



APPLICATION OF INTERACTIVE METHODS AND TECHNOLOGIES IN TEACHING ART DISCIPLINES

APLICACIÓN DE MÉTODOS Y TECNOLOGÍAS INTERACTIVAS EN LA ENSEÑANZA DE DISCIPLINAS ARTÍSTICAS

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ABSTRACT

The article reveals the content, types of interactive methods, and technologies of the educational process of higher education. The role of independent work in preparing future specialists in art specialties for the application of interactive techniques and technologies is shown. The main advantages of using interactive methods and technologies in teaching art disciplines in the distance-face-to-face form of the educational process are clarified. Theoretical and methodological tasks are proposed using interactive methods and technologies in distance learning of future specialists in art specialties. The importance of mobile learning for training specialists, the combination of mobile applications, online platforms, and social networks, and the use of interactive textbooks, QR codes, etc., which are modern interactive technologies, are emphasized. We tested the effectiveness of the

implementation of the developed methodology, which included the proposed pedagogical conditions, a special course with the help of which it is possible to qualitatively improve the readiness of future specialists to use interactive technologies, methods in teaching, and future professional activities.

Keywords:

Interactive methods and technologies, Future specialists in artistic specialties, Readiness, Teaching of artistic disciplines, Higher education institutions.

RESUMEN

El artículo revela el contenido, los tipos de métodos interactivos y las tecnologías del proceso educativo en la educación superior. Se muestra el papel del trabajo independiente en la preparación de futuros especialistas en



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especialidades artísticas para el uso de métodos y tecnologías interactivas. Se han identificado las principales ventajas de utilizar métodos y tecnologías interactivas en la enseñanza de las disciplinas artísticas en la modalidad presencial-a distancia del proceso educativo. Se proponen tareas teóricas y metodológicas utilizando métodos y tecnologías interactivas en la formación a distancia de futuros especialistas en especialidades artísticas. Se destaca la importancia del aprendizaje móvil para la formación de especialistas, la combinación de aplicaciones móviles, plataformas online y redes sociales, el uso de libros de texto interactivos, códigos QR, etc., que son tecnologías interactivas modernas. Probamos la efectividad de la implementación de la metodología desarrollada, que incluyó las condiciones pedagógicas propuestas, un curso especial, con cuya ayuda es posible mejorar cualitativamente la preparación de los futuros especialistas para utilizar tecnologías interactivas, métodos en la enseñanza y futuras actividades profesionales.

Palabras clave:

Métodos y tecnologías interactivas, Futuros especialistas en especialidades artísticas, Preparación, Enseñanza de disciplinas artísticas, Instituciones de educación superior.

INTRODUCTION

High competition in the labor market among graduates of higher education, integration of the higher education system into the European educational space, and rapid political, socio-economic, innovative, and educational transformations in the life of society require the renewal and innovation of the process of professional training of specialists in higher education institutions through a shift in the emphasis of pedagogical activity on the formation of competitive professionals, who have a pronounced need for acquiring professional experience, achieving success, self-realization, creative self-expression, who are capable of living and working in a changing world.

The professional activity of any specialist is full of both familiar and changing, unplanned situations that require making an operational decision, and ambiguity in the interpretations of events. This requires specialists to have the ability to think about and discuss professional problems, possess deep professional knowledge, the ability to argue their own positions, make and inform partners of decisions; organize indirect and direct professional dialogue with partners, colleagues, and students, choose adequate behavioral strategies, etc. The introduction of interactive technologies and teaching methods contributes to the mastery of these skills (Volkova, 2018).

The need to find new interactive forms and methods of organizing the educational process of future specialists

in artistic specialties determines the relevance of the research topic as a necessary component of their professional training in the current conditions. The general cultural level of future specialists in artistic specialties depends significantly on the effectiveness of the educational process, mastering modern pedagogical tools through the skills of independent search for the perception of modern information, structuring, and analysis of the necessary professional material (Sokolova, 2022).

The use of interactive technologies, and teaching methods is that the educational process occurs only through active, constant interaction of all applicants for the educational process. This is mutual learning, co-learning (cooperative, group, collective learning), where the student and the teacher are equivalent, equal subjects of learning, reflect on what they know and understand, what they do, do, and can do. The organization of interactive learning is important in higher education, and involves modeling life and educational professional situations, the use of role-playing games, and joint solutions of the relevant situation and problem based on the analysis of circumstances. The use of interactive methods and technologies in teaching artistic disciplines allows the teacher to become a true leader of the team and effectively contributes to creating an atmosphere of interaction, the formation of skills and abilities, and the development of values (Panasiuk & Chernetska, 2022).

Based on this, the chosen topic is necessary and timely, since the specifics of training specialists in art specialties to use interactive methods and technologies in education and professional activity in such conditions should be based on the principles of a new formation using interactive, modern innovative and technologies, especially when teaching professional art disciplines.

