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The System of Training Future Teachers for Organizing Extracurricular Activities of Pupils

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Abstract: The paper defines conceptual principles of future teachers' professional training in the context of organizing extra-curricular activities for pupils, which contain preliminary statements, methodological approaches (systemic, synergetic, competency-based, activity-oriented, developmental, personality-oriented, cultural, axiological), principles (general didactic and specific) of education. The professional training of future handicraft and technology teachers for organizing extra-curricular activities for pupils is analyzed based on its three stages: organization and motivation, practice and methods, activity and creativity. Given the professional activities of future handicraft and technology teachers, it is essential to distinguish their theoretical, practical and methodological training. The stages of training future handicraft and technology teachers for organizing extra-curricular activities for pupils are reinforced with the content of such training in higher education institutions. The levels of readiness of future handicraft and technology teachers for extracurricular activities can be identified through relevant indicators based on motivational-and-axiological, cognitive, activity-related and creative criteria. Both the qualitative and quantitative analysis of the experiment results shows that the obtained indicators confirm positive dynamics regarding developing readiness in future handicraft and technology teachers to organize extracurricular artistic-and-technical activities for pupils.

Keywords: *professional training; system of professional training; stages of training; types of training; future handicraft and technology teachers; extracurricular activities.*

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1. Introduction

Given the emergence of new principles of education development, there appears to be a need to train teachers who can develop their pupils' creative personality, nurture their skills, independence and cognitive activity in lessons and during extracurricular activities. Therefore, it is vital to reconsider approaches to teacher education in higher education institutions and improve the professional training of future teachers through expanding the ways of accomplishing professional tasks during non-school hours.

Such documents as Common European Principles for Teacher Competences and Qualification (2010) and Conclusions of the Council and of the Representatives of the Governments of the Member States on improving the quality of teacher education (2007) highlight the need to update conceptual principles of future teachers' professional training for organizing extracurricular activities for pupils.

An analysis of the current conditions for training future teachers for organizing extracurricular activities of pupils proves that it is crucial to update approaches, improve the content and methods of training teachers for accomplishing educational tasks during non-school hours, as well as enhance tasks, content and forms of extracurricular activities. Separation from formalism, changes in the education system of Ukraine and extracurricular activities require that general secondary and extracurricular education should cooperate, and teachers should coordinate their activities towards accomplishing educational tasks in lessons and during extracurricular activities of pupils. Extracurricular activities of pupils as an important component of the educational process, endowed with great potential for forming socially active and creative citizens and developing their inclinations and abilities, should be properly organized, and teachers should be willing to implement them. Therefore, they should have appropriate personal qualities, professional abilities and skills. This approach to the professional training of future teachers determines the relevance of this research and promotes the training of professionally competent teachers who can creatively accomplish professional tasks in an organic combination of curricular and extracurricular activities of pupils.

In this paper, extracurricular activities are interpreted as conscious and voluntary activity of pupils, students, teaching staff in the process of joint educational work in their study- or work-free time. The value of extracurricular activities is determined primarily by the fact that such activities can solve the issue of organizing pupils' free time, contribute to

meeting their comprehensive interests and activates cognitive processes. Besides, extracurricular activities are rather interdisciplinary and have a strong cognitive, educational and developmental potential.

Extracurricular activities of pupils are mostly related to sports, health, spiritual, moral, social, general intellectual, general cultural, artistic-and-technical areas (Government of Ukraine, 2000). The content of extracurricular activities is reflective of changes in education, art and technology rather than curricular activities. It can be explained by the voluntary participation of pupils in this type of activity. Thus, teachers need to take into account not only the needs of society but also the interests and needs of pupils and their parents to involve as many children as possible. In this regard, experienced teachers who organize extracurricular activities for pupils develop their programmes, which ensures the flexibility of content and its focus on deepening and improving the knowledge and skills developed in secondary schools. Extracurricular activities provide pupils with the opportunity to know about different professions, realize their inclinations for a certain type of activity and try themselves in one of the fields.

2. Literature review

Many scholars have attempted to analyze the issue of training future teachers for pedagogical activity in a multidimensional context. They indicate that teacher training should train future specialists to work with technically gifted pupils, thereby developing their creativity. As a result, it can facilitate the implementation of current trends in education and increase the effectiveness of relevant reforms (Anisimova & et al., 2017). Indeed, modern researchers consider the improvement of competitiveness and people's lives for updating approaches to training young people as potential specialists who will embody technical and economic reforms in the country (Sasova, 2011). However, it is important to train teachers to introduce innovations into the educational process and cultivate the creative potential of youth to implement updated approaches to youth training. Some studies address aspects related to the need for continuing teacher education (Fernandez, Alvarez, & Munoz, 2019), as well as the areas of teacher professional development regarding the use of educational technologies (Yang & Skelcher, 2019) so that teachers can continue to actively introduce advances in science and technology in their professional practice, taking into account the requirements of modern society. Nowadays, pedagogy is currently developing new forms and technologies for developing teacher

