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DEVELOPMENT OF ENTREPRENEURSHIP EDUCATION MODEL USING DIGITAL TECHNOLOGIES

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Abstract. An entrepreneurship education model has been developed and scientifically grounded in the teaching technique of the future educators of the vocational training using digital technologies, aimed at providing a clear, structured approach to organization of the paperwork teaching of higher education applicants and matching the goals of the discipline to the modern requirements for qualification of future professionals. It was determined that one of the key elements of the model should be the e-course "Modern paperwork". The techniques of paperwork teaching of future educators using digital technologies was proposed, based on the system combination of traditional and innovative learning technologies. The key elements of the developed techniques and ways of their use are described for solving the described problems of teaching the course "Modern paperwork". Improved the methodological approaches for paperwork teaching of educators of the vocational training in the process of training students for the specialty "Vocational education (by specialization)".

Key words: digital technologies, entrepreneurship education, electronic document flow, professional qualification, global network.

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Introduction

Formation of the rule of law in our country with the effective state institutions of representative, executive, judicial power, production, science and education is connected, first of all, with the introduction of rational, effective rules and procedures of their functioning, in particular in the sphere of working with documents.

The problem of providing document flow of organizations is as old as documents creation, but under the influence of rapid informatization of the society and rapid development of new technologies, it remains important and relevant to this day. This issue updates a number of questions needed immediate answers.

In particular, what should be the paperwork in the conditions of globalization of the world information processes, how the latest technologies influence the situation in the practical sphere of working with documents, which strategic goals should be put forward in the field of documentation management and what tactical schemes should be implemented to solve actual practical problems in the information industry. These and many other issues determine the relevance of our research.

The rapid development of new technologies, emergence of new forms and types of human activity necessitate the constant updating of the content, forms and methods of teaching and organization of the educational process, therefore, the system of educators training of vocational learning is adjusted according to the requirements of modern society and educational innovations.

The organization of paperwork in the work of vocational training educators is an integral function of the future specialist, because a large part of the activity of any institution or organization of different ownership is regulated by documents. Thus, there is an urgent need to train specialists able to provide documentation of enterprises (institutions, organizations) at the high level.

It is possible to fully organize the training of such specialists in modern conditions only if there is an appropriate holistic methodology that will take into account the latest technologies in teaching. Thus, the above factors point to the need to develop the paperwork teaching techniques of future educators of the vocational training using digital technologies.

Skillful and competent approach to the organization of paperwork allows optimizing the use of working hours of the managerial personnel. That is, the need for paperwork professionals exists at the level of each individual entity - enterprises, organizations, institutions, etc.

The purpose of the research is to substantiate, develop and experimentally test the teaching techniques of the paperwork of future educators of vocational training using digital technologies.

Literature review

The key to successful and productive activity of the modern enterprise is timely receipt and completeness of information. According to (Barba-Sánchez, V., Atienza-Sahuquillo, C. (2018); Chan, Y. E., Denford, J. S., and Wang, J. J. (2019)), the volume of information in the world is doubled every three years, reflecting the high rate of human community development in all directions.

In particular, a large number of new organizations, institutions, enterprises are created annually in the country, created for various purposes, which become objects and subjects of information transmission (Farhan, M., Aslam, M., Jabbar, S., &

Khalid, S. (2018)). Thus, the relevance of paperwork knowledge is constantly increasing. Every day, we process streams of documented information that is handled by paperwork professionals, which in turn makes this profession necessary.

Management of the modern enterprise involves the creation of various types of documents, without them it is impossible to solve the tasks of planning, personnel management, financing, accounting and operational management (Fauziah, M., Wulandari, S. Z., & Afif, N. C. (2019); Secundo, G., Rippa, P. and Meoli, M. (2020)). That is, the timeliness and correctness of the decision made depend on the objectivity, reliability and completeness of information, as well as the promptness of receiving and transmitting, searching, using and storing documents.

However, previous research leaves unresolved a number of important contradictions that accompany training of future educators of professional training in paperwork, namely:

between the ever-increasing requirements for paperwork teaching of future educators of vocational training and the level of their training available (Toto, G. (2018); Wu, Y. J., Yuan, C. H., & Pan, C. I. (2018));

between the traditional forms, methods and means of paperwork teaching and the need to develop teaching methods using digital technologies (Toledo, I., Albornoz, C., & Schneider, K. (2020));

between the ever-increasing amount of knowledge required for the continued professional activity of future educators of vocational training and the time limitation allocated to the learning the course "Contemporary Paperwork" (Mukred, M., et al. (2019); Wraae, B., Tigerstedt, C., & Walmsley, A. (2020)).