MATERIALS AND METHODS

The features of training future teachers of art specialties and the use of interactive methods and technologies in their education are highlighted in various directions by Hriebiennikova (2019). The scientist reveals the essence of distance learning in higher education when teaching professional art disciplines, where he focuses on the effectiveness of implementing fundamentally new methods of teaching forms of the educational process with the use of a complex of interactive technologies.

The main approaches in science to the qualitative application of distance learning and blended learning in higher education are highlighted in the work of Martynenko (2020) and the disadvantages and advantages of organizing the educational process of future specialists in artistic specialties in distance learning conditions are given; recommendations have been developed for specialists in

artistic specialties on the use of effective technologies for organizing distance education in education and professional activity.

Oleshko et al. (2021) proved that the specifics of professional training of future specialists in artistic specialties require new systems, software tools, and software and pedagogical developments in the process of organizing distance learning.

Didactic principles, means and methods of interaction of specialists in artistic specialties in the educational process in conditions of distance learning are highlighted in the research of Nefiodova (2019) and practical aspects and theoretical aspects of professional training of future specialists in artistic specialties on the Moodle platform in conditions of distance learning are revealed.

Volkova (2018) research is aimed at methodological and methodological support of the educational process of specialists in artistic specialties, the introduction of interactive learning technologies into the activities of higher educational institutions, and a system of retraining personnel. Considerable attention is paid to learning technologies – information and communication, situational, dialogic and discussion, training, game, facilitative, organizational, and methodological approaches to their use in higher education. The researcher presents practical materials for the education of specialists in artistic specialties (quests, exercises, games, training, cases, etc.).

Sokolova (2022) describes the use of interactive methods and technologies in distance education, taking into account the specifics of training future specialists in artistic specialties for professional activity through the introduction of multimedia software and methodological support, educational electronic courses, the use of video materials, educational programs, etc. into the educational process. The pedagogical conditions for the use of interactive methods and technologies in mastering musical disciplines in the distance format of higher education are proposed; attention is focused on the creation of an informational and methodological favorable environment; on the selection of the content of educational and methodological material for distance learning; on the use of network technologies for distance learning to achieve musical and pedagogical interaction of students.

The main aspects of mobile learning are analyzed and ways of using interactive technologies are shown in it, the main advantages of such an innovative approach are identified Nikolenko et al. (2023). The main tools of mobile and distance learning are substantiated, and ways of using information and communication technologies, interactive technologies, and educational electronic platforms are shown. The advantages of interactive technologies

and the importance of using a combination of social networks, online platforms, mobile applications, the use of QR codes, and interactive textbooks in higher education are emphasized; the advantages of interactive methods are considered (project method, cooperative learning, research learning, “flipped” learning, etc.).

GOAL: implementation of the author's methodology for forming the readiness of future specialists in artistic specialties to use interactive methods and technologies.

To achieve the goal, the following research methods were used: theoretical – analysis of pedagogical, psychological, methodological literature on the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies, which allowed updating the content, selecting methods and forms of professional training; systematization of experimental and theoretical data during the ascertaining and formative experiment; comparison, systematization, analogy of cultural, art history, philosophical, psychological and pedagogical, methodological sources – to substantiate the author's methodology, which includes the developed pedagogical conditions and special course; empirical – for the purpose of conducting an experiment and using diagnostic tools (questionnaires) to determine the state of readiness of future specialists in artistic specialties to use interactive methods and technologies; mathematical statistics – to confirm the reliability of the research results, to present the dynamics of the effectiveness of experimental work.

The organization of the experiment involved the formation of a goal, and problem, selection of methods, control and experimental groups, conducting appropriate measurements, mathematical and statistical processing, and analysis of the results. Based on the determined criteria, indicators, and levels of readiness of specialists to use interactive technologies, a scientific and pedagogical experiment was carried out, which lasted from 2022 to 2024 and included two components: ascertaining and formative.

A sample of 53 people was taken from the general population of students, which determined the experimental group, and 55 people – the control group.

The ascertaining stage of the experiment allowed us to determine the goal of this stage of the pedagogical experiment: diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies.

The procedural nature of the ascertaining experiment corresponded to the levels of readiness of future specialists in art specialties to use interactive methods and technologies, to the components, criteria, and indicators that are

defined in the structure of readiness of a future specialist to use interactive technologies and methods.

Methodological approaches were selected to prepare future art specialists to use interactive technologies in the process of professional training and professional activity: competency-based, personally oriented, system-synergistic, interdisciplinary, and activity-based.

At the ascertaining stage of the experiment, it was found that the majority of students have a low level of readiness to use interactive methods and technologies in their studies and future professional activities.

The main part of our pedagogical research was the formative stage of the experiment and was the most responsible and important. Its purpose was to verify the effectiveness of the implementation of the methodology, which included the proposed pedagogical conditions, a special course with the help of which it is possible to qualitatively improve the readiness of future specialists to use interactive technologies, methods in teaching, and future professional activities.

At the beginning of the formative experiment (after conducting the initial diagnosis), a statistical hypothesis H_0 was formulated: the general populations from which the samples were implemented, either both were implemented from the same general population or are identical, are characterized by the correspondence of the same distribution functions.

