' theoretical and practical training to teaching of high school students to design and create garments.

While planning the experiment, we assumed that the pedagogical conditions'

implementation was aimed at: increasing the professionalism of the future craft and technology teachers; increasing the level and strength of obtaining knowledge and mastering skills in the process of an individual study; creation of a person-oriented education process and individual conditions for working with the educational information; development of the students' critical thinking, creative and search skills. While diagnosing the special competence development of the future craft and technology teachers the criteria, indicators and levels of its development (high, sufficient, average, low) were defined and used.

The first pedagogical condition implementation was ensured by introducing the students to the structure and functioning peculiarities of the garment production, modern equipment and technological processes of creating clothes during visits to the enterprises; involvement in the creation and production of the clothes collections; student participation in model contests and various exhibitions, discipline competitions; communication with experts, professionals, graduates, etc. The use of portfolio technology, project technology and the «Logbook» technology of the critical thinking development helped to support and stimulate both the student's educational motivation and the development of self-analysis and self-assessment of design and technological activity, the ability to organize and manage their own cognitive activity.

The second pedagogical condition implementation was ensured by the content and structure design of the future craft and technology teachers' training. The second pedagogical condition was based on the study of the basic level of theoretical knowledge, determined in the result of the analysis of the 10-11 grades educational program for technological profile and the current state of the garment production development. The curriculum designing technique presented in the author's special course «Basics of Garment Production» (hierarchy and content structure and educational material sequence) was based on the principles of systems construction and the graph-matrix method of constructing a structural-semantic model of educational material synthesized by T. Yashchur and G. Sazhko. The above mentioned method involves a successive implementation of the following stages:

creating a concepts graph and a relationships matrix; analysis of the graph for the detection of «contours» and «autonomous» vertices; decomposition of the graph into layers and its transformation into a tier-parallel form; graph analysis in order to determine the logical chains of the educational material presentation by topics.

The implementation of the third condition became possible due to the use of a number of active and interactive technologies during the teaching of professional disciplines. The following technologies were effectively used: credit and modular, project, problem-based learning, context, technology of concept cards (Memory Cards), information and communication technologies, as well as the aforementioned Logbook and Portfolio.

The summative diagnostics according to the motivational and axiological criterion was performed by means of questionnaires: diagnostics of professional activity motivation (according to the method «Motivation of Professional Activity» by K. Zamfir in A. Rean's interpretation); diagnostics of educational activity motivation (according to the method «Study of Educational Activity Motives», modification of A. Rean, V. Yakunin); diagnostics of professional values (according to the method of «Professional Values Ranking» by O. Nozhenkin and the method «Determination of Value Orientation» by M. Rokych).

The summative diagnostics according to the cognitive criterion was performed by means of testing at the end of each module (thematic control) and assessment of complex test paper written by students at the end of the course. The other means of diagnostics included students' portfolio at the end of the course «Basics of Garment Production», the block of situational tests of the state comprehensive qualification examination comprising the professional knowledge in textile crafts. The designing of binary actions of the educational process participants (actions of teachers and students) at one of the stages of the lesson according to the suggested psychological and pedagogical characteristics (during the state comprehensive qualification examination) also turned to be rather effective mean of diagnostics.

The summative diagnostics according to the activity criterion was performed by means of observing students' performance of educational tasks and expert evaluation

of the educational and creative products quality during laboratory / practical work; individual calculation and graphic tasks; students' technological and teaching practices; course researches. Assessment of the practical part of the state examination for the Bachelor's Degree. The summative diagnostics according to the reflexive and evaluative criterion was conducted through the observation, as well as students and teachers' assessment of the reflexive skills development.

Diagnostics of the students' readiness for teaching the textile crafts at high school during the summative stage of experiment demonstrated the overall average level of the special competence components development. The data analysis shows that only 15.37% of students have a high level, 32.22% have a sufficient level, 26.76% have an average level and 25.65% have a low level.

The summative experiment results, as well as the results of generalizing the experience of the future craft and technology teachers' training, led to the assumption that the average level of the special competence is due to several factors. The principal one is the insufficient influence of traditional teaching methods, means, forms, technologies and the traditional approach to the formation of the discipline content on the educational and cognitive activity of students. Therefore, the existing system of the future craft and technology teachers' training is not sufficiently oriented to the formation of the special competence and its components: methodological, art and design, production and technological. Taking into account the results of the summative experiment, as well as the results of the scientific and methodological literature theoretical analysis, we have developed the model of the craft and technology teachers training to teaching the textile crafts. The model was built according to the systematic and student-centered approaches. The educational content has also been improved. The efficiency of the developed model and the educational content was ensured by the stated pedagogical conditions of the future craft and technology teachers training.

At the stage of the forming experiment, training in experimental groups was carried out on the basis of the developed model and pedagogical conditions. Quantitative and qualitative processing of the results of the experiment showed positive changes in all

the criteria of special competence for the students of the experimental group. The most noticeable changes occurred in the activity and cognitive criteria of special competence formation for future labor education and technology teachers specializing in garment manufacturing. In addition, motivation for their future professional activity has increased significantly, the interest in teaching the basics of garment manufacturing to high school students has grown, the ability to generate artistic and design ideas, analytical skills and reflexive skills have improved. At the end of the experiment, the number of students with a high level of special competence in the experimental group was 10.9% higher than in the control group, while the number of students with a low level was 12.6% lower.

The future teachers also feel responsibility for: having knowledge and understanding of the nature of the curriculum and its development; planning coherent, progressive and stimulating teaching programs which match learners' needs and abilities; communicating effectively and interact productively with learners, individually and collectively; using assessment, recording and reporting as an integral part of the teaching process to support and enhance learning. Students' surveys also indicate a positive attitude to the content and structure of the special course material.

The quantitative and qualitative processing of the experiment results demonstrated positive changes by all criteria of the special competence development in the students of the experimental group. The most noticeable changes took place according to the activity and cognitive criteria. In addition, the motivation of the students' future professional activity has significantly increased. Their interest in the teaching the textile crafts at high school has grown substantially. The ability to generate creative design ideas, analytical and reflection skills have improved. Thus, the conducted study confirmed the hypothesis validity – the defined and verified pedagogical conditions provide higher results of the future craft and technology teachers' professional training. However, we would like to point out that the conducted study does not highlight all aspects of the future craft and technology teachers' professional training. Prospective directions for further study of this problem include optimization of content and structure of the future craft and technology teachers' training;

systematic application of innovative technologies in the training process; the use of computer software for the development and analysis of 3D sketches clothing models, design of technological processes in textile crafts etc.

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