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The Development of General Cultural Competencies among Students by Means of E-Learning

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Abstract

Practice shows that general cultural competencies are insufficiently developed among the majority of bachelor programs graduates. The reason lies in the immaturity of theoretical framework, design and implementation of the functional model, pedagogical conditions, technologies, new approaches to the development of general cultural competencies with the help of e-learning in the university. This study specifies the in-depth characteristics of students' general competencies, it elicits pedagogical reasons for the development of general cultural competencies among students by means of e-learning. The research presents test results of the model performance during the course of the experiment. Research methods: theoretical methods, such as subject research analysis based on the study of psychological and pedagogical literature, reflexive systemic analysis of the feasible management of educational work. Pilot testing has been implemented in the Institute of Psychology and Education of Kazan Federal University at the Department of Preschool Education. A model representing the building-up phases of students' general cultural competencies utilizing Moodle-based e-learning is presented. The research involved the participants of 2-4 year students studying the training programs: "Teacher training", "Preschool education". The research has indicated that the implementation of the model in the university promotes the effective development of students' general cultural competencies. The results of the study boost the knowledge of e-learning capacities in the building of general cultural competencies.

Keywords: general cultural competencies, e-learning, development of general cultural competencies by means of e-learning, teacher training, model.

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Introduction

Currently, digitalization is one of the most discussed trends of modern education (Koroleva et al., 2019). Refocusing of the system of higher education in Russia towards a competency-based approach, the implementation of educational programs that employ e-learning contributes to the urgency of the development of general cultural competencies among students of teacher training universities. Sociocultural factors influencing the system of education, understanding the role of education in the information-oriented society determined the introduction of the new requirements to a teacher. These factors have also set out approaches needed while conducting professional education programs, making them more open and adaptable (Tryapitsyna, 2006).

In research studies (Budenkova, 2016; Istomina, 2014) general cultural competencies are understood as the personal achievements of students in the process of mastering general cultural contents of education which guarantee the ability to act while solving personal, professional and socially significant challenges in the modern socio-cultural environment. The requirement applied to the work commitments in the professional life of pre-school teachers is of particular importance (Sleptsova, 2018; Shaehova, 2020).

The fulfilment of these needs is possible in the context of teacher education, the implementation of which presumes the revision of concepts, aims, content, organizational forms and methods of education at a pedagogical university. It is necessary to underline that requirements for computerization of higher education uncover the new opportunities in ways of transfer and reinterpretation of cultural content. But the works of Russian and foreign scientists note a worrying situation which is accepted to be a worldwide trend: the loss of cultural value orientations, national “cultural codes” of past and present. The main reason is the insufficient development of theoretical bases of the development of general cultural competencies by means of e-learning, which more and more often comes into conflict with the objective practical needs in didactic models, pedagogical conditions and technologies of the development of general cultural competencies. The advantages of e-learning in building general cultural competencies remain unfulfilled. These tendencies could be overcome provided that the potential of disciplines with humanitarian, artistic and aesthetic focuses were mainstreamed through creating the integrated content of education (Valeeva & Karkina, 2014; Salpykova & Politaeva, 2016).

The model of teacher training education carried out at the Institute of psychology and education of Kazan Federal University includes various pathways of teacher training: variable trajectory, professional retraining of undergraduate students with subject-oriented majors, retraining of teachers to other disciplines, centers for advanced training and professional retraining, pedagogical internship, teacher-training master’s course.

The analysis of different interpretations of the term “general cultural competencies of undergraduate students” allowed us to determine that the most suitable approach towards its interpretation is integrative, allowing their cohesive study as integrative educational constructs. Based on the terminological analysis, we defined our own idea - general cultural competencies are the expected personal achievements of students in mastering general cultural competencies after completing the program of undergraduate education.

In the course of the study, motivational and value personal resources are considered as value-based orientations that are specified in the incentives; cognitive personal resources are defined as knowledge that ensures the possibility of the comprehension of current events, subject skills; operational personal resources are understood as the acquired universal and special ways of activity (Zenkina, 2009). The analysis of federal state educational standards of higher education at the undergraduate level as well as of the current social mandate in the sphere of higher education allowed to identify the main general cultural competencies of undergraduate students. They are as follows: the ability to work in cooperation, perceiving social, ethnic, confessional and cultural differences in a non-judgemental manner; the ability to communicate in a foreign language to solve problems of interpersonal and intercultural cooperation orally and in written form; the ability to self-organize and self-educate. Based on the analysis of scientific literature it has been determined that the dominating point of view on this issue consists of the understanding of the structure of general cultural competencies that is presented in Table 1.

