

Pedagogical Conditions of Formation of Professional Competence of Future Music Teachers on the Basis of an Interdisciplinary Approach

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ABSTRACT

The relevance of research problem is due to the need for music teacher with a high level of formation of professional competence determination of the content and principles of an interdisciplinary approach to its formation. The aim of the article lies in development and testing of complex of the pedagogical conditions in formation of professional competence of future music teachers on the basis of an interdisciplinary approach. The leading method to the study of this problem is a modeling method based on the principle of interdisciplinarity. The article presents a scientific idea of inter relationship of the major positions of interdisciplinarity, cultural and competence-based approaches to the formation of professional competence. The article can be useful both for students and teachers in higher professional educational. All institutions proposed content, forms, methods and technologies of formation of professional competence can improve training of future music teachers.

KEYWORDS

Interdisciplinary approach, professional competence of a future music teacher, interdisciplinary competence, artistic and cultural component of professional competence of a future music teacher

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Introduction

In the process of transformation of modern economy, manufacture, and socio-spiritual values of the society, the key positions are directed to the modernization and standardization of vocational education system. In this context, the Russian education system is consistently entering in to all European educational space: complex research in competence-based format, is being implemented, federal State

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Educational Standards are being introduced that is why multiaspected requirements to professional training of future music teacher.

The need for development of competitiveness of future music teacher in the employment market, the quality of acquired knowledge, increasing of their mobility, requires the necessity in changing of the structure and content of musical-pedagogical education. In terms of the present transformation of musical and cultural preferences moral, values of the youth, intensive introduction of music-computer technologies, interaction of various cultures and types of creativity music teachers with a high level of professional competence, ready for search and development of knowledge in various fields of culture, art and education, capable to establish interdisciplinary connections in their professional activities, owning a high pedagogical culture and skills are in great demand (Islamova, 2003). The system of pedagogical education aims to form a creative, spiritually rich and competitive music teacher, who combines integrating professional competence, pedagogical culture and music-performing skills. However, at present professional training of music teachers is focused on new quality indicators, principles and techniques of teaching pogrly. The level of professional competence of music teacher education does not closely correspondent to multifunctional and multi-aspected professional activities to meet the requirements of Russian and international standards of professional education. With reference to this one of the main concepts is the concept of "competence". In this respect, pedagogical science has accumulated a considerable Fund of works, revealing the essence of professional competence.

The terminological analysis of the formulations reflected in the works of the researchers allows to conclude that professional competence is an integral quality of an expert of any profile including the following components: professional knowledge and skills; values and motives; theoretical and practical readiness; the ability to solve professional problems; a set of competencies (Zyeer, Pavlova, & Cimanuk, 2005). Professional competence of a music teacher is taken for the ability of optimal implementation of the action; integral characteristic of business and personal qualities of an expert; effective solution of problems in professional activities; accordance of professional and personal qualities with the requirements of professional activity (Levina, 2006).

Summarizing the essential characteristics of the reseaching concepts which were identified by various researchers in the field of musical-pedagogical education, we came to the idea of multifunctional nature, complexity, integration and personal orientation of the professional competence of the music teacher. Reliance on this has allowed us to clarify the concept of "professional competence of a future music teacher and define it as a professional and personal quality characterized by a high level of integration of common cultural, professional, special, interdisciplinary competencies of future music teacher, mastering modern technologies and techniques of musical-pedagogical education, able to solve standard and creative professional tasks (Saitova, 2011).

Materials and Methods

Research methods

During the research the following methods were used: analysis of philosophical, psycho-pedagogical and methodological literature on this problem; theoretical modeling, questionnaire survey; survey; test; self-assessment; expert assessment, summary of teaching experience; observation; qualitative and quantitative analysis

of experimental data; pedagogical experiment, statistical processing of data obtained during the experimental work.

The experimental base of the research

Experimental work was carried out in the Institute of pedagogy of the Bashkir State Pedagogical University named after M. Akmullah, Ufa Musical schools №4.

The stages of the research

The study was conducted in three stages.

In the first stage (theory and search) – the analysis of philosophical, psycho-pedagogical and scientific-methodical literature on the research problem was carried out. The methodological and substantive framework of the study was determined. The topic, purpose, object, subject, hypothesis, objectives of the study were formulated. Clarified the nature and content of professional competence of music teacher were clarified. The ascertain experiment was conducted. The model of formation of professional competence of future music teacher has been developed, pedagogical conditions of formation professional competence of future music teacher have been studied and justified.