Methods

The following methods were used to achieve the goal and to solve the tasks of the research: theoretical: system and functional analysis, comparison and synthesis of pedagogical, philosophical, psychological scientific knowledge, normative documents, educational publications on the problems of paperwork training; classification, comparison, compilation of data on electronic document flow, analysis of trends of their development; modeling, systematization and generalization of theoretical and methodological foundations of the paperwork teaching of future educators of vocational training using digital technologies.

Results

It was found in the course of our research that it is quite difficult to master the volume of the educational material of the discipline "Modern paperwork" within the allocated time for study, using only traditional means and teaching methods, since it includes 3 content modules, its filling is particular important during formation of integral, clerical and personnel and subject-methodological competences of future educators of vocational training. This amount of training material is quite difficult to master qualitatively in the allotted time, using only traditional teaching means.

We decided to create an electronic course, first of all it should be structured the main stages of its creation for course design.

We consider it expedient to determine the content of the developed e-course "Modern paperwork" at the first stage. Therefore, we will analyze the content of the course "Modern Paperwork" considering the educational and professional programs for the training of future educators of vocational training.

In our case, the completion of the course will be done at two levels, when the problems of paperwork are studied at the initial stages, and the issues of electronic document flow and management documentation provision are mastered simultaneously at the higher level. The formation of the education content is realized at each of the levels through the implementation of interdisciplinary links with those normative educational disciplines which create a resource for structuring and forming the e-course. This is shown schematically in Fig. 1.



Figure 1. Scheme of two-level study of modern paperwork by future educators of vocational training (author's development)

First of all, we will consider the initial level - "Paperwork", during the process of its studying students are formed the necessary theoretical and practical knowledge of paperwork as an activity on documentation and organization of work with documents in the process of management.

Modern paperwork plays an important role in the system of training educators of vocational training not only for studying the paperwork basics, e-document flow, documentary provision of management, but also it forms the basis for mastering the knowledge of vocationally-oriented courses in the future. The informational volume of the content module combines two topics, the first one is "Paperwork as a science and a component of management activity", and the second - "Documentation of management activities as a set of processes of fixing management actions".

The second semantic module of the developed e-course is "E-document flow", which in its turn introduces students to the basic ways of automation of electronic document flow and paperwork, forms an idea of the general needs of creating, processing, saving and transmitting electronic documents, documentation and information environment of their existence, circulation of electronic documents in society, criteria of efficiency of the electronic document flow systems.

Structurally e-document flow is presented in the form of three topics, the first of them is theoretical one and covers the basic concepts and legal aspects of electronic document flow in public administration. The second one deals with the definition and technology of the use of electronic digital signature in the electronic document flow system. The third topic is quite topical, it is aimed at mastering skills by students in working with electronic document flow systems and their components. In general, the content module "E-document flow" is based on the knowledge gained by students in the process of studying the paperwork, and also it has close crosscurricular links with computer science, information activities, document provision of the institution's activities, etc.

A separate component should be the third semantic module "Document provision of management" aimed at providing students with the necessary theoretical and practical knowledge on this subject as an area of the document-communication cycle and acquiring practical skills in creating, organizing, maintaining and using documents in an organization, institution, etc.

The document provision of management is closely linked to the paperwork and information activities for the purposes and object of study. They are combined by a common task - formation of the effective information environment, a single object of the study is a document, as well as the unity of ways to organize, store, search for information, develop the principles of document formation.

Therefore, the role of the e-course is expressed in the ratio of specific content modules to the skills that they are formed. The e-course provides students with a thorough and systematic knowledge of all sections of the course of paperwork, formation of the ability to use state standards, other regulatory and methodological documents to document provision of activities management of various organizations and institutions; providing practical skills in mastering electronic document flow technologies, putting into practice the basic principles of electronic document flow and paper flow automation.

The second step in the development of the e-course is to identify the forms, methods and learning tools to implement it. Therefore, we specify how the content of our course was formatted and what means provided the distance learning opportunity. An electronic training course was chosen as a key tool for intensifying

An electronic training course was chosen as a key tool for intensifying independent work in the context of teaching the course "Modern Paperwork". The main benefits of using e-courses are ability to integrate digital technologies and multimedia materials into the course pages; a large number of built-in tools focused on a specific type of activity or interaction with students; saving time providing students with materials.

