Postmodern Openings
ISSN: 2068-0236 | e-ISSN: 2069-9387
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2021, Volume 12, Issue 3, pages: 134-153 | https://doi.org/10.18662/po/12.3/332

Information and Communications Technology in the Professional Training of Future Professionals in the Field of Culture and Art

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Abstract: The article deals with the self-education of future specialists in the field of culture and art within the context of philosophical, psychological, and pedagogical studies of the postmodern era. This substantiates the need to use e-learning in professional training. The use of cloud computing technologies is one of the educational process' innovations. As shown by our research and personal experience implementing cloud computing technologies into the educational process proves to be feasible for training future professionals in the field of culture and art, including their self-education. The article shows that the aim of self-education of the future professionals in the field of culture and art is personal and professional perfection, and also achievement, at the maximum possible level, of the creative ideal. Today their professional training is focused on self-perfection, ability to self-educate, skill to foresee the consequences of their professional activity and search for the new ways to solve their professional tasks using ICT. The article justifies that cloud computing technologies allow spreading content in the Internet, they facilitate posting the text messages, photographs, pictures and musical files. Accessibility, openness, interactivity of the cloud computing technologies cause their wide use for both on-line and off-line communication, data sharing of text, multimedia and audio resources for all participants of the educational process that enriches the self-education of future professionals in the field of culture and art and makes it rich in content, practically-oriented and enhances professional competence. The article concludes that e-learning best meets methodological requirements of the postmodern society.

Keywords: *e-learning, information and communications technology, cloud computing technologies, Internet, professional training, self-education, future professionals in the field of culture and art.*

How to cite: Rohotchenko, O., Zuziak, T., Kizim, S., Rohotchenko, S., & Shynin, O. (2021). Information and Communications Technology in the Professional Training of Future Professionals in the Field of Culture and Art. *Postmodern Openings, 12*(3), 134-153. https://doi.org/10.18662/po/12.3/332

Introduction

Changes in the contemporary market conditions have caused the emergence of various new professions. This variety implies that future specialists would have a high level of professional competence, reflective of the needs and requirements of the labor market. Careful study of a number of research papers allows us to conclude that content of professional training and educational methods used for training the future professionals in the field of culture and art should be aimed at forming international-level professionals with the developed artistic thinking. Future professionals in the field of culture and art should be prepared for the independent artistic and project creative activity, for solving various problems in the field of culture and art. Professional in the field of culture and art is not just a highly qualified specialist in the field of fine art, but also a skilled practitioner in decorative and applied arts, restoration, information technology, artistic activity, who is able to implement a number of design methods. The requirements for training of the future professionals in the field of culture and art within the contemporary social and economic conditions have raised. Today one of the priority aims of the higher pedagogical education is training of a competent professional, able for self-development, self-improvement, and for choosing the best ways to solve professional tasks using ICT. Ability of the future professionals in the field of culture and art to navigate the information space, to work with different types of information, to obtain necessary information and operate it according to his own or personal needs and requirements of information society are on the agenda of the present-day education.

The heated interest to creativity in society causes the need to update the system of professional self-education, so that the future specialists would be able to learn on the basis of traditional methods and forms of training plus usage of the information and communications technology (ICT).

However, numerous problems of self-education with the use of ICT of the future professionals in the field of culture and art need a detailed scientific basis, new methods and technologies for the process of training the future professionals in the field of culture and art; all of the above mentioned factors have influenced the choice of topic of this paper.

Within the context of renewal and enhancing the education component of professional training of the future specialists in the field of culture and art we conducted a diagnostic study with the targeted questionnaire. The results revealed that: 24 % of the future professionals in the field of culture and art would like to attend additional classes to obtain

new professional knowledge about using ICT in their professional activity, even if such classes would be inconvenient to them in some regard; 12 % consider knowledge, obtained at the higher education institution, to be sufficient to conduct professional activity with the use of ICT; 16 % are fully aware of the criteria of choosing the educational resources for training future professionals in the field of culture and art; 21 % aim at the innovative aspects within the field of their future professional activity; 17 % have their own web-sites that combine the ICT potential and the use of smartphones; 10 % will later determine their knowledge of ICT, ability and skills to use it for future professional activity, based on their own analytic conclusions.

The results of the questionnaire prove that implementing ICT in the professional training of the future specialists in the field of culture and art could be an innovative and valuable component of its modernization and improvement.