Table 1. Structure of general cultural competencies of undergraduate students

cognitive component	knowledge and understanding of general cultural content of education, analysis, synthesis and evaluation of general cultural information
motivational and value component	non-judgemental perception of social, ethnic, confessional and cultural differences, commitment to teamwork and performance in the multicultural environment, a tendency towards self-organization and self-education, value approach towards general cultural information
operational component	the ability to work in a multinational team on projects, proficiency in creating texts on general cultural issues with the help of word processing programs, research skills

The technologies of e-learning are considered to be essential in the process of the development of general cultural competencies in the modern educational environment. Modern information, communications technologies and e-learning possess a great number of advantages in terms of formation of general cultural competencies: graphical interpretation of general cultural information, computer modelling of sociocultural objects; transfer of a considerable amount of general cultural data; automatization of the processes of search activity, educational and methodological support, management of educational process and control over the acquirement of general cultural knowledge (Babushkina, 2010). Despite the advantages of modern information and communication technologies and e-learning in the course of formation of general cultural competencies, specialists (Yachina & Khurmatullina, 2016) note insufficient conceptual development of theoretical bases of this process which more and more often comes into contradiction with practical needs for scientifically substantiated models and conditions.

This goal is gradually achieved through the university-wide concept “Teacher for the complicated world” created as part of the program “Priority 2030”. Educational environment Moodle is one of the ways of its realization within the university. The list of general cultural competencies formed as a result of using e-learning in the university educational process is presented in Table 2.

Table 2. The list of general cultural competencies formed in the course of e-learning

cognitive general cultural competencies	methodological and systemic general cultural competencies	interpersonal general cultural competencies
<ul style="list-style-type: none"> – qualitative adoption of general cultural knowledge important in professional activity; – thinking on a higher level of generalization; discussion of problematic aspects of study topics; – well-developed analytical and evaluative thinking. 	<ul style="list-style-type: none"> – the ability to search information with the help of various sources; – creativity and imagination; – perseverance in reaching the set aims; – the ability to set and achieve goals at individual and group levels; – the ability to put general cultural knowledge into practice. 	<ul style="list-style-type: none"> – the ability to treat national and cultural differences in a non-judgemental way; – the ability to establish constructive and confidential relationships between members of the staff; work in teams

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Thus, the detailing of the potential of e-learning in the development of general cultural competencies allows us to determine the development of general cultural competencies among undergraduate students by means of e-learning as a cohesive, integrated pedagogical process which allows for the intensification of the development of general cultural competencies of future bachelor’ degree graduates by ways of visualization, modelling, integrated representation of the general cultural objects under study, events, processes and information.

Purpose and objectives of the study

The purpose of the study is to develop a model which reflects the phasing of the formation of general cultural competences of students by means of e-learning through Moodle environment.

Literature Review

Today the process of obtaining professional competencies by students is one of the most important fields of research. The formulation of the main paradigm of the competency-based approach (Zimnyaya, 2003; Zimnyaya, 2004) and the development of static and dynamic competency-based models (Khutorskoy, 2003) have led to various definitions of competencies intending to create a uniform interpretation of competencies (Shadrikov, 2004) and also, the development of potential methods in order to formulate them. Professional competence is a derived component of the general cultural competencies of any individual (Andreeva, 2012; Klink & Boon, 2002; Sinyakova, 2010). Evaluating the degree of the problem development we would like to note that the sufficient amount of research work disclosing various aspects of general cultural competencies development of the bachelor’s degree students is available at higher education institutions (Babushkina, 2010; Yachina & Shishova, 2016; Yachina & Khurmatullina, 2016; Budenkova, 2016; Asafova & Golovanova, 2017).

The methodological framework of the research is composed by the following principles: a system approach (Bronzino & Filatova, 2012; Asafova & Golovanova, 2017) which made it possible to view the general cultural competencies development among the bachelor's degree students as an integral multilevel variety of interconnected components (the system); integrative approach (Krylova, 2007; Boyarkina, 2013; Valeeva & Karkina, 2014; Makarchuk & Malchevskaya, 2018; Yarmakeev et al., 2018; Woods, 2021), which views the general cultural competencies development among the bachelor's degree students as a comprehensive training process from the perspective of interdisciplinary integration (Bondarevskaya, 2004).

The information competence has been studied by (Vlasova, Kirilova & Masalimova, 2015; Chen, 2017; Grunis, Golovanova & Kirilova, 2021). Public Open Online Courses (Brolpito, 2018; Min & Nasir, 2020). Although the merits of the modern information and communications technologies and e-learning in the process of building general cultural competencies outweigh, some specialists (Jones & Bennett, 2017; Keyek-Franssen, 2018) draw attention to the insufficient conceptual development of the theoretical framework of the process, which often contradicts with the demands of practical work in the science-based models and conditions which:

1. are directed at the development of general cultural competencies (Boyarkina, 2013; Istomina, 2014);
2. provide the solution of psychology and pedagogic tasks of the reasonable use of computer facilities in the learning process and also maintain the balance between traditional and e-learning (Cahapay, 2020);
3. imply the design of a didactic e-learning environment (Cela-Ranilla et al., 2017).