The heterogeneity of the sample is confirmed by the alternative hypothesis H_1 . We used the Student's test to verify the correctness of hypothesis H_0 about the equality of the average indicators.

There are no grounds for rejecting H_0 , since $0.165 < 1.98 \rightarrow T < t_{cr.}$, then: $ax = ay$. We note the coincidence of the characteristics of the experimental and control groups at the significance level of 0.05. Therefore, we say that the sample is homogeneous at the ascertaining stage of the study.

The conducted study at the formative stage indicates positive dynamics in the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies, which confirms the effectiveness of the implementation of the author's methodology, which includes a special course and developed pedagogical conditions for the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies.

Proof of this is that in the EG there was an increase in indicators according to all criteria of all indicators:

In the CG respondents, there were no significant changes in the formation of the readiness of future specialists

in artistic specialties to use interactive methods and technologies.

To determine the reliability of the coincidences and differences of the studied objects (after conducting experimental work), we used the Student's statistical criterion as a criterion of homogeneity. For this, the statistical hypothesis $H_0: ax = ay$ is tested against the alternative hypothesis $H_1: ax \neq ay$.

We build a two-sided critical region under the alternative hypothesis $H_1: ax \neq ay$. Given that $t_{cr.} = 1.98$.

There is no reason to accept the hypothesis H_0 since $4.52 > 1.98 \rightarrow T > t_{cr.}$. Therefore, the reliability of the differences in the characteristics of the comparison samples of the control and experimental groups at the formative stage of the experiment is 95%.

The general averages of the control and experimental groups do not coincide. The sample is heterogeneous.

The initial characteristics of the EG and CG, thus, coincide, and the final ones differ (after the end of the experiment). This gives grounds to assert that the effect of changes is due to the use of the experimental method of forming the readiness of future specialists of artistic specialties to use interactive methods and technologies both in the educational process and in professional activity.

The results of the formative experiment showed that in the EG there was an increase in the high and average levels of formation of readiness of future specialists of artistic specialties to use interactive methods and technologies.

RESULTS AND DISCUSSION

Content and types, the purpose of interactive methods, and technologies of the educational process of higher school.

The peculiarity of interactive learning, methods, and technologies is that during the teaching of professional disciplines, interaction in learning is ensured not only between students and the teacher but also the students themselves actively interact with each other in the process of developing and forming new skills and abilities, in creating and searching for new knowledge. At the same time, it is the interaction between students that comes to the fore instead of the interaction of the student with the teacher (Kuchai et al., 2022).

The feasibility of introducing interactive technologies during the teaching of artistic disciplines is due to the possibility of transforming the educational process (thanks to their implementation) into mutual learning, co-learning (learning in cooperation, micro-group, collective, group), where the teacher and student are equivalent, equal subjects of learning. A variety of methods of educational

interaction, and joint activities in the educational process of higher education (microgroups, pair work, work on the carousel principle, rotational trios, work in small groups) maximize the contribution of each participant, the activity of students and help to clarify evaluative judgments, their own ideas, to realize attitudes and feelings, develop skills of empathy, cooperation, active listening, stimulate the free exchange of ideas, tolerance, confident behavior, stimulate self-improvement and the development of sensitivity and emotional stability, flexibility of communication, reflectivity, empathy, etc. (Volkova, 2018).

When using interactive methods and technologies in teaching art disciplines, intellectual activity is influenced by the spirit of confrontation, and competition, which takes place in situations when higher education students collectively seek the truth. All interactive methods and technologies in teaching art disciplines are the creation of a situation of productive creative joint activity of the teacher and students, in which the process of searching for knowledge and interaction of personalities takes place.

There are the following types of artistic and pedagogical technologies: interactive; technologies of pedagogical support and accompaniment, integrative; problem-heuristic; computer; gaming; modular; and suggestive. It is interactive technologies in the preparation of future specialists in art specialties for the use of interactive methods that contribute to the organization of cognitive activity, and create comfortable learning conditions, where each student will feel intellectual ability and success. The conditions for interpersonal interaction of students are created by interactive methods and technologies, the purpose of which is for students to acquire intercultural competence – mastering a set of relevant skills, and the ability to cooperative and communicative activities.

Interactive methods and technologies are classified into the following main groups: to show affection, tolerance, goodwill, and the ability to listen to partners; the ability to argue one's own opinion, to persuade, to manage the emotional state; the ability to maintain feedback, discuss, reach a compromise, initiate communication; the ability to cooperate, interact, work collectively, in small groups, in pairs; to establish business contacts (Panasiuk & Chernetska, 2022).

One of the most important areas of improving the professional training of students is the introduction of interactive forms of learning in education and professional activity. For a modern specialist, it is necessary to form his readiness to use interactive methods and technologies because today it is not enough to be competent in his field of knowledge, it is necessary to use methodological innovations in the educational process and professional activity. It is methodological innovations today that are

associated with the use of interactive methods and technologies of learning.