Aim of the study is to theoretically substantiate the methods of professional training of the future professionals in the field of culture and art in the context of e-learning, which is the main educational environment of the postmodern era.

Objectives of the study:

– to analyze the current state of research of the professional training using the means of e-learning under the conditions of the postmodern education,

– to determine the substance and the structure of the self-education process of the future professionals in the field of culture and art,

– to identify the potential of using e-learning and ICT, including cloud computing technologies, in the process of self-education of the future professionals in the field of culture and art.

Theoretical aspects of Future Specialists' Self-Education in the Context of the Postmodern Society

Conceptual framework for the development of creativity in an individual based on ethnic and cultural revival of Ukraine has been set with the State National Program "Education" ("Ukraine of the 21st century", 1993), Laws of Ukraine "On Education" (1991), "On Higher Education" (2000), National Doctrine for Education Development (2002), Concept for Professional and Art Education (2002), Concept for Development of Technical and Vocational Education and Training in Ukraine (2004), Concept for the State Program of Preservation, Revival, and Development

of Folk Arts and Crafts in 2006–2010 (2006), Concept for National Education of the Young Students (2009), etc. These documents define priorities of Ukrainian national education aimed at developing cultural, artistic, aesthetic, spiritual, humane and national values in an individual.

This brings to the fore the human factor, as the future professionals in the field of culture and art are at once both holders, creators, and consumers of knowledge in the field of culture and art; and informatization of all spheres of human activity is a key factor to structural social changes. The growing need of informational, technological, and visual literacy for the future professionals in the field of culture and art, as well as understanding that humanity is undergoing changes, while educational practices are in stagnation, require a large number of specialists, skilled in using ICT, approved by the international educational communities and organizations. In contemporary educational systems the notion of information and communication competence (ICT competence) include digital literacy, technology literacy, information and technology literacy, technology literacy, ICT skills (UNESCO, 2008).

Diffusion of digital technologies contributes to transforming the education of the future professionals in the field of culture and art into persistent, individually oriented, flexible and dynamic process. UNESCO (2008) pays a special attention to the development of high-technology competence and skills of the 21st century with the use of ICT.

One can see that the issue of humanitarian values-based education is especially acute in the era of postmodernism. Future culture and art specialists are now way ahead of their teachers in terms of cultural sense, technological resources and a new understanding of the rapidly changing era. Consequently, didactic practices need to respond to social, cultural and technological change, and "the previous generation" teachers should strive to eliminate the dissonance between their experience and the needs of "the post-generation" (Nordgren, 2020). It is important to note that the starting points of the postmodernism which are laid down in the works of its theoretical founders. According to Peters & Biesta (2009), the educational space should now use all the postmodernism trends, such as imitation, play, deconstruction, skepticism. Indeed, they can acts as effective tools so that one can learn about the world within its variability in accordance with one's psychological modalities (Peters & Biesta, 2009). Currently, education is not instructional but transformative and creative since it is in the bosom of the didactic process where the necessary knowledge, intellectual and sensory experience can be generated.

It means that both classical and modernist paradigms of education

now serve as auxiliary elements, and their signs of linearity, certainty and rationalism are now a thing of the past. The current crisis of education (especially humanitarian one) is that it is based on relativity, subjectivism and uncertainty of the ultimate didactic goal since "reality is expected to change according to time, place and culture" (Kestel & Korkmaz, 2019).

The scientific basis of the postmodern education is epistemological and axiological relativism, which has Western characteristics and spreads across the globalized world (Shaukat & Basharat, 2019). Still, education remains one of the main constitutive forms of public consciousness and activity. It is so because it follows the location-oriented scheme, and the goal of the system plays a smaller role, mostly a framework-related one.

An anthropological nature of the postmodern education imposes a special responsibility on the teacher and the future specialist, who increasingly rely on their subjective individual resources in generating knowledge and experience. In light of this, the main personal tasks of the actors in the educational process are to develop charismatic leaders striving for self-development and transformations in a changing environment (Effendi et al., 2020). Such subjective goals are modified within the framework of individual life intentions and constitute a basic humanistic value together with respect for human rights and freedoms.

The main type of an educational environment in the postmodern era has become the electronic (cloud) environment, which, ideally, should be self-governing (controlled by the student). This fact increases the importance of independence and deep motivation in learning, which should only be "easily moderated from the outside" (Zawacki-Richter & Mayrberger, 2017). The "cloud" environment is constantly changing and improving due to technologies and is synergistically developing active actors in the educational process.