Methodology

The method of carrying out the study can be named as a specifically organized structural unity of certain algorithmic actions and features of its implementation (Kvon et al., 2018). The receipt of the primary data has involved the use of the methods of review and analytical study of general cultural competencies and organizational and technological aspects of their development in the e-learning environment. As for the research methods, the analysis of the standards of higher professional education majoring in "Teachers' Training" and programs of the pedagogical disciplines were used, as well as systematization and generalization. The leading research method for this problem was pedagogical modeling. Based on the systematic, integrative, competencies-oriented and personality-oriented approaches and principles of integrity, structure, hierarchy, subordination, interdependence, the model for the development of general cultural competencies among bachelors' students by means of e-learning at the university has been implemented. The method of the analysis allowed the study to focus on the structure of the pedagogical model. In addition, the study used the empirical methods focused on collecting and practical processing of the data, in particular, the study used the methods of observation and generalization of the results for research purposes (including graphical presentation of the results, interpretation and quantitative analysis of the data).

The implemented complex of the methodological approaches to the development of the model has determined its differential properties: integrity, suggesting the coherence and interdependence of the model's components; hierarchy, implying a certain sequence of the model's components; synergy, which determines the focus of all the model's components to achieve the goal; integrity, which implies the construction of the model on the conditioned connections among the relatively independent components; variability, which implies the possibility of varying ways and means of solving the goal.

The experimental basis of the study was the Department of Preschool Education of the Institute of Psychology and Education, Kazan (Volga Region) Federal University and its students of internal and distance study modes who major in Pedagogical education (Preschool Education) (44.04.01). 76 full-time training students of the second, third and fourth years took part in this research and 76 part-time students. The experimental study had three stages (ascertaining, forming and controlling) and was carried out from 2019 to 2021.

In the first stage, which was the research and analytic one (2019) the analysis of the theoretical approach to the problem was implemented, scientific-research tools were specified, the experimental procedure was chosen.

The second stage, which was a pilot one (2019-2020), involved the pedagogical experiment with the aim to test the hypothesis and appraise the model for developing general cultural competencies among students by means of e-learning in the natural conditions of the training process within the university, accompanied by the accomplishment of three stages (preparatory, managerial, analytical) with the account of the components of the model, pedagogical conditions and the organization of the training process in Moodle.

During the third stage – a synthesis, (2020-2021) the experimental work was accomplished, the interpretation of the research results was conducted, theoretical guidelines and conclusions were ascertained.

In the course of the experiment indicators and criteria of students' general cultural competencies were identified. The indicators characterizing the level of general cultural competencies development are as follows:

- Cognitive component. Its indicators are knowledge and understanding of general cultural competencies content of education, analysis, synthesis and evaluation of general cultural information.
- Motivational and value component. Its indicators are tolerant perception of the multicultural world's

diversity; commitment to self-management and self-evolution.

- Operational component. Its indicators are the ability to work in creative projects, skills to organize presentations on the art and aesthetic themes, etc.).

Results

The didactic potential of electronic technologies can be achieved only through the use of resources with clear validation (Cahapay, 2020). During the quarantine professors, students and staff of Kazan Federal University actively used affordances of a corporate platform Microsoft Teams and learning management system (LMS) Moodle. The content (Table 3) demonstrates that the use of electronic learning resources in the Moodle system presents opportunities for cooperation between professors and students.

Table 3. Advantages of digital resources

Advantages of digital resources for undergraduate students	Advantages of digital resources for professors
engagement, increased interest towards a discipline (course)	time (start and finish of a course, protocol); content of the course (curriculum, study modules, succession); securing automatic control of knowledge and skills
possibility of studying in a comfortable environment and rhythm, working through information several times	organization of independent, research and project activity
possibility of activity and independence in the course of mastering the subject matter of the course	possibility of building individual educational strategies for students
creation of conditions for the independent choice of level of tasks	formation of the system of distance, additional education

Based on the systemic and personality-oriented approaches, a pedagogical model for the development of general cultural competencies in undergraduate students by means of e-learning in the university (Table 5).

It was possible to identify its parameters based on the work with digital educational resources of such disciplines as «Theory and methodology of music education»; «Theatre pedagogics» created on Moodle platform by one of the authors of this article. Currently, these courses are successfully passing the assessment and demonstrating the first results at the Departments of preschool, primary education of the Institute of Psychology and Education of Kazan Federal University. The structure of the model for the development of general cultural competencies of undergraduate students by means of e-learning was presented by us with the following components: social and target-oriented, content and processual, evaluative and resultative.