One of the effective tools for the placement of educational e-courses in the global network is the distance learning systems, according to them the form of organization and implementation of the educational process carries out educational interaction in principle and mainly extraterritorially (i.e., at a distance that does not allow and does not involve direct educational interaction). Distance learning provides educational services through the use of all educational tools, resources and programs available on the Internet.

We have chosen the MOODLE Distance Learning Shell to implement the technology of such training. It is an open source modular software package designed to create distance learning courses and web sites.

MOODLE has ability to work with groups, it contains forums, supports a large number of object types for downloading, and allows performing online testing, doing tasks, and effectively monitor and evaluate student activity. The disadvantage of such a system for the average user is the need to deploy its server part on the server of the educational institution. We have implemented an electronic course "Modern Paperwork" in the program shell for distance learning MOODLE.

Problems of traditional teaching methods	Ways and means to solve these problems through digital technology
Problem: Insufficient time to master the full range of course material "Modern paperwork" (the ever- increasing amount of subject matter data becomes difficult to place only within the full-time part of the training).	Our e-course provides the following types of work for effective organization of students' independent work: reference lecture notes with hyperlinks; additional information sources for processing; sample documents for further analysis and processing; educational videos; tests for self-control; individual tasks for students.
The problem is that a large amount of information, combined with the monotony of the material supply, often leads to student overload and decline in attention and efficiency of the material mastering.	A set of multimedia presentations for lectures included in the developed e-course helps to overcome this problem. Multimedia presentation of the information attracts additional receptors of hearing and vision, the dynamism and imagery of the presented information intensify the attention and increase the level of perception.
Problem: Students have difficulty during the classes they missed.	The e-course developed contains a lectures notes that the student can familiarize with outside the classroom.
Problem: the propaedeutic introduction of teaching material is often ignored in traditional teaching. Students do not have the opportunity to get a preliminary idea of a subject or topic that they will study	The reference lectures note with hyperlinks is posted on the Internet, where students can view it at any time. Simplified Submission of Materials Allows Students to Learn the Structure, Logic, and Basic Concepts of a Future Classroom Lecture
Problem: Students make mistakes when creating documents, guided only by basic recommendations for practical works.	Problem: Inclusion in the developed e-course samples of real documents that students can use when completing practical tasks

 Table 1. Problems of paperwork training of future educators of vocational training (author's development)

To register for the course, students need to log in and enroll in the course "Modern Paperwork" by selecting it from the list available in the appropriate category.

According to the results of monitoring and interviewing students of the specialty "Vocational Education (by specialization)" it was found out that there are a number of problems of traditional teaching methods during studying the course "Modern paperwork". Therefore, the main ones are shown in Table 1. At the same time, we offer ways and means to solve these problems through digital technology.

The above-mentioned problems actualize the need to develop a new teaching methodology and to introduce a didactic base of innovative forms in the process of students' preparation of the specialty "Vocational education (by specialization)".

Discussion

The created algorithm for constructing distance learning for this course can be used as a basis and model for teaching modern paperwork to students of other specializations and educational programs in a simplified format. If necessary, you also have the opportunity to integrate disciplines interconnected into the courses.

The last element of the e-course is the test module, which is made by the means for creating tests from the composition of the shell for distance learning MOODLE.

It is worth noting that test control has several advantages comparing to other assessment tools, in particular: automation of the procedure for checking results; saving time; equal conditions for all participants; objectivity of estimation of the mastering level of educational material; ability to reach a large audience of students, etc.

Thus, the test module developed by us includes three final tests for each of the three structural modules of the course. Each student has only one attempt to complete the time-limited test. This is done in the classroom on a computer under the supervision of the lecturer. The tasks and response options are randomly mixed in each generated attempt.

The tests include tasks of various types (in a closed form, on correspondence, short answer) and they are formed in such way that the student can answer, having a deep understanding of the essence of the question. The testing module gives an opportunity to objectively evaluate the level of acquired students' knowledge and skills and to adjust their training trajectory accordingly.

Therefore, based on the example of e-course, we have substantiated the didactic conditions for the implementation of distance learning through innovative learning tools. The expediency of using the MOODLE system for the organization of distance learning of the paperwork of future educators of vocational training is substantiated.