Lorenz (2018) concludes that the "cloud" environment is a rapidly changing, dynamic, externally organized service of educational and non-educational services, which is effective only under initiatives of its users. It is a space following a facilitative principle of organization, which requires constant structuring and regulation from users of educational services, rather than their spontaneous use. Distance and online courses, as well as relevant multi-functional and multi-channel teaching methods, are currently being introduced around the world.

The simplest tool of cloud educational environments is hashtags. They can be the most universal and, at the same time, individualized educational tools of access, control, self-control and self-learning. Actually, they are the closest developmental environment for actors in the educational

process (Veletsianos, 2017).

Bock (2018) identifies a number of the most promising features of e-(cloud) learning. They are flexibility, speed of access, individualization, efficiency, economy of time and other resources, multichannelity, multilevelness and multimodality of all didactic and educational aspects.

An electronic environment can equally provide creative professions with universality and uniqueness, so it is particularly developmental in terms of humanities. The only condition for its effective use is the filtering of non-environmental (toxic) information, which has the most destructive effect on the creative personality (Henriksen & Stambulova, 2017). However, the so-called uniqueness of the facilitated environment for creative professions is deceptive and can be decomposed into simple mechanisms of influence.

Thus, the postmodern conditions of education are the most favourable for developing future specialists in creative areas, who, in turn, are the most sensitive contingent of users of electronic services and "cloud" learning.

Yet, despite a large body of studies that cover training of future specialists and developing their professional competence, a number of issues remain insufficiently researched, i.e., professional training of the future specialists in the field of culture and art and advancing their professional competence in the process of self-education in the context of the rapidly changing postmodern conditions.

The problem of studying the professional training of the future specialists in the field of culture and art needs a complex use of the following methods: analysis of the scientific ad psychological sources of information that allowed us to generalize and systematize the researchers' view of the problem; study, systematization, and theoretical analysis of the publications and web-resources; description, characteristic, comparison, and diagnostics (questionnaires, survey forms).

The authors of the article have much contribution to the research. Indeed, Oleksandr Shynin analyzed theoretical and methodological literature on the postmodern aspects of modern education. Svitlana Rohotchenko was the main specialist in the use of e-learning in professional training of future art specialists. Svitlana Kizim developed the structure of the self-education process for them. Tetyana Zuziak adapted the practical aspects of "cloud" technologies for future culture and art specialists. Oleksii Rohotchenko much contributed to the coherence of the text of the article.

Features of usage of e-learning in the professional training of future specialists

Not only for Ukraine, but for all nations the priority is to build "a people-centered, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life" (World Summit on the Information Society, 2004). The main strategic objective is to train highly qualified professionals, able to develop new information technologies and effectively use them in their professional activity. Informatization of education is a key prerequisite for training specialists, skilled enough to work in the radically new, yet more automated working environment, able to navigate a large body of information that is being received constantly, to process it in a right manner, to save and transmit it. Improving the quality of education using ICT is one of the key factors for that. Informatization of education opens access to the global information resources; reduces the importance of physical location of the participants of the educational process for its success; accelerates globalization; contributes to better effectiveness of learning and individually-focused teaching, to the integration of educational, research and production activity; significantly enhances the number of extracurricular resources available to the students; contributes to higher motivation for learning and develops creative thinking. Interactive and multimedia visual aids promote better comprehending of the subject, and hence, better learning.

In such circumstances, one of the valuable approaches would be to gradually increase the amount and complexity of information, as the students gain professional knowledge and practical experience (Kizim, 2018, p. 124).

As of today, the features of professionalism of the future specialists in the field of culture and art are clearly defined. Among these features are: computer literacy, openness, agility, flexibility, cooperativeness. Computer literacy and information technologies literacy are considered a basic need for every future professional in the field of culture and art. High competence in these subjects allow to make creative decisions, find good application for theoretical knowledge and practical ICT skills.

Implementing e-learning in the process of professional training allows a radical change in the paradigm of knowledge transmitting that creates environment for the high-quality professional training aimed at "learn anywhere and anytime".

Substance and the structure of self-education process of the future professionals in the field of culture and art

Constant personal and professional development is probably the most important requirement for training future specialists in the field of culture and art. It is most closely linked with informing public about all the newest inventions in culture, science, and technology, about the highest moral set of values and ideals—to provide a progress in development of culture and art.