The preparatory stage was carried out through diagnostic goal-setting, taking into account the elements of the target and methodological components of the model (preconditions, aim, approaches); ensuring cultural conformity and multiculturalism of the contents of education (condition 1), taking into account the elements of the target (preconditions, aim), methodological (approaches) and content-procedural (content of education) components of the model; through the selection and development of educational tools in the framework of creating an open, interactive creatively developing electronic information and educational environment (condition 2); taking into account the elements of the target (preconditions, aim), methodological (approaches) and content-procedural (technology and conditions, means) components of the model.

Table 5. Model of the development of general cultural competencies among undergraduate students by means of e-learning in Moodle environment

<p>Preconditions Social mandate Requirements of FSES of higher education++ Modern requirements towards digitalization of education</p>
<p>Aim: Formation of general cultural competencies of future preschool teachers by means of e-learning at university</p>
<p>Methodological approaches: Systemic, integrative, competence-based, learner-centered</p>
<p>Pedagogical principles: humanization, cohesiveness, integration, cultural congruence, multiculturalism, individual trajectory, productivity, open and creative environment, feedback</p>
<p>Content of education: Theory and methodology of music education, Music Pedagogy, Theatre Pedagogy</p>

Pedagogical conditions and technologies of developing educational competencies of undergraduate students in the context of e-learning (Moodle)	
<p><i>component of content and procedure:</i> the content of aspects of organizational and pedagogical assistance, realized at preliminary, main and final stages of interaction between actors of the process of preparation of students in the course of e-learning.</p>	<ul style="list-style-type: none"> - creation and implementation of an online course of a particular discipline, development of electronic educational and methodological complex «Theory and methodology of music education»; «Theatre pedagogics» - electronic educational and methodological complex of disciplines «Theory and methodology of music education»; «Theatre pedagogics» (EEMCD); - interactive cooperation by means of submissions from students of internal and distance study modes, encouragement of independent solving of problems et cetera; - automatization of monitoring academic progress and consideration of results; development of individual plans of studies for undergraduate students.
<p><i>component of operation and activity:</i> presentation of a body of forms, methods and means of education.</p>	<p>Course (discipline) «Theory and methodology of music education»; «Theatre pedagogics»</p> <p>Modules:</p> <p>Lectures: Summary → Video lecture → Presentation → Glossary → Tasks for self-evaluation → Forum (offline) or chatroom (online) → Audio and video files → exchange of messages with professor → Tasks for evaluation → Intermediate test → Final test → Counselling (online or offline) → Pass/fail exam (presentation of a creative project).</p> <p><i>Organizational and methodological assistance of the process:</i> study program of a discipline, text of the lectures, presentations.</p> <p><i>Studying and methodological recommendations for independent work of students:</i> topics and tasks for independent work, recommendations.</p> <p><i>Informational support:</i> «Forum», «Test», «Resource», «Glossary», «Lecture», «Questionnaire», «Task», list of main and supplementary literature; monitoring and measuring materials (on-line tests, questionnaires, review questions).</p>

<i>component of evaluation and result:</i> criteria of the effectiveness of preparation.	Formation of general cultural competencies of undergraduate students. Motivational and value component. Indicators: non-judgemental perception of differences of the multicultural world; orientation towards cooperation with colleagues within multicultural staff; aspiration towards self-organization and self-development; value-oriented attitude towards general cultural information. Cognitive component. Indicators: knowledge and understanding of general cultural content of education, analysis, synthesis and evaluation of general cultural information. Operational component. Indicators: the ability to work in a multinational team on innovative projects, the ability to create texts and presentations on general cultural, artistic and aesthetic topics with the help of word processing programs, research skills
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Table 6. Thematic design of the content of study modules of courses «Theory and methodology of music education»; «Theatre pedagogics»

Module	Theory and methodology of music education	Module	Theatre pedagogics
<i>Module 1.</i> Theoretical aspects of music education of preschoolers	<i>Topics:</i> Music as an art form. Aims of music education of children of preschool age. Children as the subject of music education.	<i>Module 1.</i> Theoretical aspects of establishment and development of theatrical art.	<i>Topics:</i> Specific basis of theatre as an art form. Historical aspects. Modern theatre, genres, types, syncretism and synthetical character of theatre performance. Creation of stage image.
<i>Module 2.</i> Methodological aspects of music education of preschoolers	<i>Topics:</i> Variants of music activity: Listening (Perception) to music. Singing. Musical and rhythmic movements. Methodology of playing children's musical instruments. Musical and educational activity in music education of children of preschool age. Music classes as a form of organization of musical activity of children of preschool age. Use of music in everyday life of organizations of preschool education.	<i>Module 2.</i> Theoretical aspects of the theatrical activity of children of preschool age.	<i>Topic.</i> Theatre pedagogics and its role in teaching children of preschool age.