It is stated that due to the functionality of the MOODLE distance learning system, which includes a testing module, the lecturer is able to objectively assess the level of students' acquired knowledge and adjust their learning trajectory accordingly.

The developed approaches to the organization of distance learning of the paperwork of future educators of vocational training can be used without special

adjustments for other related specialties, where modern paperwork is studied as a selective discipline.

Conclusions

The developed by us a model of the paperwork teaching techniques of future educators of vocational training with the use of digital technologies is structured in the form of target, content-processing and resultant blocks, which are interrelated and complementary.

As a result, the following contradictions have been identified between the current requirements for the paperwork teaching and the current training conditions:

lack of the comprehensive approach to the problem of using the latest technologies in the process of training future professionals (digital technologies are often used fragmentarily and non-systematically, without specific goal setting);

insufficient provision of multimedia support for the educational process (in particular, both in terms of technical support and methodological skills of lecturers for their use);

insufficient time to master the full range of course material "Modern paperwork" (the ever-increasing amount of subject matter data becomes difficult to cover only within the full-time part of the training).

The technique of paperwork teaching of future educators of vocational training using digital technologies is proposed, which is developed on the basis of a system of approaches, principles, methods and tools aimed at training qualified specialists, capable to conduct documentation provision of enterprises (institutions, organizations) at the high level.

Technologies of organization of distance learning of paperwork of future educators of vocational training by means of digital technologies were investigated. Scientifically substantiated didactic conditions and necessary technological tools for the implementation of distance learning of paperwork of future educators of vocational training.

The two-tier system of study of paperwork by future educators of vocational training was substantiated, where the study of paperwork is envisaged at the initial stages, and the problems of e-document flow and documentary provision of management are additionally mastered at the higher level. The use and capabilities of the MOODLE e-learning environment are demonstrated as an example.

Further research may have continuation in the direction of adaptation of the developed approaches to the organization of teaching the paperwork of future educators of vocational training to other pedagogical specialties, where modern paperwork is studied as a selective educational discipline and in the direction of updating the technological component of the developed e-course.

References

- Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2018). Entrepreneurial intention among engineering students: The role of entrepreneurship education. European Research on Management and Business Economics, 24(1), 53-61.
- Chan, Y. E., Denford, J. S., and Wang, J. J. (2019). The co-evolution of it, knowledge, and agility in micro and small enterprises. J. Inform. Knowl. Manage. 18:1950027. doi: 10.1142/S0219649219500278
- Farhan, M., Aslam, M., Jabbar, S., & Khalid, S. (2018). Multimedia based qualitative assessment methodology in eLearning: student teacher engagement analysis. Multimedia tools and applications, 77(4), 4909-4923.
- Fauziah, M., Wulandari, S. Z., & Afif, N. C. (2019). Empirical Study of Intention to Redeem Mobile Coupons; Evidence of the Influence of Socializing, Economic Benefits, and Trust Variables. ICORE, 5 (1).
- Mukred, M., Yusof, Z. M., Alotaibi, F. M., Asma'Mokhtar, U., & Fauzi, F. (2019). The key factors in adopting an electronic records management system (ERMS) in the educational sector: A UTAUT-based framework. IEEE Access, 7, 35963-35980.
- Secundo, G., Rippa, P. and Meoli, M. (2020). "Digital transformation in entrepreneurship education centres: preliminary evidence from the Italian Contamination Labs network", International Journal of Entrepreneurial Behavior & Research, Vol. 26 No. 7, pp. 1589-1605. https://doi.org/10.1108/IJEBR-11-2019-0618
- Toledo, I., Albornoz, C., & Schneider, K. (2020). Learning analytics to explore dropout in online entrepreneurship education. Psychology, 11(02), 268–284. https://doi.org/10.4236/psych.2020.112017.
- Toto, G. (2018). From Educational Contexts to Addictions: the Role of Technology in Teaching Methodologies and in Prevention as an Educational Function. Journal of e-Learning and Knowledge Society, 14(2).
- Wraae, B., Tigerstedt, C., & Walmsley, A. (2020). Using Reflective videos to enhance entrepreneurial learning. Entrepreneurship Education and Pedagogy. https://doi.org/10.1177/2515127420936955.
- Wu, Y. J., Yuan, C. H., & Pan, C. I. (2018). Entrepreneurship education: An experimental study with information and communication technology. Sustainability, 10(3), 691. https://doi.org/10.3390/su10030691.

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