A. Disterveg stated that future professional "is able to truly learn and develop only by the extent he is working on his own education and development" (Disterveg, 1956, p. 134). If he or she is not learning, reading, or following the latest research in his field and does not implement these innovations into his or hers teaching practice, he not just happens to be left behind, but is drawn back and solving professional tasks becomes complicated. Academician Dmitry Likhachov, wrote, appealing to the youth: "One must always learn. All prominent scholars not only taught till the end of their lives, but also learned as well. When one stops learning—he is no longer able to teach, Knowledge gets more and more complex all the time" (Likhachov, 1999, p. 97). Thus, the problem of constant self-education have been defined as the most topical by the very life itself.

Contemporary researchers V. Andreev, S. Yelkanov, N. Kuzmina, K. Levitan, Yu. Lobeiko, L. Mitina, R. Skulskiy, V. Slastionin, T. Vaniylenko, etc. emphasize that self-education of the specialists is important not only for improving effectiveness of his professional activity, but for his personal development as well.

Therefore, on S. Yelkanov's opinion, all the professionally valuable features of the student's personality should be subjects of his self-education and development. The researcher defines three groups of requirements to the future professionals in the field of culture and art.

First and largest group are requirements to the future professionals in the field of culture and art as for the members of local community, citizens, who are fulfilling social demand: he is developing personalities of others by the means of his own personality. Accordingly, the future professionals in the field of culture and art should be well-brought, have certain ideological and political views, moral and pedagogical qualities, as well as professional interests and needs, beliefs and motives that drive their behavior, clear understanding of pedagogical ideal, professional ethics.

The second group of requirements for the personalities of the future specialists in the field of culture and art covers their individual experience

that includes professional training (deep knowledge of not only the subject matter of their profession, but also psychology, history and theory of pedagogy, its techniques, pedagogical process, i.e. ICT and ability to use it for general personal development).

The third group of requirements for the personalities of the future specialists in the field of culture and art concerns pedagogical analysis and synthesis, critical thinking, independence, flexibility, active approach, rapidity of response, observation, memory, creative imagination (Yelkanov, 1989, p. 3).

T. Vaynilenko, a researcher of professional self-development, sees the latter as a complex and multidimentional phenomenon, giving it the following definition: "Professional and pedagogical self-improvement is a process and result of creative, dedicated, independent, self-motivated movement of the professional from the real Self towards the ideal Self, from the potential Self towards the actual Self that is realized through professional self-development, self-education, and self-actualization, which ensure positive personal changes in the future professionals in the field of culture and art and is a prerequisite of their creative fulfillment" (Vaynilenko, 2005, p. 4).

The very term "self-improvement" points on its essence. Namely, "self" indicates that object of the actions is the person himself, that these actions are conducted independently, they are self-determined, and rather automatic, caused by the inner mechanisms. "Improvement" highlights perfection as a final goal of all activities.

In the contemporary situation of the innovative development of society the main point in organization of the educational activity is the students' need for creative self-fulfillment using ICT (Gurzhiy, 2013, p. 38). For the effective use of ICT in the professional activity, "compliance with the certain conditions is required, namely, professional readiness to use ICT, availability of high-quality hardware and software, understanding of the issue and support from the administration of the educational institution" (Gurzhiy, 2013, p. 43). Further, the main goal and strategic directions of solving this problem need to be defined. Computer is a powerful tool that stimulates future professionals in the field of culture and art for active work, raises their interest in learning, contributes to better understanding of the material and raises effectiveness of learning. At the same time, there are also certain problems: a need to create a didactic foundation, to develop educational software with the consideration of patterns and levels of development (Gurzhiy, 2013, p. 40).

According to Zhaldak et al. (2009), the use of ICT allows to

significantly increase the effect of the information, circulating within the educational process, due to making it timely, useful, appropriately dosed, available (comprehendible), with minimum noise, instantly transmitted, making it a source of educational information for the student, adapting the pace of providing information to the pace, with which it may possibly be learned; it takes into account the individual characteristics of the students, provides an effective connection between individual and collective activities, between methods and means of learning, and guarantees a good organization of educational process (Zhaldak et al., 2009).

