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READINESS OF TEACHERS OF THE HUMANITARIAN PROFILE FOR INTEGRATION OF MULTIMEDIA ELECTRONIC EDUCATIONAL RESOURCES INTO THEIR PROFESSIONAL ACTIVITY

The article is devoted to the relevant problem of integrating multimedia electronic educational resources into the educational process. The purpose of the article is to analyze the readiness of teachers of the humanitarian profile for integration of multimedia educational products into their professional activity. The modern tendencies of informatization that have affected the educational sphere as well, make it necessary for teachers to master the skills of developing, designing and effective using of multimedia educational resources in their professional activity. The present research regards the theoretical aspects of using multimedia electronic educational resources and also considers the issue of teachers’ readiness for their implementation into the university educational process. Based on the research findings, the authors have made the conclusion about the factors preventing the teachers from integrating multimedia electronic educational resources into their professional activity. The research findings have shown that teachers find it difficult to apply and create multimedia educational products due to the lack of systematic and deep knowledge about these resources, methods of their usage and skills of their development as well as the presence of certain psychological barriers associated with the necessity to use new digital technologies. The study has allowed the authors to identify the main directions which can intensify integrating multimedia educational resources into the educational process.

Keywords: multimedia, interactivity, multimedia electronic educational resources, interactive multimedia, electronic resources, digital educational content.
Introduction

At the given stage of society development, the widespread introduction of multimedia electronic educational resources into the teaching practice can be considered as one of the most significant directions of education modernization. We define a multimedia electronic educational resource as an educational resource presented in a digital form and combining content of various formats (video, audio, graphics, text, animation, drawings), which requires electronic devices.

The scientific and methodological aspects of electronic resources creation are developed by the number of native and foreign scientists. The studies of this question regard the issue from different points, such as emphasizing the problem of specialists’ advanced training in the sphere of information technologies usage and electronic educational resources creation; applying modern technologies for electronic resources development and usage; identifying electronic educational resources as a means of improving the forms, methods and content of education.

Application of multimedia technologies in the process of foreign language teaching (FLT) determines certain changes in the educational activity structure. The spatial parameters of the subject-subject interaction, the communicative components of activity, goal-setting and motivational regulation factors can change significantly. Using multimedia educational resources in FLT solves a number of important methodological problems that sometimes cannot be solved in a traditional way (conducted without application of digital technologies). Their integration into the educational process allows teachers to solve such methodological problems as adaptation to an authentic language environment, formation students’ figurative image of the target language country and society, design the authentic language environment.

Thus, the usage of multimedia electronic programs and resources in FLT has a number of undoubted advantages, which lie in the multidimensional presentation of educational information and creating a more natural atmosphere for learning a language, since learners can simultaneously see, hear and speak; in the ability to combine all four types of speech activity in one task. The efficiency of integrating such multimedia electronic educational resources into the educational process directly depends on teachers’ understanding of their role and mastering the skills of their application and development.

Materials and methods

Literature review.

Multimedia electronic educational resources are considered as a means of delivering digital educational content [1; 2].

The works of foreign researchers regarding electronic educational resources also focus on the necessity to take into account the pedagogical and methodological
aspects in the process of their creation. For instance, Gu, X. et al. [3], Lantolf, J. P. et al. [4] and Pepin, B. et al. [5] consider the issues of pedagogical design of electronic resources digital content to be very important, while developers usually focus mainly on the technical aspect of their development.

The advantages of multimedia electronic educational resources in comparison with printed publications are based on the concepts of multimedia and interactivity [6; 7; 8; 9].

*Interactivity* implies that the learner appears to be an active participant of the situation, which enables to expand his independent educational work possibilities with the help of active forms of learning. The multimedia electronic educational resources provide new various forms of interaction between the learners and the virtual educational environment, by means of the user’s interface application and the instant response to the learner’s actions [10; 11].

*Multimedia* implies usage of modern hardware and software that combine text, sound, graphics, photos, video in one digital representation [12].

At the same time, multimedia educational resources can act both as a learning tool and as a means of control.

Research by Rockinson-Szapkiw, A. J. et al. [13] indicates that learners who use e-learning resources have better comprehension of the learning material, demonstrate higher levels of activity and motivation to learn. Anderson, L.W. and Krathwohl, D. R. [14] state that learning with multimedia e-learning resources provides better practice for learners.