professionalism and, the basic criterion for assessing education quality is a competency-based approach (Luchaninova et al., 2020; Ramesh, & Krishnan, 2020). The researchers highlight the importance of developing health-promoting competency in teacher students since it can help to regulate study load, prevent fatigue, monitor pupils' health, physical and mental development, as well as develop and implement educational programmes for promoting a healthy style of living and preventing harmful habits (Khatuntseva et al., 2020). This approach is based on the principle of continuous education, which promotes teacher professionalism and operates through the involvement in extracurricular activities. Thus, extracurricular activities are seen as a specially organized process of transferring and mastering the characteristics of spiritual and material culture, as well as purposeful socio-cultural activity based on educational principles and aimed at achieving educational goals through mastering crafts (Akhmetshina et al., 2019). Extracurricular activities of pupils are an important component of the education system that influences the development of pupil personality (Ren, & Zhang, 2020), ensures the cooperation in problem-solving (Zambrano, Kirschner, & Sweller, 2019), as well as effective interaction between the participants in the educational process (Kajamaa, Kumpulainen, & Olkinuora, 2020), the formation and consolidation of the subject and interdisciplinary knowledge, which are rather long processes in terms of curricular and extracurricular activities (Anisimova, Sabirova & Shatunova, 2020). The authors of the paper believe that it requires the revision of the content, forms and educational technologies of teacher training; the justification of conceptual principles that would take into account the specifics of extracurricular activities (voluntary involvement of pupils in extracurricular activities; involvement of pupils of different ages and with different levels of training; fluctuating body of pupils). At the same time, scholars state that extracurricular activities of pupils require a considerable effort on the part of teachers, substantial time for preparation and relevant experience in organizing pupils' creative activities. Besides, they are unanimous that little attention is paid to the development of relevant skills during teacher training (Gray, & Lowe 2019). A study of scientific works shows that researchers focus on training teachers for classroom activities. In doing so, the authors of the paper believe that the potential of extracurricular activities is not being fully exploited. Indeed, working with gifted and average pupils is not normally limited to only classroom activities and requires additional effort on the part of the teacher and, therefore, an appropriate level of training for the organizing extracurricular activities. An analysis scientific works show that it is important to determine effective

factors in motivation towards teaching (Akar, 2019), to justify the content of teacher training and its implementation in the context of introducing new training programmes (Fujimura, & Mistilina, 2020), to search for new effective forms and methods of developing professional competency in future teachers in higher education institutions (Silvestri et al., 2019), to develop teachers' readiness to implement new educational programmes (Anisimova et al., 2020; Melnychuk et al., 2019), to implement personality-oriented approach to professional development of teachers by involving them in mentor programmes (Winter, Bressman, & Efron, 2020). The authors of the paper believe that to train professionally competent teachers, it is essential to consider this issue comprehensively, taking into account the peculiarities of the pedagogical activity, which is not limited only to classroom work. It also involves organizing extracurricular activities for pupils and necessitates the development of future teachers' readiness to organize such activities. The authors of the paper are certain that it is the justification of the system of training future teachers for organizing extracurricular activities of pupils, which presupposes the integrity of training for classroom and extracurricular activities, determines conceptual principles and effective forms, methods and educational technologies and can enhance the effectiveness of teacher training and professional performance.

3. Research methodology

3.1. The paper aims to justify the system of training specialists for organizing extracurricular activities for pupils on the example of future handicraft and technology teachers and empirically investigate its effectiveness by determining the levels of readiness of future specialists to organize extracurricular activities for pupils.

3.2. Participants

The research sample included 438 students majoring in "Secondary Education. Handicrafts Training and Technology" from the following higher education institutions: Khmelnytskyi National University, Taras Shevchenko Kremenets Regional Humanitarian Pedagogical Academy of Kremenets, Glukhiv National Pedagogical University of Oleksandr Dovzhenko, Pavlo Tychyna Uman State Pedagogical University. The pedagogical experiment was conducted between 2015 and 2019.

The participants were divided into control and experimental groups (hereinafter CG and EG). The sample population was determined by the

following formula to obtain reliable conclusions about the properties of the general population:

$$n = \frac{t^2 \cdot \omega\,(1-\omega) \cdot N}{\Delta^2 \cdot N + t^2\,(1-\omega) \cdot \omega} \qquad (1)$$

where *n* – the sample population (the research sample);

N – the general population;

ω – a fair share of the object under study; if there is no information about a fair share of the research sample, its values can be considered maximal, that is ω=0.5;

Δ– marginal error of the sample population, which indicates a certain probability of sampling accuracy and is determined by significance coefficient of *t;* if *t*=2, the probability of rejection of the sample population will be approximately 5 %, that is Δ=0.05.

Given that the sample population was formed in the early 2015-2016 academic year, the main statistical indicators were used to determine the general population for 2014. According to some statistical data, the enrollment of students majoring in "Secondary Education. Handicrafts Training and Technology" reached 1532 persons between 2014 and 2015.

In the context of the research, the calculation of the sample population is as follows:

$$n = \frac{2^2 \cdot 0{,}5\,(1-0{,}5) \cdot N}{0{,}05^2 \cdot N + 2^2\,(1-0{,}5) \cdot 0{,}5} = \frac{1532}{4{,}7025} = 326$$

The sample population should reach 326 persons to relate the conclusions of the experimental work to the general population with a probability of 95%. The sample population was increased to 438 persons to increase the accuracy of the experiment. After determining the sample population, CG and EG were formed, namely, 217 students from Pavlo Tychyna Uman State Pedagogical University, Glukhiv National Pedagogical University of Oleksandr Dovzhenko and 221 students from Khmelnytskyi National University, Taras Shevchenko Kremenets Regional Humanitarian Pedagogical Academy of Kremenets respectively.

CG and EG participants were first-, second-, third- and fourth-year students aged between 17 and 21 majoring in "Secondary Education. Handicrafts Training and technology" (a bachelor's degree).