In the second stage (forming), we analyzed and systematized empirical material. On the basis of the obtained data an experimental check of model of formation of professional competence of future music teacher was carried out, pedagogical conditions of formation professional competence of future music teachers was created in the educational process.

In the third stage (final) – the analysis, synthesis, systematization and interpretation of the results of the experimental work was conducted, the hypothesis was tested. The main conclusions of the study were formulated, the design of the dissertation was carried out.

Results

The essence and structure of professional competence of future teachers-musicians

The component structure of professional competence of future music teachers were determined with the help of the method of expert estimations. This method allowed us to obtain a single consensus of music teachers regarding the content and structure of professional competence of bachelors in the profile "Music education". 40 music teachers were involved in the study as experts on the basis of the analysis of the nature of a professional activity of a music teacher, its specificity, professional significant qualities, definitions of professional competence of bachelors in the profile "Music education" have been the following components selected: motivational axiological, cognitive, professional-activity, creative, personal, communicative, emotional-willed, behavioral, empathic.

Through the questionnaire data the experts assessed the necessity for each of the selected components. The most priority have become: motivational axiological (MA), cognitive (CN), professional-activity (PA), creative (CA), assessment reflective (AR) components.

The criterion of formation of the motivational axiological component of the professional competence of a music teacher is a need and strong interest in the profession of a music teacher. The criteria of formation of the cognitive component of the professional competence of a music teacher is set by the level of knowledge in the field of musical-pedagogical education. The criterion of formation of the professional-activity component of the professional competence of a music teacher is the level of mastery of professional-pedagogical activity in music education. The criterion of formation of the creative component of the professional competence we have set as the degree of inclusion of the elements of creativity in the musical-pedagogical activity. The criterion of formation of the assessment reflective component of the professional competence is self-assessment of importance of their participation in musical and educational activities.

Moreover the specificity of the profile "Music education" determines the importance of one more component, which can be defined as art cultural. It can be confirmed that the structure of the art cultural component reflects two interrelated components: personal, reflecting the conformity of a specialist, who is a bearer and transmitter of the foundations of culture of the society, the contents of which the personal qualities of a music teacher; music and artistic component which is presented by musical culture as a universal artistic method of understanding the world. The duality of the designated aspects determines multi-vector of positions of a music teacher and versatility of his or her professional activity, on the one hand, and on the other hand it points to the need for strengthening of interlinks and interdisciplinary trait of professional competence.

Summarizing the said above, it can be resumed that the art cultural component of the professional competence of music teachers is characterized by personal qualities of a music teacher, which is a synthesis of personal qualities of a representative of teaching profession and the profession associated with the field of music education. The criterion of formation of artistic and cultural component is a positive attitude towards musical culture.

The model of formation of the professional competence of future music teachers

The professional competence of music teachers is mainly formed in the process of studying of psycho-pedagogical and special disciplines. Accordingly, special interdisciplinary competencies should be formed. It allows to establish interdisciplinary connections and apply knowledge and skills from various disciplines while performing professional activity of future music teachers. So it was important to search for possibilities of establishing interdisciplinary links between the disciplines of a psycho-pedagogical module and special disciplines.

With this purpose, the model of formation of the professional competence has been designed, which includes target, substantial, organizational – formative and assessment reflective components (figure 1). In the framework of the research tasks the contents of the identified components of the model was disclosed.

The aim component of the model, aimed at the development of sustained motivation for professional development in parallel with the development of cognitive motivation to learn academic disciplines was represented as a common purpose. A substantial component includes subject-semantic content of the process of formation of the professional competence of music teachers. It is represented by the content of pedagogical conditions that upgrade performing professional activities

in musical education by the future music teachers. The organizational formative component of the model of formation of the professional competence of bachelors implies selection of methods, forms and means ensuring assimilation of academic content. The assessment reflective component is aimed at developing of reflective skills, adequate self-assessment, self-assessment of activities. It is represented by interdisciplinary criteria assessment tools for identifying levels of formation of the professional competence of music teachers, which includes the following forms: interdisciplinary tests, cognitive maps, creative projects, creative work.