The purpose of interactive training of future specialists in artistic specialties is to increase the efficiency of the educational process, as a result of the use of interactive methods and technologies, students achieve high learning results. Collaborative learning involves interactive forms of conducting classes. All participants in the educational process (future specialists in artistic specialties, teachers) exchange information, interact with each other, model situations, and jointly solve problems. Training future specialists in artistic specialties using interactive educational technologies involves the logic of the educational process: from the formation of new experience to its theoretical understanding, and not from theory to practice.

So, the essence of the use of interactive methods and technologies is to immerse students in an atmosphere of solving business cooperation problems, optimal for developing the desired qualities and skills (in particular, artistic ones).

The role of independent work in the application of interactive methods and technologies in the educational process of future specialists in artistic specialties.

The orientation of education on competence requires specialists in artistic specialties not only to change modules, special courses, and the content component of the disciplines being studied but also to provide means of activating activity, improving forms and methods of organizing the educational process and finding ways to solve emerging problems.

Since the nature of a student's competencies is active, a specialist can become competent only through experience, search, and selection of appropriate interactive methods and technologies. With such training, the student's qualities are developed and formed: independence, cognitive, creative, personal, communicative activity, and responsibility for decision-making, which determines the main qualities of a competent specialist in artistic specialties in the labor market (Shuliak et al., 2022).

Interactive technologies allow the educational process to be activated and make it more interesting, based on the personal manifestation of higher education applicants and teachers and their active interaction. This allows us to shift the emphasis from the assimilation of information to the development of the activities of future specialists in artistic specialties and their ways of thinking (Kuchai & Demianiuk, 2021).

The current method of educational and independent educational activity is the interaction of future specialists in

artistic specialties in the conditions of the modern education system and the main task of the teacher is not only to give the student fundamental knowledge but also to provide all the necessary conditions for him, which would contribute to self-education. Therefore, the leading idea of modern training of future specialists in artistic specialties is self-realization, self-improvement of the creative personality, which requires the creation of such comfortable learning conditions through the use of interactive methods and technologies, in which each student forms intellectual potential, feels his intellectual ability and success, is interested in the development of natural inclinations, moral qualities. Setting up future specialists in artistic specialties for creatively conscious independent activity that meets spiritual needs satisfies the desire of future specialists in artistic specialties to manifest personal qualities and self-realization through independent work. This is an effective way of comprehensive development of a future specialist in artistic specialties, formation and disclosure of his creative potential, which is possible only under the subject-subject model of the educational process of higher education, in which the use of interactive methods and technologies of learning is of great importance (Yermolenko, 2022).

The main advantages of using interactive methods and technologies in teaching art disciplines in the distance-face-to-face form of the educational process.

The main advantages of interactive forms of learning in preparing future specialists in art specialties for the use of interactive methods and technologies include: mastering new material as active participants, not as passive listeners, involving students in an equal learning process, activating mental and cognitive activity, developing critical thinking and analysis skills, creating a favorable atmosphere in the classroom, increasing motivation to study the discipline, developing skills in mastering information processing technologies and modern technical means, developing students' communicative competencies; developing the ability to independently find information (Mytnyk et al., 2024).

When using interactive forms of learning, the teacher organizes pair, individual, and group work, uses project work, works with various sources of information, and role-playing games. Interactive methods and technologies are based on the principles of mandatory feedback, student activity, interaction, and reliance on group experience.

When teaching art disciplines, an innovative environment of educational communication is created, characterized by the interaction of participants, the accumulation of common knowledge, openness, equality of their arguments, the possibility of mutual assessment, etc. Using interactive methods and technologies in teaching art disciplines, the leading teacher leads the participants of the educational

process along with innovative approaches to knowledge, to independent search. The teacher's activity is replaced by the activity of students, creating conditions for their initiative becomes his task. Interactive learning is more used in intensive training of adult students, in particular students.

In today's conditions, the distance-face-to-face form of education helps applicants for higher art education to acquire professional competencies more effectively since individual-practical (face-to-face) and theoretical (distance) types of classes are organically combined. The educational process in higher education institutions can be significantly improved by expanding the use of information and communication technologies (e-learning courses, SMART board, software and methodological multimedia support for the educational process, the use of television educational programs, audio-video materials, the Internet) (Plakhotnik et al., 2022).

Theoretical and methodological tasks using interactive methods and technologies in distance learning of future specialists in artistic specialties.

When using distance learning, the teacher's opportunities to strengthen the motivation of students' education are expanded. The distance learning form allows students to conduct research activities, participate in international Internet projects, and be active participants in creative competitions and Internet Olympiads.

When working in a distance format, the role of the teacher also changes from a tutor and facilitator to a lecturer who can effectively support and motivate students using the means of a distance environment, direct their cognitive efforts, correct and evaluate students' knowledge, etc. With this approach, knowledge is learned more effectively if students carry out this process in cooperation (Semenikhina et al., 2020).

Social networks can be a modern tool for achieving partial goals of professional training of future specialists in artistic specialties – web services allow students and teachers to create a partially public or public profile; create a list of its visitors and users; view contact lists of other users, manage the contact list, promptly make reminders, if necessary, transmit relevant educational information, etc.