CG and EG participants were first-, second-, third- and fourth-year students majoring in "Secondary Education. Handicrafts Training and technology" (a bachelor's degree). They were informed in advance about the experimental study and agreed to it. Thus, CG and EG participants were

selected based on the following criteria: 1) they are students majoring in "Secondary Education. Handicrafts Training and technology" (a bachelor's degree); 2) their average achievement score ranges from 3.75 to 5.0 (on a five-point scale); 3) they are aged between 17 and 21; 4) they voluntarily agreed to participate in the study. It must be acknowledged that ethical standards were observed for all the participants during the whole experiment. Permission for the research was obtained from academic councils of the higher education institutions mentioned above.

3.3. Research methods

Research methods include the following: theoretical methods: theoretical analysis, synthesis, comparison and generalization of scientific research in the field of psychology, professional pedagogy and methods of professional training; generalization needed to justify theoretical foundations of the research; empirical methods: observational methods (self-observation, observation and reflection), diagnostic methods (questionnaires needed to determine the level of readiness for extracurricular activities based on the motivational-and-axiological criterion; tests needed to determine the level of readiness for extracurricular activities based on the cognitive criterion; an analysis of results of activity needed to determine the level of readiness based on the activity-related and creative criterion), which have made it possible to generalize analytical material on the readiness of future handicraft and technology teachers for organizing extracurricular activities for pupils, modelling needed to visualize the system of professional training for future teachers for organizing extracurricular activities of pupils in employing models; mathematical processing of experimental data: graphic methods needed for visual representation, mathematical methods needed for processing the obtained data and establishing quantitative relationships between the phenomena and processes under study; mathematical statistics and computer data processing.

3.4. A model of the system of professional training for organizing extracurricular activities on the example of future handicraft and technology teachers

The authors of the paper have proposed and implemented a system of professional training for future teachers, which is visualized as a model based on the example of professional training for future handicraft and technology teachers, to develop the readiness for extracurricular activities in EG students. The model of such a system developed by the authors of the

paper consists of such blocks as targets, theory and methods, content and procedures, diagnostics and results (see Fig. 1).

The targets block contains the aim, which suggests developing the readiness in future handicraft and technology teachers to organize extracurricular artistic and technical activities of pupils, and outlines the focus of the educational process through tasks.

The theory and methods block contains methodological approaches and principles of the training. The main methodological approaches underlying the training of future handicraft and technology teachers for organizing extracurricular artistic and technical activities of pupils are the following: **systemic, synergetic, competency-based, activity-oriented, developmental, personality-oriented, cultural, axiological**. Principles of such training are conditionally divided into three groups: general didactic ones related to teacher training in general; specific didactic ones reflecting theoretical foundations that characterize the training of handicraft and technology teachers for organizing extracurricular activities of pupils; educational principles reflecting the educational potential of extracurricular activities.

The content and procedures block reflects the stages, content, pedagogical technologies and forms of professional training for future handicraft and technology teachers.

The diagnostics and results block covers methods for identifying the levels of readiness, criteria (motivational-and-axiological, cognitive, activity-related and creative) and levels (generative, productive, creative) of readiness and results of professional training for future handicraft and technology teachers for organizing extracurricular artistic and technical activities of pupils.

Fig. 1. A model of the system of professional training for organizing extracurricular activities on the example of future handicraft and technology teachers

TARGETS BLOCK

Aim: to develop the readiness in future handicraft and technology teachers to organize extracurricular activities of pupils

Objectives: 1) to stimulate positive motivation; 2) to gain theoretical knowledge; 3) to acquire practical skills of artistic and technical creativity; 4) to gain methodological experience of organizing extracurricular activities for pupils

THEORY AND METHODS BLOCK

Methodological approaches: systemic, synergetic, competency-based, activity-oriented, developmental, personality-oriented, cultural, axiological

Principles:

General didactic principles: educational nature of learning, scientific, continuity, systematicity, consciousness and activity

Specific principles: fundamentality, cooperative activity, interdisciplinarity, reflexivity, adaptability, ethnicization, continuity, optimism

Educational principles: purposeful educational influence, a combination of pedagogical leadership with student activity and initiative, complex educational influence, education in activity

CONTENT AND PROCEDURES BLOCK

Stages of professional training in higher education institutions

Organization and motivation → Practice and methods → Activity and creativity

Training content:

theoretical	Introduction to the Profession. Psychology. Pedagogy. Fundamentals of Physiology and Hygiene. Fundamentals of Theory of Craft. Arts and Crafts. Pedagogy of Higher Education
practical	Technologies for Processing Structural Materials. Technology Workshops. Non-Traditional Techniques for Processing Structural Materials with Practice. Technological Practice. Ethnographic Practice. Teacher Placement (Out-of-School and General Secondary Education).
methodical	Methods of Handicrafts. Theory and Methods of Educational Work. Theory and Methods of Career Guidance. Theory and Methods of Extracurricular Education. Theory and Methods of Extracurricular Activities. Pedagogical Skills.

Forms of training: classroom and extracurricular activities, independent work, research activities

Pedagogical technologies: design technology, ICTs, case technology, STEAM education

Methods of training: traditional methods; innovative methods (problem-based, research, game, design and technological activities), methods for developing experience of behaviour and public consciousness

The educational and methodical complex

DIAGNOSTICS AND RESULTS BLOCK

Methods of diagnostics → **Components of readiness**: personal, cognitive, → **Criteria of readiness**: motivational-axiological, cognitive, activity-related and creative → **Levels**: generative, productive, creative

Results: positive dynamics of readiness of future handicraft and technology teachers for organizing extracurricular artistic and technical activities of pupils

Given the characteristics of professional activities of future technology teachers, there are three stages in professional training of future handicraft and technology teachers for organizing extracurricular activities of pupils:

- organization and motivation (which aims to develop future teachers' needs for organizing and realizing the educational potential of extracurricular activities for pupils);
- practice and methods (which develops their professionally important qualities, professional knowledge, abilities and skills in organizing and conducting extracurricular activities of pupils);
- activity and creativity (which is focused on the enhancement of professional knowledge, abilities and skills in organizing extracurricular activities of pupils not only in typical but also in non-standard situations for their creative application).