In the sequence of our study the interdisciplinary approach to the formation of the professional competence of bachelors is in particularity important. The interdisciplinary approach represents interaction between two or more different disciplines, which can widely range from a simple exchange of ideas to the mutual integration of concepts, methodology, procedures, terminology, data research and educational activities (Bushcovskaya, 2010)

The idea of an interdisciplinary approach has acquired the special context in the light of the competence approach to education, the main purpose of which has become mastering of a set of competencies (Saitova, 2012).

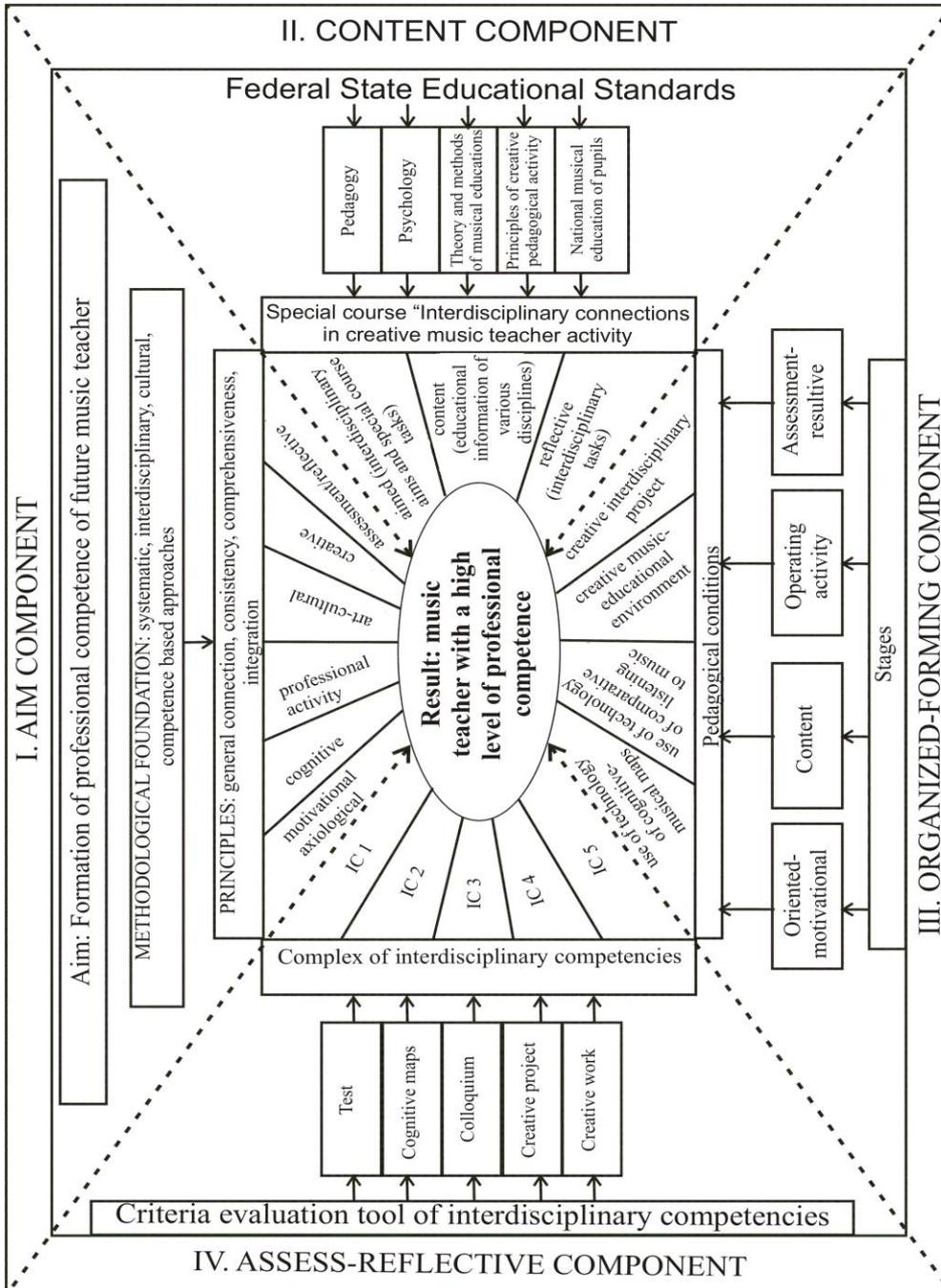


Figure 1. Formation module of professional competence of future music teachers

It does not mean giving up disciplinary learning, but infusing it with methods interdisciplinary of supply of educational material, forming the corresponding thinking. Evolving with the overall process of integration in education, interdisciplinary approach is not contrary to the fundamental provisions of the competence approach which is the main paradigm of the modern stage of development of higher education.