The advantage of multimedia educational resources integrated usage in the learning process is also expressed in their significant impact on the processes of comprehension and memorization. When familiarizing with figurative information, a learner tends to render it into a verbal field, and present what he heard in images. This transition of information from one field to another requires time and energy. In an experimental test of the effectiveness of memorizing a text, it was found that with assimilation of information with auditory perception comprised 15%, with visual perception – 25 %, and with integration of both (with visual and auditory perception simultaneously) it composed about 65 % [15].

Chen, C. and Sun, Y. in their work confirm that the usage of video and interactive multimedia materials has a positive effect on the learners’ cognitive and emotional spheres, as they affect the auditory and visual channels at the same time.

Physiological studies show that a person receives 80 % of information through a visual analyzer, since the throughput of the channels for receiving and processing information by means of the «ear-brain» line is 50,000 bits / sec, and by means of the «eye-brain» one it composes 50,000,000 bits / sec. sec. [15].
These results allow us to conclude that the advantage of combining verbal methods with non-verbal methods (visual) is quite obvious. The implementation of such a complex impact in the educational process is realized by such a characteristic feature as multimedia. Multimedia presentation of information is closely related to a multichannel property, which allows you to use several channels of information perception simultaneously.

According to Lysakova, L. A. multimedia educational programs present an opportunity to build up the learning process according to the «visually presented communicative situation – inclusion in it – achievement of some result» algorithm [17].

However, multimedia in the educational process can be implemented to its benefit only when learners’ perception entails mental activity combined with various types of cognitive one and in case multimedia technologies application is methodologically justified. Language teaching is always an interaction; therefore, learners’ active participation appears to be a condition necessary to develop their communicative competence. Active participation and inclusion in the learning process is fulfilled on the base of interactivity, which is a characteristic feature of multimedia educational resources.

We have identified the following stages of integrating multimedia electronic educational resources into the educational process:

1) usage of already created multimedia educational resources in the educational process;
2) single usage of multimedia educational resources for feedback, presentation of material, assessment of achievements, discussions;
3) creation and usage of some multimedia educational resources, for example, interactive presentations, interactive tests, assignments;
4) creation of a full-fledged multimedia educational resource for the course of the curriculum, with a set of tasks, an assessment system, reference support and links to internal and external sources.

It should be noted that each of the stages is accompanied by a certain level of teacher’s readiness to integrate multimedia educational resources into the educational process, his understanding of their implementation and creation prospects, his IT competencies.

To study teachers’ readiness for integration of multimedia electronic educational resources into their professional activity a corresponding questionnaire was developed and conducted. The questionnaire was aimed to reveal the teachers’ readiness to implement, use and create multimedia electronic educational resources.

The limitations of the present research are presented by the sample of the teachers of the humanitarian profile engaged in foreign languages teaching. The
results of the correspondent research among teachers of technical profile or IT specialties may differ significantly from the ones described in the article and can be regarded as one of the possible directions of investigation.

The research involved 58 teachers of the humanitarian profile of the Faculty of Foreign Languages of Academician E. A. Buketov Karaganda University.

The questionnaire consisted of 4 blocks, each containing 3 questions. Participants were asked to give their opinion using the scores from the lowest to highest ones on a scale from 1 to 5.

**Block 1. Indicators reflecting teachers’ understanding of the essence of multimedia electronic educational resources usage in the educational process:**

– understanding the essence and role of multimedia electronic educational resources in the educational process;

– understanding the necessity and importance of using multimedia electronic educational resources in the professional activity;

– understanding the perspectives for the development of multimedia electronic educational resources in education; prospects for their application in the educational practice of the educational institution.

**Block 2. Indicators characterizing teachers’ level of readiness for the usage of multimedia electronic educational resources in the professional activity:**

– the level of knowledge about multimedia educational resources (types, capabilities and characteristics of multimedia educational resources, such as interactivity, multimedia, non-linearity of information presentation, gamification);

– the level of usage of multimedia electronic educational resources in teacher’s activity at the present time; the frequency and types of multimedia educational resources they use in the educational process, the format of their application (offline and online);

– the level of teachers’ psychological readiness for using multimedia electronic educational resources in the educational process (readiness to introduce new resources into the process, the presence of motivation to use multimedia educational resources, psychological discomfort from the necessity of mastering and introducing new digital technologies and resources).

**Block 3. Indicators of teachers’ self-assessment of their competences in the field of multimedia electronic educational resources practical implementation and usage:**

– self-assessment of basic digital competencies and competencies in the field of ICT technologies necessary to use multimedia electronic educational resources in the educational process;
– self-assessment of the level of competences in the field of technical implementation of the multimedia electronic educational resources (self-assessment of the skills of identifying, searching and using multimedia educational resources);
– self-assessment of the level of competence in the field of multimedia electronic educational resources design (competence in the field of creating author’s multimedia educational resources, including pedagogical scenarios, mastering the software for their development).