The authors of the paper believe that the stages of training future handicraft and technology teachers for organizing extra-curricular activities for pupils should be reinforced with the content of such training in higher education institutions. Thus, they indicate that the professional training of **future handicraft and technology teachers should** encompass theoretical, practical and methodological training in higher education institutions. The authors' position on the implementation of these stages of training is justified below.

Theoretical training of **future handicraft and technology teachers** for organizing extracurricular activities of pupils should develop strategic knowledge (complex knowledge developed on an interdisciplinary basis as a component of professional competency of **future handicraft and technology teachers**). Theoretical training of future technology teachers suggests studying the following courses: a bachelor's degree – Introduction to the Profession; Fundamentals of Physiology and Hygiene; Psychology; Pedagogy; Fundamentals of Theory of Craft; Fundamentals of Scientific and Educational Research; Ethnography; Fundamentals of Representation; Arts and Crafts; Descriptive Geometry and Technical Drawing; Engineering Mechanics; Physics; Fundamentals of Electrical Engineering; Safety of Living; Material Engineering; Fundamentals of Ergonomics; Technical Creativity; Basics of Production; Computer Science; Computer Graphics; Information Technologies in Education; a master's degree – Pedagogy of Higher Education; Pedagogical Design; Pedagogical Diagnostics; Pedagogical Interaction in Professional Activity; Methodology and Organization of Scientific Research; Symbolism in Arts and Crafts; Theory of Ornament, The History of Arts and Crafts.

According to this research, practical training of **future handicraft and technology teachers** for organizing extracurricular activities of pupils should be ensured by:

- the focus of practical tasks on future professional activity and requirements for training **future handicraft and technology teachers** for organizing extracurricular activities of pupils at the current stage;
- consistency and continuity of practical training, which implies complicating the content, forms and methods of such training and tasks during teacher placement;
- a complex nature of practical training, which predicts the unity of educational, developmental and educational goals, their focus on achieving the common goal;
- a close interrelation between theoretical, practical and methodological training of **future handicraft and technology teachers** for organizing extracurricular activities of pupils;
- using modern pedagogical technologies, traditional and innovative technologies for processing structural materials during practical training of students;
- involving experienced leaders of extracurricular educational institutions and secondary school teachers in the supervision of practical training;
- presenting the results of practical training during department seminars and exhibitions

Practical training covers the following courses: a bachelor's degree – Technologies for Processing Materials with Practice; Artistic Processing of Materials; technological practice, teacher placement in extracurricular and general secondary education; a master's degree – Non-Traditional Techniques for Artistic Processing of Materials with Practice; teacher placement in higher education institutions.

Methodical training includes the following courses: a bachelor's degree – Theory and Methods of Extracurricular Education; Theory and Methods of Educational Work; Methods of Handicrafts Training; Theory and Methods of Career Guidance; "Technical Drawing (a School Course) and Its Methods of Teaching; a master's degree – Theory and Methods of Specialized Technological Training; Theory and Methods of Extracurricular Activities; Pedagogical Skills; Methods of Teaching Computer Science.

Professional training of **future handicraft and technology teachers** for organizing extracurricular activities of pupils suggests using such pedagogical technologies as design technology, ICTs, case technology, STEAM education.

The main forms of training fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils include classroom and extracurricular activities, independent work, research activities. The main methods contributing to such training are traditional (verbal, visual and practical) and innovative methods (problem-based, research, game, design and technological activities, portfolio), methods for developing experience of behaviour and public consciousness

3.5. The methodology of the pedagogical experiment

The pedagogical experiment was conducted between 2015 and 2019 in Khmelnytskyi National University, Taras Shevchenko Kremenets Regional Humanitarian Pedagogical Academy of Kremenets, Glukhiv National Pedagogical University of Oleksandr Dovzhenko, Pavlo Tychyna Uman State Pedagogical University. It consisted of the ascertaining and formative stages.

The ascertaining stage (2015-2016) of the pedagogical experiment involved identifying the existing level of readiness of **future handicraft and technology teachers** for organizing extracurricular activities of pupils. At this stage, the components, criteria and indicators and levels of readiness of **future handicraft and technology teachers** for organizing extracurricular activities of pupils were determined; CG and EG were formed; methods for identifying the components of readiness of **future handicraft and technology teachers** for organizing extracurricular activities of pupils were selected; the existing level of readiness of fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils was identified; the system for fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils was developed.

The formative stage (2017-2019) of the pedagogical experiment suggested implementing the system of training **future handicraft and technology teachers** for organizing extracurricular activities of pupils and determining its effectiveness. At this stage, the effectiveness of the system of professional training for fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils was experimentally verified; the results of implementing the system of professional training for fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils were analyzed through determining the level of readiness of fu**ture handicraft and technology teachers** for organizing extracurricular activities of pupils.

CG students continued their higher education study without any changes to the training process. Academic councils of the higher education

institutions where EG students studied allowed changes to the content of their training, namely, the introduction of such courses as Arts and Crafts, Non-Traditional Techniques for Artistic Processing of Structural Materials, Theory and Methods of Extracurricular Activities, as well as teacher placement in out-of-school education. It must be acknowledged that their training was focused on the use of such pedagogical technologies as design technology, ICTs, case technology and STEAM education.