		<i>Module 3. Methodological aspects of exposure of preschoolers to theatrical activity in organizations of preschool education.</i>	<i>Topic. Organization of theatre activity in an organization of preschool education.</i>
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The model for the development of general cultural competencies of undergraduate students by means of e-learning in Moodle environment was tested by creating an informational space at <https://edu.kpfu.ru>, and electronic educational resources «Theory and methodology of music education» and «Theatre pedagogics». The Institute of Psychology and Education of Kazan Federal University and its students of internal and distance study modes who major in Pedagogical education (Preschool Education) (44.04.01) served as the experimental facility of the study. Disciplines «Theory and methodology of music education» and «Theatre pedagogics» belong to compulsory and are studied during third and fourth years in semesters six and eight.

The provision of cultural conformity and multicultural content of education (condition 1) in the context of the stipulated problem for developing general cultural competencies of bachelor's students was carried out within the framework of the development and application in that process the following:

- 1) algorithm for the development of general cultural competencies among students by means of e-learning in the university, the implementation of its four phases provides enrichment and feasibility of the content;
- 2) electronic educational and methodical complex, including a description of the complex itself, an educational syllabus, schedules of academic activity, a dynamic curriculum, electronic textbooks, educational and methodical instructions to the unsupervised activities and tests;
- 3) resources of the educational wiki-site, which provides an involvement of students in the activities on self-enrichment of the content of training through the creation, publication on the site of materials of general cultural topics.

The construction of the open, interactive, creative electronic information and educational environment (condition 2) on the principles of openness, dialogue, nonlinearity in the context of the issue of general cultural competencies development of undergraduate students was carried out within the framework of the design and usage in this process of the algorithm for the development of students' general cultural competencies by means of e-learning in the university. The implementation of four phases ensured the development of the environment through collective creative activities of the participants of the training process.

- 1) orientation – creation and development of individual and group educational environments in the format of blogs or wikis with the publications of links to them on the resource and educational wiki-site, enrichment of learning content posted on LMS Moodle by publishing creative works within the framework of participation in the remote academic competitions;
- 2) network social interaction - the joint creative activity of the academic network community on the development of the resource and educational wiki-site, parallel development of individual and group educational environments;
- 3) research in the network – further development of the resource and educational wiki-site, individual and group educational environments by means of individual and collective research activities
- 4) web project – enrichment of materials of the environment with the products of collective creative activity.

The forming stage was put into effect with account taken of the elements of the target (Preconditions and aim), methodological (approaches and principles) and substantive and procedural (content, technology and conditions, methods, forms, means) components of the model in compliance with the four phases of the developed algorithm for the building of general cultural competencies among undergraduate students by means of e-learning in the university:

- *orientation* aimed at ensuring more effective development of the components of general cultural competencies of students through the accumulation of group dynamic processes;
- *network interaction* aimed at efficient modification of the components of general cultural competencies in students by gaining experience in self-enrichment of the learning material within the framework of the formed network educational community;
- *research* in the network and project enabling the students to participate in socio-cultural practices (research activities in groups) through the use of e-learning technology in cooperation, with the provision of the worn-out scenarios "Electronic Mosaic", the web project "In the world of art", "Visiting a fairy tale", etc. (*condition 3*).

During the implementation of the forming stage, in terms of the elements of the target, methodological and content-procedural components of the model that facilitated:

1st condition – cultural conformity and multiculturalism of the subject matter of education,

2nd condition - the creation of an open, interactive, creatively developing electronic information and educational platform, and 3rd condition - the involvement of students into socio-cultural practices with the use of e-teaching, based on the use in this process of the algorithm for the development of general cultural competencies of students by means of e-learning in the university, we stated that their systematic implementation in accordance with the four phases of the developed algorithm contributed to the development of the components of general cultural competencies of students:

– motivational – acceptance of differences of the multicultural world and commitment to the cooperation with colleagues in a multinational team driven by the work of students on web projects as part of intercultural groups with the use of e-learning in cooperation; facilitation of the aspiration to self-organization and self-development, based on the use of technology of electronic portfolio; foster students' understanding of the importance of general cultural information, computer learning technologies and strive to apply them through the independent search, evaluation, selection, enrichment of the general cultural learning material on the Internet, the development of an individual and group educational environment in the form of an educational blog, wiki-site;

- cognitive – gaining experience in self-enrichment of learning material, teamwork; development of skills of analysis, synthesis, evaluation of general cultural information by means of joint search, analysis, evaluation, selection, systematization of information;

– operational – developing skills to work as a multicultural team in projects, mastering research skills by including students in the creative and research activities.