A future of a music teacher (bachelor on the profile "Music education") is a representative of a complex profession. It is obvious that a future music teacher has to rely on a combination of musical, pedagogical, psychological and other competencies in the professional activities. It follows from this that a future music teacher should be able to combine various types of activities and provide his or her pupils with relevant practical skills.

Realization of pedagogical conditions of formation of the professional competence of music teachers

Pedagogical conditions are based focused on creation of a creative musical educational environment with the use of technologies of comparative listening to music and cognitive-musical cards; implementation of creative interdisciplinary projects based on cross-practice interaction; introduction of a special course "Interdisciplinary connection in the creative work of a music teacher" in order to form abilities to apply interdisciplinary connection in future professional activities.

The creation of creative musical and educational environment assisted implementation of interdisciplinary connections of such disciplines as "Introduction to pedagogical activity", "Theoretical pedagogy", "Workshop on solution of professional tasks", "Fundamentals of creative teaching", "National musical education of schoolchildren", "Interdisciplinary connection in creative activities of music teachers", the content and methodology of which is rich in educational potential, strong pedagogical and musical contexts. Students performed such tasks as scripting a video for a piece of music, a compilation of tunes for various academic, educational or cultural – educational activities, creation of thematic CD-ROM disks, preparation of reports in the form of a report accompanied by music, creating a clip for a movie, a compilation of melodies for psychological training, etc.

The especially developed technology of comparative listening to music promoted qualitative performance of educational tasks. This technology aims at the development of interdisciplinary competencies related to synthesis, perception of musical information, as well as a comparative analysis of musical works of small forms in various genres and styles (Steinberg & Manko, 2009).

The technology was carried out in accordance with a number of interrelated stages: a value-oriented, where there is a choice of monoanthology; emotional attunement of the audience to listening to monoanthology and its variations; exposure or display of musical material; performing a comparative analysis of interpretations; group analysis of musical monoanthology and its variations; development of cognitive maps of monoanthology, which helps to involve a student in designing of visual representation of a musical masterpiece (Zanin et al., 2012).

There was a deeper understanding and synthesis of educational materials due to the technology of cognitive maps, implementing systematization of knowledge

and explication of interdisciplinary links. A valuable feature of didactic cognitive-musical maps is reference-nodal coordinates, in the center of which there is the main topic or the name of a musical piece. Thanks to the use of complex cognitive maps, students acquire skills in comparative analysis, systematization and structuring of musical characteristics of images, as well as the ability to establish interdisciplinary connections between different musical images and didactic instrumentation of its gaining.

The next condition of formation of the professional competence of music teachers is organization of creative interdisciplinary projects based on cross-practice interaction. The methodological feature of interdisciplinary projects is that they are organized together with a number of teachers of interrelated disciplines. The competence value of interdisciplinary projects based on cross-practice interaction is a tendency to formation of abilities to analyze, synthesize, generalize gained information from different disciplines, integrate them into the sphere of a professional activity, actively involved in the research process, using knowledge from different fields of culture, education and art.

Strengthened the interdisciplinary potential of the disciplines of professional cycle. The introduction of the course "Interdisciplinary connections in creative work of music teachers" in educational process, its content was aimed at the forming skills to establish interdisciplinary connections in their professional activities. The purpose of this special course is formation of the following interdisciplinary competencies: the ability to understand the value of interdisciplinary connections in their future professional activities (IC-1); the ability to establish interdisciplinary connections and transfer achievements of various fields of knowledge in their professional activities (IC -2); the ability to develop interdisciplinary didactic and cultural-educational resources (IC-3); the ability to organize musical-creative activity of pupils in the interdisciplinary context (IC-4); mastering of methods and technologies interdisciplinary assessment of results of student (IC-5).