The level of readiness of fu**ture handicraft and technology teachers** for extracurricular activities was determined based on motivational-and-axiological, cognitive, activity-related and creative criteria.

The authors of the paper have first proposed indicators for determining the level of readiness for extracurricular activities based on the motivational-and-axiological criterion, which include an internal need for organizing and involving pupils in extracurricular activities, a certain interest in extra-curricular activities of pupils, core values. Each indicator of the motivational-and-axiological criterion was determined using a separate methodology.

The motives for choosing activities methodology was applied to assess the internal need for organizing and involving pupils in extracurricular activities. This is because the success of professional training depends on students' motivation and their need to organize and implement certain activities. The paper suggests

evaluating a degree of influence of certain factors on their choice of activity to determine the types of these motives based on the following scale: 5 – very strong influence; 4 – strong influence; 3 – medium influence; 2 – slight influence; 1 – no influence. These factors considered what influenced a student's choice of extracurricular activities as such that he or she would like to organize: their preferences and interests; the desire to create something new with their pupils; the influence of others (friends, parents); financial factors.

The level of interest in extracurricular artistic and technical activities was determined using the map of interests methodology. It is precisely the interests that influence the focus of educational and cognitive activities. Therefore, students needed to evaluate their attitude towards different activities, including extracurricular ones. In this regard, they were offered to choose from a list of statements according to their interests. Depending on the number of points scored, one can see whether students are or are not interested in artistic and technical extracurricular activities, which fu**ture handicraft and technology teachers should implement in their professional activity. Thus,** 5 points indicated a strong interest in the

activity. The lower the score, the less interested was the student. If the sum of points does not exceed 2 points, professional interests in artistic and technical activity have not yet been developed. The following statements (4 or 5 points) confirm the existence of the interest in extracurricular activities: visiting arts and crafts exhibitions; taking interest in the construction of household electrical and radio devices; making art objects; reading articles in popular science magazines about advances in radio engineering; decorating interior products; repairing household electrical and radio devices; engaging in embroidery or woodcarving; showing interest in the theory and history of the development of arts and crafts; assembling radio and electrical appliances.

Core values of future teachers were determined using the Rokeach values survey (RVS). The RVS has made it possible to highlight and single out the values of fu**ture handicraft and technology teachers**. To this end, students were offered two lists of values (terminal and instrumental) to rank them by a degree of significance. Thus, terminal values reflect such values as active life (fullness and emotional saturation of life); life wisdom (maturity of judgment and common sense attained through life experience); health (physical and mental); an interesting job; the beauty of nature and art (experiencing the beautiful in nature and art). Instrumental values focus on the following ones: upbringing (good manners); high expectations for one's life; a sense of humour; discipline; independence (ability to act independently, decisively); zero tolerance to shortcomings in oneself and others.

The authors of the paper have first proposed certain indicators developing readiness for extracurricular activities according to the cognitive criterion, which include the knowledge about the content, characteristics and areas of organization of extracurricular activities for pupils; the knowledge about the types of structural materials and technologies for their processing; the knowledge about types and characteristics of documents on extracurricular activities of pupils; the knowledge about forms and technologies for implementing extracurricular activities for pupils; the knowledge about stimulation and activation of training, character building, artistic and technical creativity of pupils in the process of organizing extracurricular activities; the knowledge about the characteristics and technologies of pupils' design activities in the context of artistic and technical creativity. These indicators were determined collectively by using test tasks prepared by the authors. The test field contained 50 test tasks, and the number of 47-50 correct answers indicated a high level of knowledge;

39-46 correct answers – a sufficient level of knowledge; 38 and less correct answers – a low level of knowledge.

The development of readiness for extracurricular activities based on the activity-related and creative criterion can be determined by the following indicators, first proposed by the authors: ability to define goals and choose optimal forms, technologies and methods of pupils' activity, taking into account their personal characteristics; ability to distinguish between construction materials, choose effective technologies for their processing and produce objects with its use; ability to interact productively with the participants in artistic and technical activities of pupils (pupils, their parents, colleagues, representatives of extracurricular organizations and secondary schools); ability to organize, coordinate and direct pupils' activities while implementing creative projects during extracurricular activities; ability to keep necessary documentation during extracurricular activities of pupils; ability to adjust one's activities based on reflection. These indicators were revealed when fourth-year students were engaged in teacher placement in secondary schools where they acted as leaders of school clubs. Besides, they were offered to do the following tasks: to construct scenarios of visits to museums; to construct scenarios of visits to exhibitions of arts and crafts; to construct scenarios of themed evenings dedicated to arts and crafts or design; to prepare safety instructions for introductory instruction, taking into account areas of clubs' activities; to prepare a thematic plan of clubs' programme for a certain kind of arts and crafts; to prepare and decorate posters about the recruitment of club members; to prepare a year-long thematical plan of activities of clubs; to prepare summaries of an introductory class for the geometrical carving club.

The results of their implementation in the real educational process have made it possible to establish the level of readiness for extracurricular activities according to the activity-related and creative criterion.

The paper has also employed the level approach to determine the dynamics of development of readiness criteria, which involves developing professionally important qualities in future specialists, helping them to acquire a certain system of knowledge and skills and facilitating the transition of students from lower to higher levels. The level approach is based on a mechanism for improving a certain entity through developing its interconnected structural components.

Given the characteristics of extracurricular activities, the readiness of fu**ture handicraft and technology teachers** for extracurricular activities of pupils consists of three levels: generative, productive and creative.