The analytical stage was based on the performance analysis of the process development of undergraduate students' general cultural competencies with the help of e-learning in the university, with an account of the evaluative and result components of the model (criteria, indicators, levels, result). During that stage, it was concluded that the implementation of the developed model made it possible to create the motivational, cognitive and operational components of general cultural competencies of students taken as a whole. It was substantiated that the identified changes in the level of general cultural competencies of students are not random, the introduction of the developed model has proven to have positive changes within the entire set of parameters having an overbearing influence on the development of general cultural competencies among students via the use of the Wilcoxon criterion.

At the generalizing stage, the analysis of the results of the pilot testing on the implementation of the model of developing general cultural competencies of undergraduate students by means of e-learning in the university was carried out on the basis of: "pre-threshold level", "threshold level", "advanced level" for the indicators of general cultural competencies development within the motivational, cognitive and operational criteria. The stage involved the implementation of an algorithm for the development of general cultural competencies of bachelors by means of e-learning, ensuring the involvement of students in creative projects, discussions, in the context of the integration of the general cultural content of humanitarian disciplines ("Preschool Pedagogy", "Cultural Studies", "Multicultural Education", "Museum Pedagogy", etc.) with the consideration of the elements of the content-procedural component (subject matter, technology and conditions, methods, forms and means).

The third pedagogical condition is supplied with the worked out didactic materials, web-tasks, electronic educational and methodological complex, educational sites and webinars, and is gradually implemented by means of the developed algorithm: orientation; organization; net interaction. The analytical stage was guided by the analysis of the effectiveness of the building process of general cultural competencies in students, in view of the elements of the evaluative and result components (criteria, indicators, levels, result). In the control phase of the experiment, the final assessment of the effectiveness of the implementation of the generated model for the development of general cultural competencies in students by means of e-learning in the Moodle environment was carried out. The results of the data on the levels of the development of general cultural competencies within the framework of an integrated general cultural indicator at the ascertained, control stages of the experiment are shown below. The histogram (Figure 1) compares the percentages of students of the experimental ($N_1 = 74$) and control ($N_2 = 74$) groups, distributed by the levels of development of general cultural competencies, within the framework of an integrated general cultural indicator at the ascertaining (before) and control stages (after) the experiment.

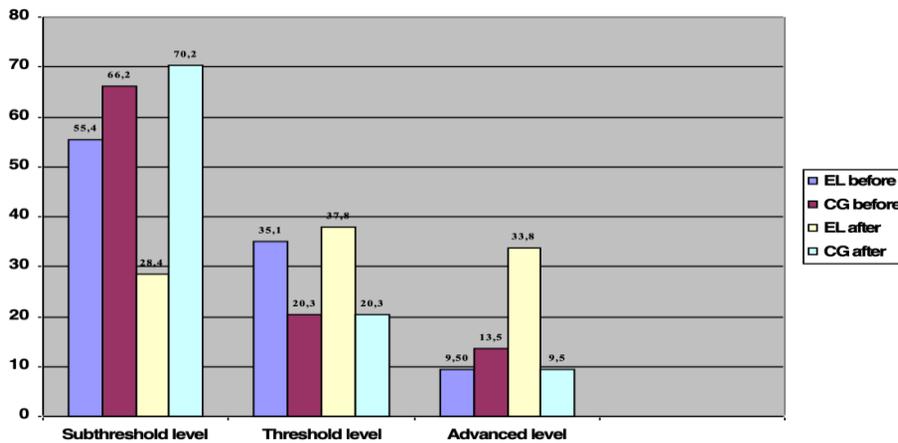


Figure 1. The results according to the degrees of formation of general cultural competencies

As a result of statistical analysis of the data for the integrated general cultural indicator, the absence of a statistically significant difference between the experimental and control groups at the ascertaining stage ($\chi^2_{emp}=4.2$; $\chi^2_{emp}<\chi^2_{0.05}$; $df=2$; $\chi^2_{0.05}=5.99$; $p>0.05$); the presence of a statistically significant difference between the groups at the control stage ($\chi^2_{emp}=27.2$; $\chi^2_{emp}>\chi^2_{0.05}$; $df=2$; $\chi^2_{0.05}=5.99$; $p<0.05$) was brought to light.

All in all, after the implementation of the model the number of students from the treatment group with a subthreshold level of formation of general cultural competencies got reduced from 55.4% (41 respondents) to 28.4% (21 respondents); the number of respondents from the treatment group with an elevated level of formation of general cultural competencies increased from 9.5% (7 respondents) to 33.8% (25 respondents).