**Block 4. Indicators reflecting the level of difficulties and factors that impede the usage of multimedia electronic educational resources in the educational process:**

– the provision with technical conditions and means to integrate multimedia educational resources into the educational process;
– the presence of difficulties associated with the usage and creation of multimedia electronic educational resources – lack of necessary digital skills and pedagogical and technical scenarios knowledge allowing them to develop their own multimedia resources, gaps in mastering authoring software for their creation, which provide them with the opportunity to create their own multimedia resources without learning programming languages (from a minimum score to a maximum one);
– the necessity of support and additional information about multimedia electronic educational resources application and creation (from the minimum level of support to the maximum one).

**Results and discussion**

As it was said before, the developed questionnaire contained the questions, revealing teachers’ readiness to implement, use and create multimedia electronic educational resources. The quantitative results of the questionnaire are shown in Table 1.

Table 1 – The quantitative results of the questionnaire revealing teachers’ readiness to implement, use and create multimedia electronic educational resources

<table>
<thead>
<tr>
<th>Block</th>
<th>Question</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td></td>
<td>«1» «2» «3» «4» «5» Number of respondents</td>
</tr>
<tr>
<td>1.</td>
<td>1. Understanding the essence and role of multimedia electronic educational resources</td>
<td>0 0 36 18 4</td>
</tr>
<tr>
<td></td>
<td>2. Understanding the importance and necessity of using multimedia educational resources in professional activity</td>
<td>0 0 38 4 16</td>
</tr>
<tr>
<td></td>
<td>3. Understanding the perspectives for the development of multimedia electronic educational resources in education</td>
<td>0 15 30 8 5</td>
</tr>
<tr>
<td>Block 2</td>
<td>1. The level of knowledge about multimedia educational resources</td>
<td>2</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>2. The level of usage of multimedia electronic educational resources in teacher’s activity at the present time</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3. The level of teachers’ psychological readiness for using multimedia educational resources in professional activity</td>
<td>2</td>
</tr>
<tr>
<td>Block 3</td>
<td>1. Self – assessment of the level of basic ICT competences</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2. Self – assessment of competences in the field of technical implementation of multimedia educational resources (the skills of searching and using multimedia educational resources)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3. 1. Self – assessment of competences in the field of creating their own multimedia educational resources (development and design)</td>
<td>13</td>
</tr>
<tr>
<td>Block 4</td>
<td>1. The level of provision with technical conditions and means to integrate multimedia educational resources into the educational practice</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2. The level of existing difficulties in using and creating multimedia educational resources (from a minimum score - not important difficulties «1» - to maximum - very serious ones «5»)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3. The level of necessity of support and additional information about application and creation of multimedia electronic educational resources (from strong necessity («5») to not important («1»))</td>
<td>0</td>
</tr>
</tbody>
</table>

The average results of the survey can be seen on the in the Figure 1 below:
As a result of the conducted research intended to reveal the teachers’ readiness to integrate multimedia electronic educational resources into their professional activity, the following findings have been obtained: according to answers in Block 1, most of the teachers (which indicated 3 and more scores out of 5 in total) generally understand the essence and role of multimedia electronic educational resources (average point is 3,4), as well as the importance and necessity of using multimedia educational resources in professional activity (3,6 points) and the perspectives for the development of multimedia electronic educational resources in education (3 points). The suggested scores imply teachers’ general understanding of the role and essence of the multimedia electronic educational resources in education and their perspectives of further application. Results of Block 2 have showed that most of the teachers feel lack of basic knowledge about multimedia resources, their types, structure (average score composed 2,4 points out of 5); the findings also have revealed rather low level of multimedia electronic educational resources usage by the teachers in their professional activity at the present time (2,7 points) and the unsatisfactory level of psychological readiness for their usage in the professional activity (2,7 points out of 5). The results of this block show lower scores, that is, less than average «3» scores level, which witnesses the fact that the issues reflected in it need to be improved. Answers got in Block 3 have showed that the teachers assess their ICT competences as average ones (3,2 points),
but as for the skills of searching and using multimedia educational resources, as well as creating their own ones, the educators tend to evaluate their competences as not sufficient, which is reflected by the average scores comprising 2.9 and 1.9 points correspondingly. Answers in Block 4 – «Indicators reflecting the level of difficulties and factors that impede the usage of multimedia electronic educational resources in the educational process» – give us reasons to conclude that prevailing number of teachers have all necessary technical conditions and means to integrate multimedia educational resources into the educational practice (4.1 points), but have significant difficulties in using and creating multimedia educational resources (4.5 points) and feel great necessity of support and additional information on their application and creation (4.6 points).