The generative level proves a proper development of an internal need for organizing and involving pupils in extracurricular activities at a low level, a predominance of external motives and a lack of sustained interest in extracurricular activities and creativity in general. The development of knowledge and skills are at the generative level. In this case, activities are characterized by imitation and performance of actions by sample. Moreover, there is no need for self-improvement based on the results of reflection.

The productive level of readiness of fu**ture handicraft and technology teachers** for extracurricular activities of pupils is characterized by some interest in extracurricular activities of pupils and a need to involve pupils in this activity. Students can keep educational and methodical documentation, define goals, choose forms and methods of artistic and technical activities of pupils, which ensure the realization of goals. In this case, activities are of generative and creative nature, presented situationally and requiring additional stimulation.

The creative level demonstrates both the need and sustained interest in organizing extracurricular activities of pupils, as well as in creating new artistic and technical objects. Students have fundamental knowledge about the content, characteristics, areas, forms and methods of organizing extracurricular activities. Also, they can clearly define goals, choose optimal forms, methods of involvement in artistic and technical activities, keep the necessary educational and methodical documentation, organize pupils' activities during the implementation of creative projects in compliance with the rules of safety and hygiene and self-improve based on the results of reflection.

4. Results

4.1. Results of theoretical research

Conceptual principles of training future teachers for extracurricular activities of pupils in higher education institutions

The authors of the paper have justified the following conceptual principles of training future teachers for extracurricular activities of pupils in higher education institutions:

- pedagogical activities of teachers imply realizing different forms of classroom and extracurricular activities, which require a close interaction between secondary schools and extracurricular education;

- extracurricular activities of pupils are rather integrated due to a multidimensional character of areas of these activities and are aimed at education and comprehensive development of the personality of every pupil;

- a methodological basis of organization and methods of professional training for future teachers for organizing extracurricular activities of pupils covers such approaches as systemic (for presenting professional training of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** as a holistic system), synergetic (for reflecting professional training of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** as open systems capable of organization and development), competency-based (for reflecting the results of such training under the requirements for professional activity), activity-oriented and developmental (for involving fu**ture handicraft and technology teachers** in extracurricular activities both during practical classes and teacher placement to develop abilities and skills), personality-oriented (for studying personal characteristics of students during their training for extracurricular activities and revealing a creative potential and capabilities for such activities), culturological (for developing pedagogical and technological culture in fu**ture handicraft and technology teachers** as components of their general culture), axiological (for developing general national and universal values while training fu**ture handicraft and technology teachers** for extracurricular activities);

- professional training of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** involves implementing general didactic (educational nature of learning, scientific, continuity, systematicity, consciousness and activity) and specific (fundamentality, cooperative activity, interdisciplinarity, reflexivity, adaptability, ethnicization, continuity, optimism) principles, as well as educational principles (purposeful educational influence, combination of pedagogical leadership with student activity and initiative, complex educational influence, education in activity);

- professional training of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** is a consistent process that takes place at such stages of implementation of the system as organization and motivation, practice and methods, activity and creativity stages, which combines theoretical, practical and methodical training;

- professional training of future teachers for organizing extracurricular activities of pupils implies using modern pedagogical and production technologies, as well as teaching methods, taking into account the educational potential of extracurricular activities;

- the readiness of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** ensures the effectiveness

of their pedagogical activity and professional training of these specialists in general.

The characteristics of pupils' extracurricular activities, as well as their cognitive, educational and developmental potential, play an important role in training future teachers for organizing extracurricular activities of pupils. The readiness of future teachers for organizing extracurricular activities of pupils is viewed as an integrative component of personality, characterized by structural integrity and systematicity. Besides, it contains personal, cognitive, operational components, whose development level enables future teachers to effectively perform professional tasks in the organization of extracurricular activities of pupils.

4.2. Results of empirical research

Based on motivational-and-axiological, cognitive, activity-related and creative criteria, a comparative analysis of the summarized results in CG and EG at ascertaining and formative stages of the experiment based on the levels of readiness for organizing extracurricular activities of pupils allows one to confirm the effectiveness of the justified stages of professional training for fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils** (see Table 1).

Table 1 – Levels of readiness of fu**ture handicraft and technology teachers for organizing extracurricular activities of pupils in CG and EG** (%)

Levels	Groups					
	CG (n=217)			EG (n=221)		
	Ascertaining stage	Formative stage	Difference	Ascertaining stage	Formative stage	Difference
	%	%	%	%	%	%
1	*2*	*3*	*4*	*5*	*6*	*7*
	based on the motivational-and-axiological criterion					
Creative	8.53	12.44	3.91	8.37	19.91	11.54
Productive	42.51	54.38	11.87	44.79	56.56	11.77
Generative	48.96	33.18	- 15.78	46.84	23.53	-23.31
	based on the cognitive criterion					
Creative	6.45	13.00	6.55	6.06	18.19	12.13
Productive	35.76	49.86	14.10	36.20	56.02	19.82
Generati	57.79	37.14	-20.65	57.74	25.79	-

ve						31.95
	based on the activity-related and creative criterion					
Creative	8.06	13.74	5.68	7.92	19.91	11.99
Productive	41.93	55.07	13.14	43.21	59.73	16.52
Generative	50.01	31.19	-18.82	48.87	20.36	-28.51

The summarized results of the experiment dedicated to the verification of the effectiveness of a stage-based system for training future handicraft and technology teachers for organizing extracurricular activities of pupils are presented in Fig. 2.