Discussions

In this study, e-learning was introduced with the aim of theoretical substantiation, development and verification of the model and pedagogical conditions for the formation of general cultural competencies of bachelor students. To achieve pedagogical goals, the didactic potential of the Moodle resource was used. Visual presentations were posted as links to files; e-mail addresses of Internet sources were marked as links to web pages. They complement the thematic content by linking to a wide range of applications for the Internet and open it up from the point of view of public opinion and the socio-cultural objective conditions of our time. The topic of the lecture content, structured by the teacher, was placed in the "Lecture" paragraph. The electronic course insured the possibility of independent study of the discipline.

The solution of methodological problems was achieved through a complex approach to structuring information in a block, including a full set of necessary tools for studying the topic, such as a lecture and reference material (glossary), self-control tools (choice, quiz) and communication (forum, chat). E-learning, subject to its adaptation to the specifics of subjects of art and aesthetic and creativity, is quite capable of becoming an integrative part and an alternative form of education in the universities. The conducted research does not conclude the whole variety of aspects of the problem we are covering.

Conclusion

The conducted study enables us to conclude the following: The development of software will help to improve the organization of distance training of humanities majors but distance acquiring of proper higher education in humanities, based on the requirements of FSES3++ of higher professional education is very difficult. However, due to the specifics of art (music as the most abstract of arts, artistic and aesthetic disciplines as being mostly practical), the possibility of including or completely switching towards distance learning in institutions of higher education appears problematic and questionable. Distance teaching of undergraduate students is desirable to be carried out after analyzing possibilities of its employment in the course of implementation of the principal educational program, taking into consideration the requirements of federal state educational standards. The model of formation of general cultural competencies of students by means of e-learning in the environment of Moodle may be used in the organization of training of students on condition of certain alterations being made after taking into account their specifics. It can be explained with the following reasoning: first of all, the scope of the problem under study and the need for interdisciplinary relationships aimed at the development of general cultural competencies in all blocks of university disciplines and not just disciplines covered in this research. Secondly, experimental technology, being inconclusive in such a problematic field as the development of general cultural competencies, undoubtedly requires improvement. The model of development of general cultural competencies of students by means of e-learning presented in the article can undoubtedly be elaborated which provides possibilities for further empirical studies in the field of e-learning.

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References

- Andreeva, M. A. (2012). The personality of a university teacher as a factor in the formation of general cultural and professional competencies of future specialists. *Theory and practice of education in the modern world: materials of the International scientific conference. St. Petersburg: Renome*, 304-306.
- Asafova, E., & Golovanova, I. (2017). Competence approach in teacher training in the process of development and testing of the module "Interaction of educational relations participants". *The European Proceedings of Social & Behavioural Sciences EpSBS*, 29, 74-82. Available at: <https://doi.org/10.15405/epsbs.2017.08.02.10>
- Babushkina, L. E. (2010). Pedagogical conditions of formation of sociocultural competence of pedagogical university students. *Integration of education*, 1, 9-14.
- Bronzino, L. Yu., & Filatova, M. N. (2012). Competency-based approach in education: the problem of formation of general cultural university environment. *Modern studies of social issues*, 6(14).
- Budenkova, E. A. (2016). On the question of formation of general cultural competencies among undergraduate students by means of e-learning at universities: theoretical and practical aspects. *World of Science*, 4(3).
- Bondarevskaya, E. V. (2004). Phenomenological analysis of modern concepts of education. Theoretical and methodological problems of modern education, *Change*, 12-13.
- Boyarkina, V. V. (2013). The essential characteristic of the general cultural competence of the manager in the context of the basic values of world culture. *Bulletin of the I. Ya. Yakovlev ChSPU*, 4(80), Part 1, 26-31.
- Brolpito, A. (2018). Digital skills and competence, and digital and online learning. *European Training Foundation*, 84.
- Cahapay, M. B. (2020). Rethinking Education in the New Normal Post-COVID-19 Era: A *Curriculum Studies Perspective*. *Aquademia*, 4(2), ep20018. Available at: <https://doi.org/10.29333/aquademia/8315> (accessed 12 April 2021).
- Cela-Ranilla Maria, J., Esteve Gonzalez, V., Esteve Mon, F., Gonzalez Martinez, J., & Gisbert-Cervera, M. (2017). Teachers in the digital society: A proposal based on transformative pedagogy and advanced technology. *Profesorado-revista de curriculum y formacion de profesorado*, 21(1), 403-422.
- Chen, F., Gorbunova N., & Masalimova, A. (2017). Formation of ICT-Competence of Future University School Teachers. *EURASIA Journal of Mathematics Science and Technology Education*, 13(8), 4765-4777.

Grunis, M., Golovanova, I., & Kirilova, G. (2021). Transformation of pedagogical communicative competence in the process of creation of digital online courses. *Contemporary Educational Technology*, 13(1), 289.