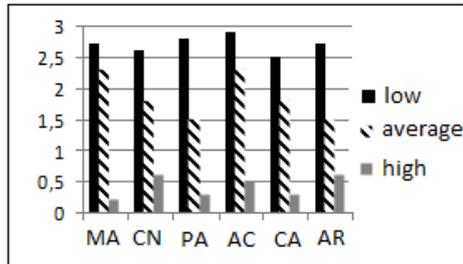
Experimental work

The experimental work consists of three stages. The first stage comprises selection of complex diagnostic techniques and identification of baseline level of a professional competence and interdisciplinary competencies of music teachers. The second stage is a formative experiment on testing the identified pedagogical conditions of formation of professional competence of music teachers in the theoretical stage of the research. The third stage is the final diagnosis of the level of formation of the complex of interdisciplinary competences and separate components of the professional competence of future music teachers. 197 students of the Music Department of the Institute of pedagogy in the profile "Musical education" and "Music" took part in the research study. To determine the initial level of formation of the professional competence and interdisciplinary competencies two groups of students (in 30 people each) were formed. The experimental group (EG) consisted of the students of the profile "Musical education", the control group (CG) students of the profile "Music".

To determine the initial level of development of components of the professional competence, we used the following methods: motivational-axiological (questionnaire, survey, self-assessment, observation, essay, method of unfinished thesis); cognitive (tests, discussions, individual talks, monitoring the academic progress of students in pedagogical disciplines and course); professional-activity (solution of pedagogical

situations, method of expert evaluations, learning products of activities); art cultural (plastic modeling of emotional content of a musical text, anticipation of music, essay); creative (pedagogical observation, expert evaluation, analysis of products of activities, maps of assessment and self-assessment of creativity, musical imaginative graphics, definitions); assessment-reflective (maps of reflection, self-assessment, survey, mutual survey).

EG



CG

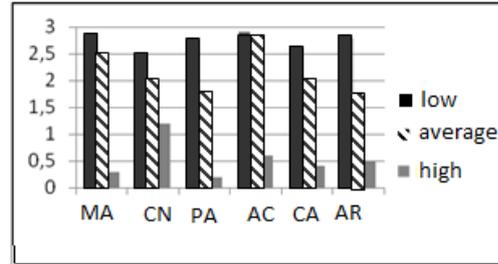


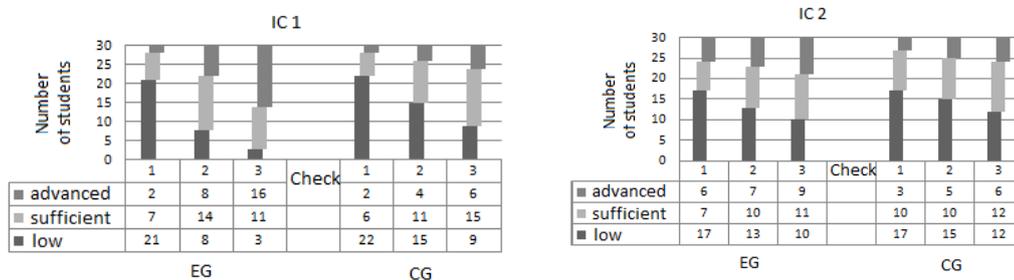
Figure 2. The initial level of formation of components of the professional competence of EG and CG

The initial level of formation of the professional competence is the following: low level 2.7 points in both groups; average level – EG 1,8 and 2,0 CG (Fig.2).

At the ascertaining stage of the research we identified the initial level of formation of interdisciplinary competencies: IC – 1 (questionnaire, survey, essay, cognitive maps, creative work, method of unfinished thesis); IC – 2 (interdisciplinary tests, interdisciplinary coursework, current monitoring of academic performance of students on pedagogical disciplines); IC – 3 (creative project, expert assessment method, study of products of activities, pedagogical supervision); IC – 4 (observation, expert assessment, analysis of products of activities, maps of assessment and self-assessment of creativity, musical-shaped chart); IC – 5 (creative work, reflective maps, maps of self-analysis and self-observation). For each competence a passport and technological card were designed where criteria evaluation tool for tracking levels of formation of interdisciplinary competencies was defined.

To monitor and assess the levels of development of relevant competencies, we used a point-rating system: insufficient (51-70 points), sufficient (71-90), advanced (91-100). The level of formation of interdisciplinary competencies were tracked in three checks: entrance, intermediate and exit. The entrance check was carried out before the implementation of the proposed pedagogical conditions. The intermediate check was carried out before the introduction of the course "Interdisciplinary connections in the creative activities of music teachers".