Systematic and purposeful use of ICT in the education process of a higher educational institution ensures developing basic ICT competence. The importance of use of ICT for learning also lies in the fact that they enrich the classes with innovativeness that due to its form and content allows to cover a large body of material in a limited time, to re-interpret it, to raise interest in it, to deepen previously acquired knowledge. Pedagogical methods that use ICT relieve students of the uniform tasks and open way for the problems that require creative approach that raises the effectiveness of the educational process.

Therefore, the main task of the teacher is to organize student's independent work on the learning material. With regard to this, O. Zhyltsov states that "leaving student tête-à-tête with computer, teacher nevertheless still guides his educational activity, develops an interest in earning, takes into consideration the level of student's thinking giving him tasks of a certain level of complexity and certain amount of help" (Zhyltsov, 1996, p. 64).

Despite the possibilities that ICT provide, in our opinion, they should not be viewed as a replacement of the traditional educational methods, but rather as a supplement to them. For instance, O. Pekhota defines such main pedagogical goals of ICT: intensification of all levels of teaching and educational process, improving its effectiveness and quality; building an open educational system that assists every child and adult in choosing his own trajectory of self-education; system integration of the subject disciplines; development of creative potential of the student; development of skills of experimental and research activity and learning culture; developing informational culture; fulfilling the social demand, caused by the informatization of contemporary society (training IT professionals) (Pekhota, 2010, p. 65).

We believe that implementing ICT in the higher educational institutions is justified only their enormous potential may be most effectively used in the practice of teaching. ICT provide broadening (not substitution) of mental, intellectual capacity of a human by acquiring information and

turning it into knowledge. The way of thinking, patterns of communication and evaluation of others, and self-esteem change as well in the process.

At the same time, the Internet network that became solidly intertwined with people's everyday life cannot be ignored. Internet significantly multiplied possibilities for communication, opened access to the library and video resources that provide information about achievements in all spheres of scienceInternet network makes it easier for the students to reach the available materials, which they use to report back their work to the teachers.

Network technologies enable a set of functions: train student for self-fulfillment within the informational society; develop communicative skills; develop the skill to make optimum solutions; develop the skill to conduct experimental and research work and to process information quickly (Badarch, 2013, p. 134).

What becomes more and more popular today is the form of self-education organization of teachers that includes the use of cloud computing technologies. It is worthwhile to use the Internet resources designed to connect like-minded teachers from different regions. It allows teachers to become familiar and incorporate certain aspects of teaching style not only from their Ukrainian peers, but from their colleagues abroad.

Cloud computing technologies in the professional training of future specialists in the field of culture and art

When using ICT in the educational process, educational software and ICT means serve as the learning aids; various software and hardware gather, save, store, process, analyze, and transmit information.

D. Chernilevkyi draws the attention to the set of methodological objectives being effectively fulfilled with the use of ICT (Chernilevkyi, 2002, p. 202). In the training of future teachers, among these objectives we emphasize on:

- individual and differential approach to the learning process,
- control and further error diagnosis,
- self-control and self-evaluation,
- organizing training in the course of learning and students' self-study,
- visualization of the learning material,
- holding practical workshops (for instance, in language learning),
- providing access to the information online,
- forming students' informational competence,

– strengthening motivation to study (Chernilevkyi, 2002, p. 256).

The problem of using ICT for the listed objectives has been investigated from the different perspectives by the scholars. Therefore, the prospect for our research lies in studying the effectiveness of use of the clould computing technologies in the professional training of future teachers. Undoubtedly, Internet has limitless methodological and technological potential and global scientific study of its educational potential has just started; however, even at this early stage, when the horizon for these resources is only being drawn, the terms "cloud computing technologies", "educational web-technologies" (UNESCO, 2008).

Cloud computing technologies are the technologies that process data, while data centers are available to many users over the Internet services (Lytvynova, 2011).

These technologies allow a teacher to upload all the needed learning material and research papers on the remote server, and afterwards this data is available for access from any computer or device with Internet connection; one can work on his data using the resources of the remote server. It is also practical, as significant number of cloud services have their own mobile applications to provide convenient and dynamic working process on such devices, as tablets and smartphones that use iOS, Android or other mobile operation systems, which provide anytime, anywhere access to the personal data.

As it is illustrated in the research papers, the leading services for the education system are: Wikipedia, YouTube, blogs, websites, webcasts, bookmarks, online services for education, communication, and testing, systems of the distance learning, e-libraries, file depositories and resources with shared access, teamwork resources, video conferences, email, etc.