The conducted survey has made it possible to reveal the fact that, although teachers have a general idea of multimedia educational resources and understand the general prospects for their usage in their educational activity, and also generally have technical conditions for their creation and application, they nevertheless do not always apply them in practice. Almost all teachers have stated that they use multimedia educational resources rarely and not variously; do not have a high level of competences in their usage in the educational process. Most of the answers have indicated difficulties in searching relevant multimedia educational resources necessary for the educational process.

The findings also have defined that teachers negatively assess their skills of developing multimedia educational resources. Most of the teachers have stated that they would like to receive more information about developing their own multimedia educational resources.

Eventually, the research results have showed not only some teachers’ low awareness of the educational opportunities of multimedia electronic educational resources, but also have revealed the fact that the processing of searching, accessing, applying and creating of multimedia educational products is rather difficult, since the teachers feel the lack of systematic knowledge about these resources, as well as the algorithm and methods of their usage; they also assess their skills of application and creation of multimedia educational resources as insufficient ones. Another problem that prevents teachers from effective usage of multimedia educational resources in the educational process is their psychological unwillingness and being not ready to use and implement new digital technologies in the educational activity.

The present research has enabled identification of the main factors that impede multimedia electronic educational resources usage in the educational process. According to the results obtained, the lack of competence in using and creating multimedia educational resources and existing psychological barriers are the main
reasons that affect the teachers’ readiness to integrate the multimedia electronic educational resources into their professional activity.

The research has also revealed that the majority of teachers have technical conditions for multimedia educational resources application, including access to the Internet, computers and multimedia tools. Despite teachers’ generally positive attitude towards multimedia educational resources, our study has showed that the majority of the respondents either do not use the opportunities of multimedia educational resources in teaching University subjects, or they apply them occasionally regardless the systematic approach.

Based on the main problems identified by means of the questionnaire revealing teachers’ readiness to integrate multimedia electronic educational resources into their professional activity the following directions for intensifying the implementation of multimedia electronic educational resources into the educational process can be suggested:

1) inclusion of Information Technologies elements in traditional educational technologies (the use of multimedia educational resources; the use of the possibilities of open educational resources and massive open online courses);

2) enrichment of the traditional educational technologies with the elements of Information Technologies;

3) modernization of pedagogical technologies with the help of new digital tools that make it possible to use and create multimedia educational resources.

Realization of these directions is possible through the following activities:

– organizing a series of practice-oriented seminars / webinars devoted to the usage of multimedia educational resources;

– developing and implementing of a massive online open course on the Basics of developing multimedia educational resources;

– creating a system of technical support for teachers consisting of experts and mentors in the field of multimedia educational resources usage and development;

– organizing refresher courses for teaching staff on the usage and development of multimedia educational resources;

– individual and collective development of copyright multimedia educational resources for parts of the courses and disciplines included in the curriculum and their introduction into the educational process after expert assessment.

Conclusion

According to the aim set in the present research the teachers’ readiness for integration of multimedia educational electronic resources into their professional activity has been revealed and analyzed. The findings obtained after conducting a corresponding questionnaire and interpreting the respondents’ answers have allowed us to conclude that the teachers of the humanitarian profile are aware
of the importance and necessity of integrating multimedia electronic educational resources into the educational process.

The results of the research have shown that the main factors that prevent teachers from integrating multimedia electronic educational resources into their professional activity are the lack of the competence in the field of their usage and development, as well as the presence of certain psychological barriers. The answers received from the respondents have confirmed that teachers negatively assess their competences and skills in the field of creating multimedia educational resources and state their low awareness of the possibilities of programs for their development, which would allow them to design their own multimedia products without mastering programming languages. Most of the teachers have responded that they have strong necessity of receiving more information concerning the methods of application and creation of multimedia electronic educational resources to include them into their professional activity.

To optimize integration of these resources into the educational process, it is necessary to gradually form teachers’ theoretical knowledge in the field of digitalization and informatization of education, as well as their digital skills of using and developing multimedia educational resources. Such activities as organization of a series of practice-oriented seminars / webinars and courses on the use of multimedia educational resources; development and implementation of a massive online open course on the Basics of developing multimedia educational resources; creation of a system of technical support for teachers consisting of experts and mentors in the field multimedia educational resources usage and development; individual and collective development of copyright multimedia educational resources for the curriculum disciplines can intensify the process of acquiring the necessary skills of using and developing multimedia resources by teachers and their integration into educational practice.