At the end of the special course the exit check was held. The results of the checks shown in the following graphs (Figure 3).



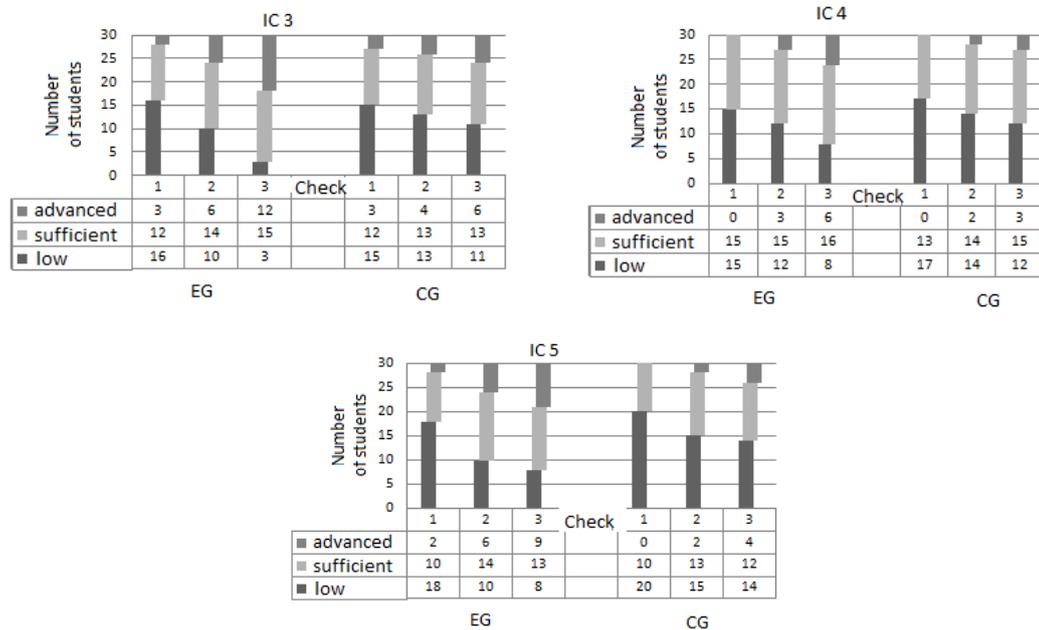


Figure 3. Dynamics of development of interdisciplinary competencies in EG and KG

The received results of the experimental and control groups were put to test subjected to quantitative analysis with further qualitative interpretation. The one-way disperse analysis (F-Fisher test), was used which showed the homogeneity in all the cases.

One of the important research tasks was to explore the dynamics of the levels of formation of components of the professional competence. We had to prove that the formation of interdisciplinary competencies had influence on the formation of the professional competence in general. To check this assumption we carried out repeated diagnostics of levels of formation of components of the considered competence.

Within the discipline "Workshop on solution of professional tasks" the levels of formation of professional-activity component were investigated (tab. 1, 2).

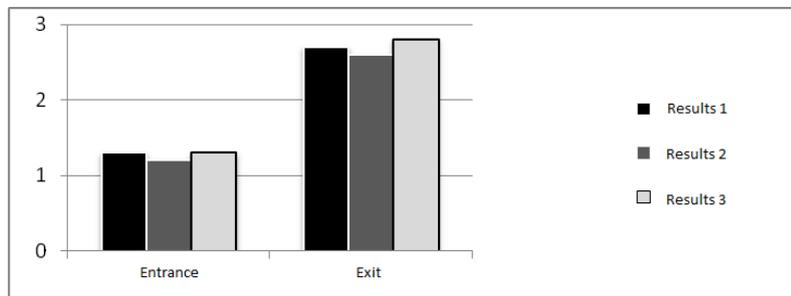
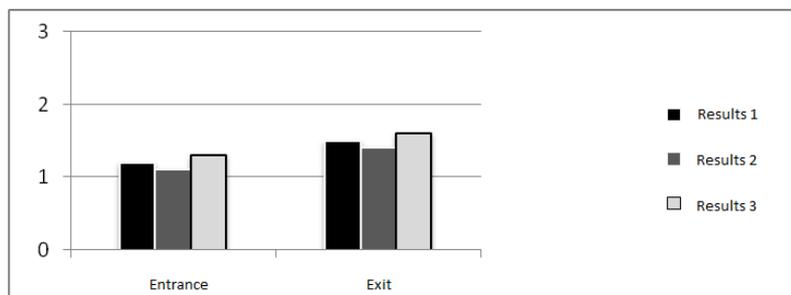
Table 1. Indicators of formation of professional-activity component in the EG