Among the main advantages of e-learning in self-education is that the student receives personal and targeted methodological assistance, thus, it becomes possible to ask for an opinion of a colleague or professional from other field in any convenient time. At the same time, online communication allows the practicing teachers to exchange their experience.

Independent work of a student of a higher educational institution could be conducted in two ways:

1. Firstly, by increasing the role of independent work during the classes.
2. Secondly, by inspiring the extracurricular activity.

In both cases there should be a significant information support to provide a quality independent work. In organizing independent work of students, three intertwined aspects of it should be present:

- unsupervised out-of-class work,
- independent work in the class, supervised by the teacher,
- creative and research work.

Therefore, the main aim of the higher educational institution is to keep the future professionals in the field of culture and art constantly motivated to self-study and to broaden their knowledge. In fact, on whatever level of his professional and personal life the teacher may be, he cannot consider his education finished and his professional competence completely formed.

Therefore, cloud computing technologies are effectively used not only during the different stages of professional training, but also in the self-education process of the future professionals in the field of culture and art.

Requirements to the educational e-resources based on the cloud computing technologies

With the advancement of cloud computing technologies, the functionality and access potential of e-resources also increase. Developers of the educational service may concentrate their attention of the education aspect, omitting certain technical aspects of ICT infrastructure that are supported by the outsource ICT services' providers (Bykov, 2011, p. 8). Thus, the stage of designing the service becomes more and more important, as the psychological and pedagogical requirements to the product should be coordinated with the technical and technological requirements. This adjustments define the quality and success of realization of the pedagogical idea, its compliance with the user's needs. With regard to this, developing the effective methods of evaluation of the educational resources, determining and standardization of their quality would allow to increase their output and their use in the cloud-oriented environment.

Due to cloud-based services, all needed educational material and means received by the user are virtually allocated to him and may be provided and received within one platform.

At the same time, the requirements to the quality of the cloud-based educational resources rise over time (Bykov, 2011, p. 10). It is necessary to develop the means and technologies that could be effectually used for gaining the best possible pedagogical effect, to get better teaching results, to fulfill the ICT means' potential in the most possible way; the main goal would nevertheless be to facilitate access to the information, needed in the process of gaining knowledge.

Thus the problems of developing, implementing, and use of cloud computing technologies require further refinement both regarding choosing

better ways to increase quality, content, and use of such resources and regarding means and technologies for providing access, presenting, and processing these resources, as well as monitoring their use (Shyshkina, 2011).

Implementation of cloud computing technologies opens perspectives for increasing the quality of educational e-resources in many areas of knowledge. Cloud computing technologies provide a basis for the main factors of modernization of the educational e-resources, bringing it into line with the contemporary requirements to the educational content.

Bearing in mind the technical and technological factors that matter while creating educational e-resources, we will make an attempt to develop our own educational information content for the professional training of the future specialists in the field of culture and arts engaged in self-education.

Contemporary communication means reach the level of development that allows them to transmit on whatever distance from the teacher to the student not only the content of the message, but also emotions which are so valuable while learning and training. The content of the learning material finally gets a "digital face" and requires the new forms of storage that would provide anytime, anywhere access. With the advancement of ICT the new software services and new forms of operating and storage of data emerge. In the recent years much was being done to use knowledge exchange experience and involve pupils, students, teachers, and lecturers into the life of professional communities, where all their members are able to exchange messages, text documents, video and audio files, as well as the knowledge that may be useful in their activity (Lytvynova, 2011).

Use of the Internet, including the cloud computing technologies, for self-education allow future professionals not only to browse the web, but to collaborate, posting text and media information online. Turning students into legitimate voices of the web-community opens possibilities not only for the effective implementation of ICT in their professional pedagogical activity, but also allows to expand the horizons of the future teachers; to master Internet communication skills; to organize interpersonal communication; to cooperate in a group; to systematically increase the level of general, technological and information competence (Kizim, 2017, p. 19).

The National Academy of Educational Sciences of Ukraine in collaboration with the Microsoft Ukraine has founded the Partnership in Learning network that provides more possibilities for the teachers to learn about the newest ICT in order to improve the quality of teaching. The aim of the network is to create professional virtual content storage, to collaborate in developing lesson plans, educational and methodological materials, to exchange experience and ideas (Malytska, 2011).