In social networks (youtube.com, facebook.com, instagram.com, x.com, and others) there is a large selection of applications that are a significant help for students in their studies.

The possibility of constant interaction in a distance format of teachers and students in both asynchronous and synchronous modes ensures interactivity and continuity of the educational process. This is primarily the creation

of educational content, the use of multimedia and media resources, and the provision of links to relevant web resources.

For subjects of the educational process, a virtual group created on special hosting or social networks can be available at any time and in any place. The experience of using interactive video in the process of professional training, which can be distributed and used using distance learning, is extremely valuable for future specialists in artistic specialties (Knysh et al., 2024).

In higher education, the educational process should be as differentiated as possible to the needs of students, which is why the creation of educational interactive videos is seen as a promising and attractive direction when viewing which the viewer can choose to continue the plot at predetermined stages of viewing. Therefore, the use of interactive methods and technologies in distance learning of future specialists in artistic specialties can increase the effectiveness of their professional training.

Let us consider the main theoretical and methodological tasks using interactive methods and technologies in distance learning of future specialists in artistic specialties: viewing videos or presentations on various areas of the lecture course, mastering electronic lecture materials, listening to lectures by leading lecturers from other universities on certain topics that are available on the Internet in open access, analyzing fragments of open classes by leading lecturers in artistic disciplines that are in recordings, viewing works of art, listening to musical works or their fragments (via hyperlinks), performing creative and practical tasks, answering questions after each part of the lecture for reflection, sending answers to the teacher in electronic form, checking knowledge, solving test tasks of different levels of complexity. Therefore, mastering distance learning technology using interactive methods and technologies should be a necessary component of the educational process in a higher education institution for specialists in artistic specialties.

Information and communication technologies for distance learning can include educational electronic courses, SMART boards, software and methodological multimedia resources (television educational programs, audio-video materials), messengers (Telegram, WhatsApp, Viber, Zoom, Meet, etc.), social networks (Instagram, Facebook, X), office (Office 365) programs, cloud servers (Google, Microsoft) for joint editing and use of files, text documents; development of questions for surveys, testing, etc. Specially developed virtual learning environment management systems are considered optimal for organizing the educational process of specialists in artistic specialties. Among them, the Microsoft Teams and Moodle platforms deserve special attention, they have a

wide range of tools for educational interaction between teachers, students, and the administration of a higher education institution (Sokolova, 2022).

An innovative form of learning – e-learning allows you to receive education remotely, and has become the most widespread in our time in the field of higher education. It is the basis of the modern educational space – e-learning for distance learning, which is actively developing, using a variety of special technologies and interactive methods (Zinoruk, 2022).

The basic tools of mobile and distance learning have become the use of interactive technologies, electronic learning platforms, and information and communication technologies. Interactive technologies constitute an innovative organization of the educational process, which uses methods and forms of collective scientific knowledge, based on interaction for all participants in the training. They are necessary for creating conditions for a model of the modern educational process (Savchuk & Roiko, 2023).

Interactive technologies and methods can be implemented in the process of training specialists in artistic specialties when studying absolutely all disciplines and contribute to the effectiveness of mobile learning, which allows you to choose applications according to the interests, individual needs, and level of training of each student, which contributes to the effectiveness of learning.

Often, a combination of mobile applications, online platforms, and social networks is used to form the readiness of future specialists in artistic specialties to use interactive methods and technologies (Vorobets, 2020).

The ability of higher education applicants to follow instructions, persuade, manage their goals, and achieve them is provided by the use of interactive textbooks, which make the student disciplined and self-organized, very active, and initiative, which are important aspects of distance learning.

The use of QR codes is a modern interactive technology, that provides the opportunity to generate ideas independently on specialized platforms. Some platforms use codes to facilitate use. These tools can be used in practice to solve problems and search questions, or to quickly move from the presentation of the material to consolidation by inserting an online exercise into the code links to the test shell (Levchenko, 2023).

Mobile platforms for exchanging and discussing ideas can provide tools for group work of future specialists in artistic specialties. Higher education students can work on joint projects, develop their skills, and share impressions.

The Mozabook software complex is an interactive product that increases the efficiency of mobile learning. It allows the student to interact with PDF files, helps to process PDF documents, can be converted into digital publications, and used as a basis for creating presentations. Future specialists in artistic specialties have the opportunity to supplement presentations and ready-made textbooks with images and interactive 3D models using the built-in test editor in Mozabook (Nikolenko et al., 2023).

The organization of the experiment involved the formation of a goal, and problem, selection of methods, control and experimental groups, conducting appropriate measurements, mathematical and statistical processing, and analysis of the results. Based on the determined criteria, indicators, and levels of readiness of specialists to use interactive technologies, a scientific and pedagogical experiment was carried out, which lasted from 2022 to 2024. It included two components: ascertaining and formative.

A sample of 53 people was taken from the general population of students, which determined the experimental group, and 55 people – the control group.

The ascertaining stage of the experiment.

The goal of this stage of the pedagogical experiment was determined: diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies.