At the formative stage of the pedagogical experiment, the number of students who have sustained interest in extracurricular activities has dramatically increased. Besides, they are focused on achieving success in creativity, able and ready to develop programmes for organizing extracurricular activities of pupils, lesson notes and visual aids. The results of the experiment have confirmed the educational potential of extracurricular activities of pupils by indicators of determining the dynamics of social training of future handicraft and technology teachers. The pedagogical experiment has also realized conceptual principles of reflecting theoretical and methodological principles of training future handicraft and technology teachers for organizing extracurricular activities of pupils.

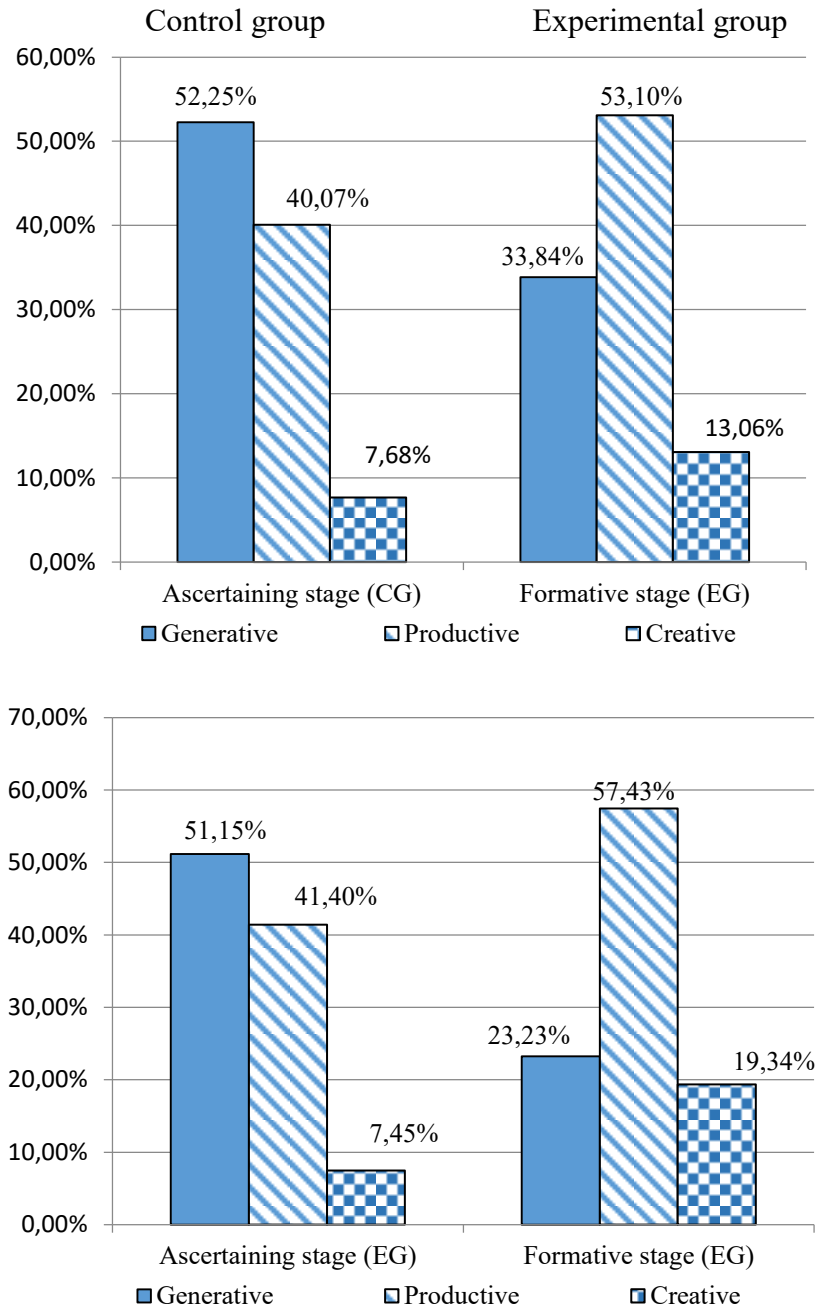


Fig. 2. Dynamics of levels of CG and EG students' readiness for organizing extracurricular activities of pupils (%)

Discussion

A comparative analysis of the results obtained in CG and EG at the formative stage of the research based on the motivational-and-axiological criterion shows significant positive changes. The number of students with a creative level of readiness for organizing extracurricular activities of pupils in EG based on the motivational-and-axiological criterion is equal to 19.91%, which is 11.54% more in comparison with the results of the ascertaining stage. The number of students with a productive level of readiness for organizing extracurricular activities of pupils is equal to 56.56%, which is 11.54% more in comparison with the results of the ascertaining stage of the experiment. The number of students with a generative level of readiness for organizing extracurricular activities of pupils is equal to 23.53%, which is 23.08% less than at the ascertainment stage. The differences between CG and EG based on the motivational-and-axiological criterion at the formative stage of the experiment are statistically significant ($\chi 2=7.469$), do not go beyond the boundaries and are at the level of $0.05\leq \rho \leq 0.01$ ($5.991\leq 7.469 \leq 9.21$). The differences between the control and experimental groups at the formative stage of the study by the cognitive-cognitive criterion are statistically significant ($\chi 2=7.167$), do not exceed the limits and are at the level of $0.05\leq\rho\leq0.01$ ($5.991\leq7.167\leq9.21$). The differences between CG and EG based on the activity-related and creative criterion at the formative stage of the experiment are statistically significant ($\chi 2=7.867$), do not exceed the limits and are at the level of $0.05\leq\rho\leq 0.01$ ($5.991\leq 7.867\leq 9,21$). This proves the accuracy of the obtained data.