Future specialists in the field of culture and art in their professional activity may use the following cloud computing technologies:

- web-applications for learning,
- online services supporting the educational process,
- file depositories, shared access to files,
- e-journals and diaries,
- systems for distance learning, libraries, media libraries,
- resources for shared work, etc. (Chaachoua, 2000).

Thus, convenient and effective cloud-based means for professional training, including self-education of the future specialists in the field of culture and art, are: web-application, file depositories that provide shared access, email, etc.

Website builders are a timely way for beginners to create web-sites and manage their content. The number of these website builders in the Internet is enormous. They differ by the set of free services, editing options, storage space provided, and usability. Today it is a popular solution that allows to own a space of your own without significant investments.

The popular way to promote a web-site is social media. Wix has a wide range of instruments that allow to promote a web-site on Facebook, Twitter and other social media and platforms.

Another effective ad tool is email list. Wix offers a convenient emailing service Shot Out that grants its users a possibility to share in a couple of clicks their updates, special offers, information about new products and services, discounts, and many more. The service allows not only to email those who are in the mailing list, bit also to share information in the social media. Creating fascinating emails, you would hold the old readers' interest and, certainly, attract the new ones.

Using cloud computing technologies in the self-education of the future specialists in the field of culture and art is an important factor of their self-education, as these technologies allow future specialists not only to browse the web, but also to organize a working process with shared access, post text and media information online. The use of cloud computing technologies in the process of professional training of teachers raises the effectiveness of the educational process; affects the development of intellectual potential of the students, their skills to find data independently, to conduct information, learning, research activity; improves their skills to work with information and, eventually, improves training of the professionals, contributes to the individual and differential approach (Kizim, 2018, p. 125).

Cloud computing means allow to spread content in the Internet, facilitate posting the text messages, photographs, pictures and musical files. Accessibility, openness, interactivity of the cloud computing technologies cause their collective use for both on-line and off-line communication, for data sharing of text, multimedia and audio resources for all participants of the educational process (Morze, 2010, p. 5).

Cloud computing technologies in training and in self-education of future professionals in the field of culture and art allow to:

- use open and free access, free e-resources that may be used for educational purposes,
- independently create and post educational materials in the Internet,
- observe the activities of the others members of the community,
- master information concepts, knowledge and skills,
- create and discuss various situations that stimulate future teachers to creatively search for innovative solutions.

Web 2.0 allows to organize the following collective activities of the students:

- shared search of the education materials,
- shared bookmarks,
- shared creating and use of media materials (photographs, videos, audio recordings),
- collaborative creating and editing of hypertexts,
- shared editing and use of text documents, spreadsheets, presentations and other documents,
- shared editing and use of knowledge maps, study posters, etc.

Conclusions

Data about e-learning in Ukraine and globally prove the urgent necessity to stimulate it in order to sustain its dynamic and progressive development and implementation in all educational levels, primarily, in higher education. E-learning is an innovative technology, aimed at increasing professional competence and mobility of the students; on the contemporary level of ICT development it may be viewed as a technological basis for more fundamental and solid grounds of higher education of the postmodern era.

Innovative approaches should become yet more topical for the self-education process of the future professionals in the field of culture and art, especially with regard to the use of e-learning, as the requirements to the professional training have raised significantly after the start of renovation

and reformation of the educational system of Ukraine. Today their professional training is focused on self-perfection, ability to self-educate, skill to foresee the consequences of their professional activity and search for the new ways to solve their professional tasks using ICT.

Thus, the use of the cloud computing technologies generates the powerful creative impulse in the development of e-learning. Shared and allocated resources, web-technologies, and remote access to the educational materials significantly improved the efficiency of the professional training, its accessibility and participation. Network technologies, high-quality hardware allowed cerate professional environments and systems for providing education services and provision of different types of formal (organized) and informal (extracurricular) education.

Acknowledgement

Despite different levels of workload, the authors have equally contributed to the article. Tetyana Zuziak gathered factual data after conducting a relevant diagnostic study. Svitlana Kizim summarized the views of scholars on the personality development of future culture and art specialists. Oleksii Rohotchenko studied the characteristics of these specialists' training in the conditions of postmodern society. Svitlana Rohotchenko analyzed and modelled information technologies for teacher training. Oleksandr Shynin verified epistemologically inhomogeneous data within the limits of holistic research and, thus, directly participated in compiling the text of the article.

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