The procedural nature of the ascertaining experiment corresponded to the levels of readiness of future specialists in artistic specialties to use interactive methods and technologies, components, criteria, and indicators that are defined in the structure of readiness of a future specialist to use interactive technologies and methods.

The value criterion corresponds to the motivational component, which determines the need for future specialists in artistic specialties to develop communication, artistry, empathy, and professional improvement in pedagogical activity, and creative activity.

Indicators of the criterion: the need to form the figurative culture of future specialists in artistic specialties in the process of professional training; the formation of the ability to one's own figurative culture, to its self-assessment; the degree of formation of value orientations in the process of professional training regarding the formation of a certain quality, which is an important professional quality.

The cognitive component is manifested in the cognitive-informational criterion, which determines the level of availability of professional qualitative knowledge regarding the specifics of figurative culture.

Indicators of the criterion: the presence of students' knowledge about the essence of visual culture; on an interdisciplinary basis – the formation of the ability to enrich knowledge of visual culture; the degree of mastery of the thesaurus on the outlined problem of visual culture of future art specialists in the process of their professional training.

The creative component corresponds to the reflexive criterion, which characterizes the degree of formation of professional, interpretative skills, to ensure the interpretation of the artistic image in future professional activity.

Indicators of the criterion: the degree of mastery of professional skills of future art specialists; the presence of interpretative skills in them; the degree of formation of the ability to identify professional skills in the process of professional training;

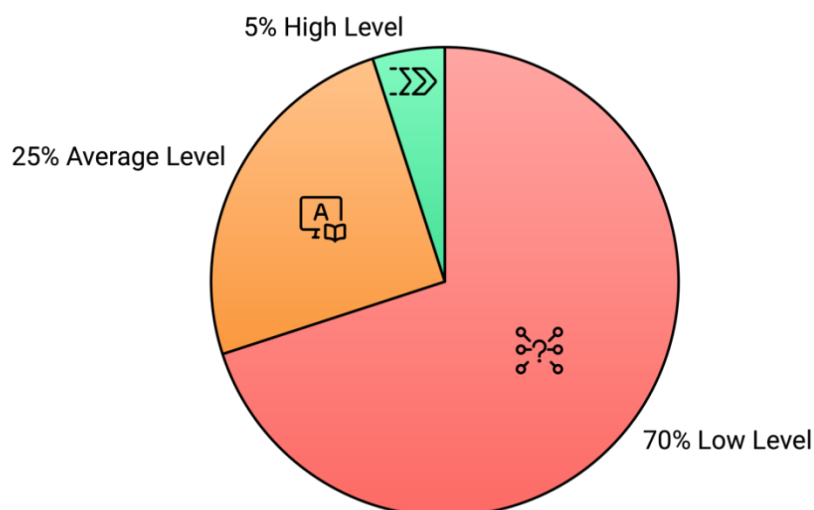
Methodological approaches to the preparation of future art specialists for the use of interactive technologies in the process of professional training and professional activity are selected: competency-based, personally oriented, system-synergistic, interdisciplinary, and activity-based.

Results of the ascertaining experiment.

The value criterion of the motivational component when diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies in the questionnaire survey showed (Figure 1):

- **low level** of 70% of respondents;
- **average level** of 25% of respondents;
- **high level** of 5% of respondents, which indicates an unstable desire to develop professionally significant qualities, to grow professionally, and a fragmentary need to form culture in the process of professional training.

Fig1: Distribution of Knowledge Levels in Artistic Specialists (value criterion)

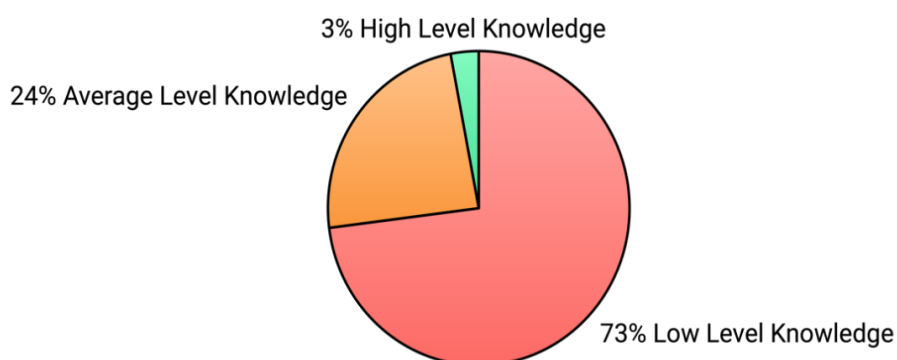


Source: Own elaboration

The cognitive-informational criterion of the cognitive component when diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies in the questionnaire survey showed (Figure 2):

- **low level** of knowledge – 73% of respondents;
- **average level** of knowledge – 24% of respondents;
- **high level** of knowledge – 3% of respondents.