The results reflected in the given survey can be used in the researches devoted to the problem of introduction of electronic educational resources into the educational process, development of competencies and skills of developing electronic educational products for future and practicing teachers.

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ГУМАНИТАРЛЫҚ ПРОФИЛЬДЕ ОКУТУШЫЛАРЫНЫҢ МУЛЬТИМЕДИАЛЬЫҚ БІЛІМ БЕРУ РЕСУРСАРЫҢ ӨЗДЕРІНІҢ КӘСІБІ ҚЫЗМЕТІНІЕ ЕНГІЗУГЕ ДАЙЫНДЫГЫ

Мақала мультимедиалық электрондық білім беру ресурстарының оқу үдерісінің интеграциялаудың өзекті мәселелерінің арналған. Мақаланың мақсаты – гуманитарлық профильді оқуғының мультимедиалық білім беру ресурстарының өздерінің кәсіби қызметін енгізүге дайындығын зерттеу. Қазіргі заманғы білім беруді
ақпараттанылу жағдайында мұғалім оқу қызметінің қасиетін, іс-әрекетінде мультимедиялық электронды ресурстарының пайдалануы, және оларды оқу порталаға қосу және әдістемелерге қосу қажет.

Мұқтама мультимедиялық электрондық білім беру ресурстарының пайдалануын теориялық аспектілері қарастырылған, сондықтан көп оқу порталағы ресурстарды оқу процесінде іске асыруға қажет. Заң жағдайларында мұғалімдердің қасиетін қызметіне енуінің әдемі болатын факторлар тұрақты көрсетеді.

Зерттеу нәтижелері бойынша авторлар мультимедиялық электрондық білім беру ресурстарының мұғалімдердің қасиетін қызметіне енуінің қарқының бәрі бойынша факторлар тұрақты көрсетеді. Заң жағдайларында мұғалімдердің мультимедиялық білім беру ресурстарының құрылысын өндіріп, оларды оқу порталаға қосу қажет. Осы жағдайларда мұғалімдердің мультимедиялық электрондық білім беру ресурстарының құрылысы әдемі болатын факторлар тұрақты көрсетеді.

Заң жағдайларында мұғалімдердің мультимедиялық электрондық білім беру ресурстарының құрылысы әдемі болатын факторлар тұрақты көрсетеді.

Кілті сөздер: мультимедия, интерактивтілік, мультимедиялық электрондық білім беру ресурстары, интерактивті мультимедия, электронды ресурстар, цифрлік білім беру мазмұны.

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ГОТОВНОСТЬ ПРЕПОДАВАТЕЛЕЙ ГУМАНИТАРНОГО ПРОФИЛЯ К ИНТЕГРАЦИИ МУЛЬТИМЕДИЙНЫХ ЭЛЕКТРОННЫХ РЕСУРСОВ В СВОЮ ПРОФЕССИОНАЛЬНУЮ ДЕЯТЕЛЬНОСТЬ

Статья посвящена актуальной проблеме интеграции мультимедийных электронных образовательных ресурсов в учебный процесс. Целью статьи является анализ исследования готовности учителей гуманитарного профиля к внедрению мультимедийных образовательных продуктов в свою профессиональную деятельность. В современных условиях инфраструктуризации образования педагогу
нобходимо владеть навыками разработки и проектирования, а также эффективного использования мультимедийных электронных образовательных ресурсов в своей профессиональной деятельности. В статье рассматриваются теоретические аспекты использования мультимедийных электронных образовательных ресурсов, а также исследуется степень готовности преподавателей к их внедрению в образовательный процесс вуза. По результатам исследования авторы делают вывод о факторах, препятствующих интеграции педагогами мультимедийных электронных образовательных ресурсов в свою профессиональную деятельность. Результаты исследования показали, что использование и создание мультимедийных образовательных продуктов преподавателями затруднено из-за отсутствия у них системных знаний об этих ресурсах, методах их использования, навыках их использования и создания, а также наличия у них психологического барьера. Исследование позволило авторам выявить основные направления интенсификации интеграции педагогами мультимедийных образовательных ресурсов в учебный процесс.

Ключевые слова: мультимедиа, интерактивность, мультимедийные электронные образовательные ресурсы, интерактивные мультимедиа, электронные ресурсы, цифровой образовательный контент.
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