Professional-activity component	The average value of formation of professional-activity component (points)	
	Ascertaining the stage	The forming stage
Mastering of professional-pedagogical activity	1,3	2,7
Mastering of musical-performing activity	1,2	2,6
The ability to establish interdisciplinary connections in professional activities	1,3	2,8

Table 2. Indicators of formation of professional activity component in CG

Professional-activity component	The average value of formation of professional-activity component (points)	
	Ascertaining the stage	The forming stage
Mastering of professional-pedagogical activity	1,2	1,5
Mastering of musical-performing activity	1,1	1,4
The ability to establish interdisciplinary connections in professional activities	1,3	1,6

The dynamics of formation of professional-activity component in the experimental and control groups are clearly shown in the figures (Figure 4, 5).


Figure 4. Dynamics of the growth of the level of formation of professional-activity component of the professional competence in the EG

Figure 5. Dynamics of the growth of the level of formation of professional-activity component in CG

We can see that during the formation of interdisciplinary competencies of the student there is a significant increase of professional-activity component of professional competence in EG, it gives us the right to claim that the formation of interdisciplinary competence helps to increase the levels of formation of the professional competence of future musicteachers.

Thus, having repeated the diagnostics of the levels of formation of all the components of the considered competence, we calculated the total level of formation of each component and graphically depicted this (Figure 6, 7).

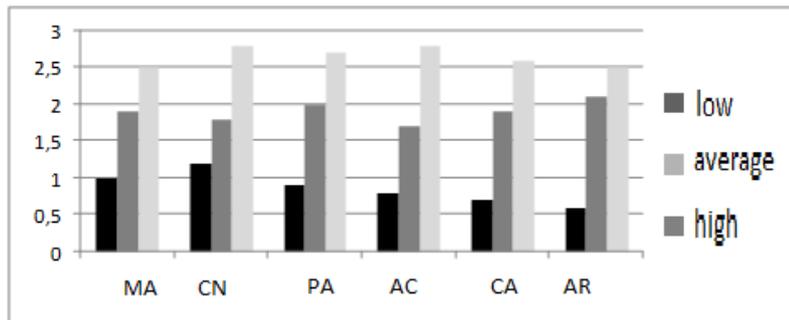


Figure 6. The final level of development of components of the professional competence EG

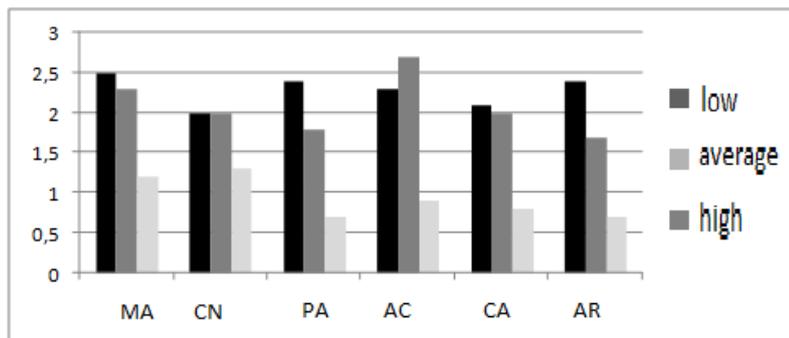


Figure 7. The final level of development of the components of the professional competence of CG