Fig 2: Distribution of Knowledge Levels in Artistic Specialists (cognitive-informational criterion)



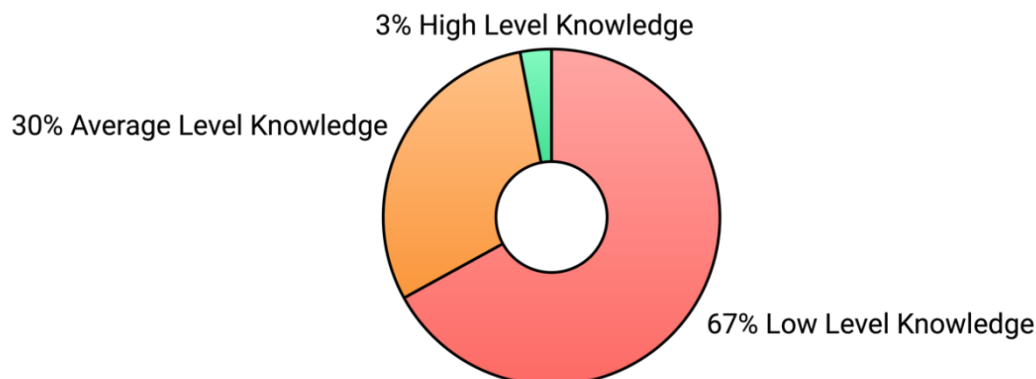
Source: Own elaboration

The reflective criterion of the creative component in diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies in the questionnaire survey showed (Figure 3):

- **low level** of knowledge – 67% of respondents;
- **average level** of knowledge – 30% of respondents;

- **high level** of knowledge – 3% of respondents.

Fig 3: Distribution of Knowledge Levels in Artistic Specialists (reflective criterion)



Source: Own elaboration

So, at the ascertaining stage of the experiment, it was found that the majority of students have a low level of formation of readiness to use interactive methods and technologies in their studies and future professional activities.

Organization and conduct of a formative research experiment.

The main part of our pedagogical research was the formative stage of the experiment and was the most responsible and important. Its purpose was to verify the effectiveness of the implementation of the methodology, which included the proposed pedagogical conditions, a special course with the help of which it is possible to qualitatively improve the readiness of future specialists to use interactive technologies, methods in teaching, and future professional activities.

The following developed pedagogical conditions were proposed:

1. increasing the level of professional training of teachers of a higher education institution in the use of interactive methods and technologies in teaching art disciplines;
2. developing and implementing a special course «Application of interactive methods, technologies in teaching and future professional activities»;
3. developing research skills of future specialists of art specialties in extracurricular activities;
4. strengthening the content of pedagogical practices with tasks that involve the use of interactive methods and technologies in teaching and future professional activities, creating a portfolio of interactive classes by students.

At the beginning of the formative experiment (after conducting the initial diagnosis), a statistical hypothesis H_0 was formulated: the general populations from which the samples were implemented, either both were implemented from the same general population or are identical, are characterized by the correspondence of the same distribution functions.

The heterogeneity of the sample is confirmed by the alternative hypothesis H_1 . We used the Student's test to verify the correctness of hypothesis H_0 about the equality of the average indicators.

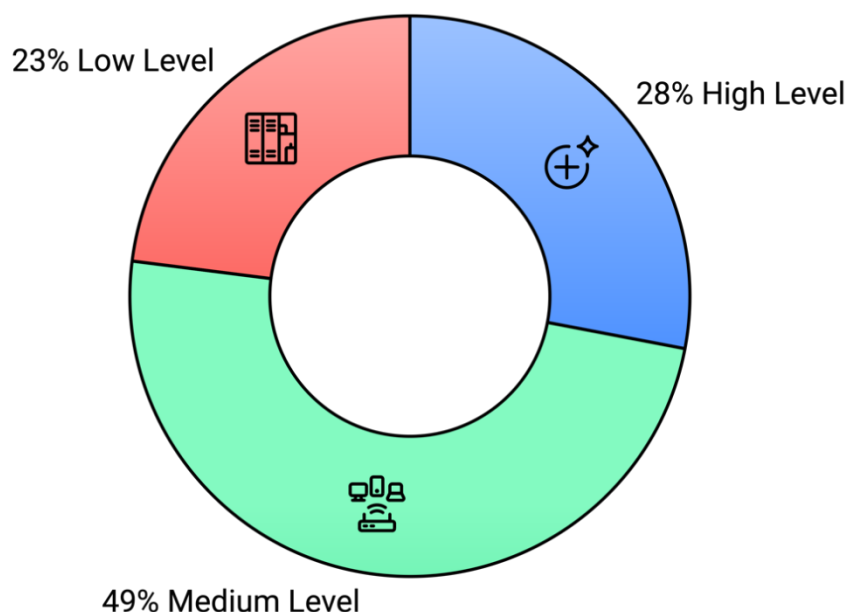
There are no grounds for rejecting H_0 , since $0.165 < 1.98 \rightarrow T < t_{cr.}$, then: $ax = ay$. We note the coincidence of the characteristics of the experimental and control groups at the significance level of 0.05. Therefore, we say that the sample is homogeneous.

The research conducted at the formative stage indicates positive dynamics in the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies, which confirms the effectiveness of the implementation of the author's methodology, which includes a special course and developed pedagogical conditions for the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies.