A comparative analysis of the results in CG and EG at the formative stage of the experiment based on the cognitive criterion concludes that the increase in the indicators of creative and productive levels and the decrease in the generative level are more pronounced in EG. The increase in the creative level of EG indicators is 5.19% more than that in CG. The increase in the productive level of EG indicators is 6.16% more than in CG. Finally, the increase in the generative level of EG indicators is 11.35% less than in CG.

Also, such an analysis of CG and EG results at the formative stage of the experiment based on the activity-related and creative criterion indicates significant positive changes. Indeed, the number of students with the creative level of readiness for organizing extracurricular activities of pupils in EG is equal to 19.91%, which is 11.99% more in comparison with the results of the ascertaining stage. The number of students with the productive level of readiness for organizing extracurricular activities of

pupils is equal to 59.73%, which is 16.52% more than in comparison with the results of the ascertaining stage. The number of students with the generative level of readiness for organizing extracurricular activities of pupils is equal to 20.36%, which is 28.51% less than at the ascertaining stage.

The obtained results of the pedagogical experiment prove the effectiveness of the justified stages of professional training for future handicraft and technology teachers for organizing extracurricular activities of pupils, as well as the developed model of the system presented in Figure 1. The presented model of the system has scientific value, which lies in justifying and identifying conceptual principles of professional training of students: principles and methodological approaches to improving professional training of future handicraft and technology teachers in higher education institutions. The implementation of the model has made it possible to identify the most effective forms, methods and technologies of teaching, which ensure the development of future teachers' readiness to organize extracurricular activities of pupils. The proposed model of professional training for future handicraft and technology teachers, as evidenced by the experimental data, allows one to improve teacher training for organizing extracurricular activities as a whole and not only for handicraft and technology teachers since the basic conceptual and theoretical principles (methodological approaches, principles, forms, methods, educational technologies) should be to incorporated in the general system of teacher training.

The scientific value of the research lies in justifying the content of professional training for future handicraft and technology teachers to organize extracurricular activities of pupils and identifying its main stages (organization and motivation, practice and methods, activity and creativity), determining levels of readiness for extracurricular activities based on **motivational-and-axiological, cognitive, activity-related and creative criteria and** improving methods for identifying readiness of future handicraft and technology teachers to organize extracurricular activities of pupils. The practical value of the research implies developing the model of professional training for future handicraft and technology teachers to organize extracurricular activities of pupils as a means of visualizing these specialists' training, programmes of educational courses specified in the model which ensure theoretical, practical and methodological training of future handicraft and technology teachers to organize extracurricular activities of pupils. The authors of the paper have improved the content of certain courses (Methods of Handicrafts; Pedagogy; Fundamentals of the Handicrafts Theory; Technical Creativity; Information Technologies in

Education; Theory and Methods of Educational Work; Pedagogical Skills; Pedagogical Interaction in Professional Activities) by introducing topics that highlight the features of extracurricular activities organization, introduced a new course "Theory and Methods of Extracurricular Activities" was introduced, developed and implemented relevant syllabi to it, as well as a course of lectures and methodical recommendations for practical classes for students. The practical value of implementation of the proposed model consists in the fact that teacher training was aimed at familiarizing students with production and technological processes, various types of decorative art through the introduction of such courses as Fundamentals of Production, Arts and Crafts, "Non-Traditional Techniques for Artistic Processing of Structural Materials, which has made it possible to fully use the educational and developmental potential of extracurricular activities. The realization of the proposed tasks in the process of the model's implementation regarding the development of educational activities (trips, thematic evenings, exhibitions), educational and methodological documentation of extracurricular activities, in particular clubs (the author's programme of clubs' activities, syllabus notes, visual aids) has developed students' readiness for professional activities.

5. Conclusions

One of the priorities of modern secondary and extracurricular education is the creation of relevant conditions for the personal development of every student and the cultivation of his or her active role in the educational process. The realization of extracurricular activities is the basis for the comprehensive development of pupils. Being a set of different activities, extracurricular activities offer great opportunities for positive influence on learners and serve as an independent sphere of teachers' educational work, which is realized in connection with educational work in the lesson. Therefore, the training of future teachers for organizing extracurricular activities of pupils is of particular relevance today. In this context, professional training of future teachers for extracurricular activities should be considered as a purposeful process of developing professional knowledge, abilities, skills, personal qualities, gaining professional experience, focused on personal development and creative self-realization in professional activity.

Based on the example of future handicraft and technology teachers, the paper presents a system of professional training for organizing extra-curricular activities of pupils, which consists of the following stages:

organization and motivation (for developing future teachers' needs for organizing and realizing the educational potential of extracurricular activities of pupils); practice and methods (for developing future handicraft and technology teachers' professionally important qualities, professional knowledge, abilities and skills in organizing and implementing extracurricular activities of pupils); activity and creativity (for improving professional knowledge, abilities and skills in organizing extracurricular activities of pupils not only in typical but also in non-standard situations for their creative application). The realization of these stages includes theoretical, practical and methodical training. Theoretical training involves developing strategic knowledge (complex knowledge developed on an interdisciplinary basis as a component of professional competency of future handicraft and technology teachers. The main forms of theoretical training are lectures (binary, problematic, interactive). Practical training takes place during practical (seminars) and laboratory classes, teacher placement. Methodological training of future handicraft and technology teachers is reinforced by courses on teaching methodology, during which students learn forms and methods of teaching, modern pedagogical technologies. Besides, they learn how to develop didactic means of teaching and monitoring of educational achievements, as well as educational and methodological documentation. It must be acknowledged that the justified stages and types of training for extracurricular activities can be implemented in the process of training future specialists, regardless of their specialty.

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