As a result of our study the following results were obtained. Motivational value component: in the EG low level decreased by 63%, the average level decreased by 17% and the high level increased by 70%; in CG the level low decreased by 10%, the average level decreased by 2.3% and the high level increased by 47%. The cognitive component: in the EG the low level decreased by 53%, the average level remained the same; the high level increased by 59%; in CG the low level decreased by 20%, the average level increased by 5% the high level increased by 2%. The professional-activity component: in the EG the low level decreased by 59%, the average level increased by 33% at the same time, the high level increased by 60%; in CG the low level decreased by 11%, the average level increased by 6% resulting in the high level increased by 17%. The art cultural component: in the EG the low level decreased by 67%, the average level decreased by 26% at the same time, the high level increased by 65%; in CG the low level decreased by 20%, the average level decreased by 3% resulting in the high level increased by 19%. The creative component: in the EG the low level decreased by 62%, the average level decreased by 5% at the same time, the high level increased by 56%; in CG the low level decreased by 19%, the average level increased by 5% resulting in the high level increased by 21%. The assessment-reflective component: in the EG the low level decreased by 77%, the average level increased by 27% at the same time, the high level increased by 65%; in CG the low level decreased by 14%, the average level increased by 6% resulting in the high level increased by 40%.

In general, summarizing the results of the experimental work, it can be concluded that the deliberate formation of interdisciplinary competencies in the process of professional training of future music teachers (bachelors in the profile "Music education") leads to their mastery of this complex competence and contributes to the formation of the professional competence in general. Thus, in the course of comparative analysis of the results of the ascertaining and forming stages of the pedagogical experiment, we proved that there is interconnection of systematic, interdisciplinary, cultural and competence-based approaches to professional training of music teachers in the University, introduction art cultural component into the structure of professional competence reflecting the profile of the subject area and relationship of its personal and musical-cultural components, the use of an interdisciplinary approach to the design of the complex of pedagogical conditions of formation of the professional competence of music teachers, and the use of criteria assessment tools for identifying levels of development of interdisciplinary competencies and professional competence of music teachers as a whole contributes to the efficiency of formation of the professional competence of bachelors in the profile "Music education".

Discussions

Currently certain theoretical prerequisites for study of the problem of formation of the professional competence of music teacher (bachelors in the profile "Music education").

The researchers such as V.I Baydenko (2005), V.A. Bolotov (2003), E.F. Zyeer, A.M. Pavlova and E.E. Cimanuk (2005), I.A. Zimnyaya (2006), A.V. Khutorskoy (2005) and others showed the theoretical basis of the competence approach in their work. From the view of the pedagogical science and practice the works of E.B. Abdullin (2006), O.A. Apraksina (1983), L.G. Archaznikova (1984), L.A. Rapatzkaya (2011) are considered to be essential being aimed at improving the educational process of musical pedagogical faculties. In the context of integration processes in vocational education the urgency of developing of problems of an interdisciplinary approach and interdisciplinary connections, is increasing. It is reflected in the works of V.S. Bezrukova (1994), M.N. Berulava (1998), I.D. Zverev and V.N. Maksimova (1981), Y.N. Syomin (2002), N.T. Chapaev (2005) and others.

At the same time in the works of modern scientists the mechanisms for establishing interdisciplinary relations in the process of professional training of competent of music teachers, based on the relationship and interpenetration of cultural, educational and musical contexts are not fully investigated.

Conclusion

It is found out that the designed complex of pedagogical conditions of formation of professional competence of music teachers on the basis of an interdisciplinary approach assists to the formation of components of their professional competence; and the proposed criteria and indicators of the level of formation of professional competence, supplemented by the element of interdisciplinarity reflect the unity of the component composition and determine the process of formation of interdisciplinary competencies. Taking into account the obtained results of this study we can point out a number of research

challenges and perspective directions that require further consideration: adaptation formed pedagogical conditions to the specifics of the master's training profile "Music education"; designing computer tools of drawing cognitive-musical maps; information-technological support of the process of formation of the professional competence of future music teachers.

Recommendations

The article can be useful in practical terms for students of secondary and higher professional education, teachers, heads of creative clubs, and also for the process of self-education performers in the tendency of modernizing of the existing traditional methods and forms of interdisciplinary interaction.

The course "Interdisciplinary connections in creative activity of music teachers" is recommended to teachers and students of musical-pedagogical faculties of universities.

The technologies of comparative listening to music and cognitive-musical maps improving professional training of future music teachers, can be used by teachers in order to deepen foster interdisciplinary connections of psycho-pedagogical and special disciplines.

Electronic educational-methodical complexes on the following disciplines were developed and introduced in educational process: "National music education of pupils, "Fundamentals of creative teaching", "Interdisciplinary connections in the creative activity of a music teacher".

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Disclosure statement

No potential conflict of interest was reported by the authors.

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