This is evidenced by the fact that in the EG there was an increase in indicators according to all criteria of all indicators (Figure 4):

- **high level** of formation of readiness of future specialists in artistic specialties to use interactive methods and technologies was demonstrated by 28% of respondents (it was 5%),
- **average level** of formation of readiness of future specialists in artistic specialties to use interactive methods and technologies was demonstrated by 49% of respondents (it was 24%),
- **low level** of formation of readiness of future specialists in artistic specialties to use interactive methods and technologies was demonstrated by 23% of respondents (it was 71%), which indicates the appropriateness of the author's methodology and reasonable pedagogical conditions.

Fig 4: Distribution of Readiness Levels in Artistic Specialties



Source: Own elaboration

In the CG respondents, there were no significant changes in the formation readiness of future specialists in artistic specialties to use interactive methods and technologies. We note only a decrease in the low level in the CG (it was 68%, it became 57%).

To determine the reliability of coincidences and differences of the studied objects (after conducting experimental work), we used the Student statistical test as a criterion of homogeneity. For this, the statistical hypothesis $H_0: \bar{x} = \bar{y}$ is tested against the alternative hypothesis $H_1: \bar{x} \neq \bar{y}$.

We construct a two-sided critical region for the alternative hypothesis $H_1: \bar{x} \neq \bar{y}$. Given that $t_{cr} = 1.98$.

There is no reason to accept the hypothesis H_0 since $4.52 > 1.98 \rightarrow T > t_{cr}$. Therefore, the reliability of the differences in the characteristics of the comparison samples of the control and experimental groups at the formative stage of the experiment is 95%.

The general averages of the control and experimental groups do not coincide. The sample is heterogeneous.

The initial characteristics of the EG and CG, thus, coincide, and the final ones differ (after the end of the experiment). This gives grounds to argue that the effect of changes is due to the use of experimental methods of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies both in the educational process and in professional activities.

The results of the formative experiment showed that in the EG there was an increase in the high and average levels of formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies.

CONCLUSIONS

The content, types of interactive methods, and technologies of the educational process of higher education are revealed. The role of independent work in preparing future specialists in artistic specialties for the use of interactive methods and technologies is shown.

The main advantages of using interactive methods and technologies in teaching artistic disciplines in the distance-face-to-face form of the educational process are clarified.

Theoretical and methodological tasks are proposed using interactive methods and technologies in distance learning of future specialists in artistic specialties.

The importance of mobile learning, the combination of mobile applications, online platforms, and social networks, and the use of interactive textbooks, QR codes, etc., which are modern interactive technologies, is emphasized.

The organization of the experiment provided for the formation of a goal, and problem, the choice of methods, control and experimental groups, the conduct of appropriate measurements, mathematical and statistical processing, and analysis of the results. Based on the defined criteria, indicators, and levels of readiness of specialists to use interactive technologies, a scientific and pedagogical experiment was carried out, which lasted from 2022 to 2024. It included two components: ascertaining and formative.

A sample of 53 people was taken from the general population of students, which determined the experimental group, and 55 people – the control group.

The ascertaining stage of the experiment allowed us to determine the goal of this stage of the pedagogical experiment: diagnosing the real state of the problem of forming the readiness of future specialists in artistic specialties to use interactive methods and technologies.

The procedural nature of the ascertaining experiment corresponded to the levels of formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies, to the components, criteria, and indicators that are defined in the structure of the readiness of a future specialist to use interactive technologies and methods.

Methodological approaches to training future art specialists to use interactive technologies in the process of professional training and professional activity were selected: competency-based, personally oriented, system-synergistic, interdisciplinary, and activity-based.

At the ascertaining stage of the experiment, it was found that the majority of students have a low level of readiness to use interactive methods and technologies in training and future professional activity.

The main part of our pedagogical research was the formative stage of the experiment and was the most responsible and important. Its purpose was to verify the effectiveness of the implementation of the methodology, which included the proposed pedagogical conditions, a special course with the help of which it is possible to qualitatively improve the readiness of future specialists to use interactive technologies, methods in training, and future professional activity.

The conducted research at the formative stage indicates positive dynamics of the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies, which confirms the effectiveness of the implementation of the author's methodology, which includes a special course and developed pedagogical conditions for the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies.

Proof of this is that in the EG there was an increase in indicators according to all criteria of all indicators:

In the CG respondents, there were no significant changes in the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies.

The initial characteristics of the EG and CG coincide, and the final ones differ (after the end of the experiment). This gives grounds to assert that the effect of changes is due to the use of the experimental methodology for the formation of the readiness of future specialists in artistic specialties to use interactive methods and technologies both in the educational process and in professional activity.

The results of the formative experiment showed that in the EG there was an increase in the high and medium levels of formation of readiness of future specialists in artistic specialties to use interactive methods and technologies.

We see prospects for further research in the analysis of the use of interactive methods of distance education of future specialists in artistic specialties and in the study of foreign experience in organizing distance education of future specialists in artistic specialties.

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