Istomina, E. A. (2014). Formation of general cultural competencies of students in the context of realization of FSES of higher education of third generation. *International Journal of Experimental Education*, 4, 123-125.

Jones, A., & Bennett, R. (2017). Reaching beyond an online/offline divide: invoking the rhizome in higher education course design. *Technology, Pedagogy and Education Journal*, 26(2), 193-210.

Keyek-Franssen, D. (2018). Practices of successful students: from in-person learning to global and back. *Issues of Education*, Moscow, 4, 116-138.

Kvon, G., Vaks, V., Masalimova, A., Kryukova, Rod, N., Shagieva, R. M., & Khudzhatov, M. (2018). Risk in Implementing New Electronic Management Systems at Universities. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(3), 891-902.

Khutorskoy, A. V. (2003). Key competencies. Development technology. *Narodnoye obrazovaniye*, 5, 55-61.

Klink, M. V. D., & Boon, J. (2002). The investigation of competencies within professional domains. *Human resource development international*, 5(4), 411-424.

Koroleva, D. O., Havenson, T. E., & Lukina, A. A. (2019). Stuck in a jump: how preschool and school education digitizes. *School Principal*, 8, 63.

Krylova, N. B. (2007). Development of culturological approach in modern pedagogy. Personality in sociocultural dimension: history and present-day. *Collected Works*. Moscow publ., 132-138.

Makarchuk, Ya. V., & Malchevskaya, M. L. (2018). The problem of formation of general cultural competence of future teachers as a condition of readiness for professional activity in a multicultural educational space. *Pedagogical Journal*, 8(6 A), 36-44.

Min H., & Nasir M. K. (2020). Self-regulated learning in a massive open online course: a review of literature. *European Journal of Interactive Multimedia and Education*, 1(2), e02007. Available at: <https://doi.org/10.30935/ejimed/8403> (accessed 12 April 2021).

Salpykova, I. M., & Politaeva, T. I. (2016). The forming of prospective music teacher's readiness for professional activity in a multicultural society. *International Journal of Environmental and Science Education*, 11(8), 1849-1861.

- Sinyakova, M. G. (2010). The main approaches to determining the essence of the general cultural competence of the Bachelor of Management. *International Journal of Experimental Education*, 9, 23-35.
- Sleptsova, I. F. (2018). *Professional standard "Teacher": current challenges and key competencies*. Moscow, TC Sfera Publ.
- Shaehova, R. K. (2020). Professional standards and new approaches towards development of key competencies of preschool teachers. *Outlook and priorities of pedagogical education in the times of transformation, choices and challenges: VI Virtual International Forum on Pedagogical Education: Collection of Studies*, vol. IV. Kazan, Kazan University Publ.
- Shadrikov, V. D. (2004). The new model of a specialist: an innovative training and the competence-based approach. *Higher education today*, 8, 26-31.
- Tryapitsyna, A. P. (2006). *Effective school management in modern times*. Study guide. St.Petersburg: KARO.
- Valeeva, R. A., & Karkina, S. V. (2014). Aesthetic education of university students by means of integration of arts as a factor of development of agency. *Education and self-development*, 3(41), 51-54.
- Vlasova, V. K., Kirilova, G.I., & Masalimova, A. R. (2015). Information and logistic foundations of pedagogical education design and content of education. *Review of European Studies*, 4(7), 54-58. Available at: <http://dx.doi.org/10.5539/res.v7n4p54> (accessed 12 April 2021).
- Woods, P. J. (2021). The aesthetic pedagogies of DIY music. *Review of Education, Pedagogy, and Cultural Studies*, 43(4), 338-357.
- Yachina, N. P., & Shishova, E. O. (2016). Forming general cultural competencies of future teacher in the conditions of implementation of innovative model of teacher education. *Education and self-development*, 2 (48), 130-133.
- Yachina, N. P, & Khurmatullina, R. K. (2016). Formation of the monitoring competence of teachers in a comprehensive institution. *Journal of Mathematics Education*, 11(4), 843-857.
- Yarmakeev, I. E, Akhmadullina, R. M., Valiakhmetova, N. R., & Salpykova, I. M. (2018). Potential of pedagogical disciplines for forming ethno-cultural competence of students - Future teachers. *Astra Salvensis*, 6, 275-285.

Zenkina, S. V. (2009). Pedagogical basis of orientation of information and communications environment towards new educational results: *dissertation abstract*. Moscow.

Zimnyaya, I. A. (2003). Key competencies – the new educational paradigm. *Higher education today*, 5, 39.

Zimnyaya, I. A. (2004). *Key competencies as a key result and aim of competency-based approach in education*. Moscow, Issled. Centr Pr. Kach. Podg. Specialistov.