

## DIGITALIZATION OF THE POLYCULTURAL ENVIRONMENT OF THE UNIVERSITY IN THE CONDITIONS OF VUCA: MODELLING STRATEGIES

*S.L. Suvorova, alex97@shadrinsk.net,*

*T.V. Khilchenko, tkhill@rambler.ru,*

*A.V. Knyazheva, amur20@mail.ru*

*Shadrinsk State Pedagogical University, Shadrinsk, Russian Federation*

The article presents the results of the scientific discourse analysis of modern studies of digitalization of the university multicultural environment under VUCA conditions, which are presented in three segments: research on a multicultural environment; studies on the digitalization of the educational activities of the university and studies on the digitalization of the multicultural environment of the university.

The authors highlighted the features of teaching a foreign language taking into account the challenges of the education system in the era of digital economy and simulated the systems of subprocesses and their meaningful content. Particular emphasis is placed on the specifics of the VUCA conditions (volatility, uncertainty, complexity and ambiguity), which consist of stress, changing nature of the world, in which huge amounts of information must be quickly and adequately processed.

This article attempts to develop and describe current digitalization trends in VUCA. The purpose of this study is to find effective strategies for the development of the multicultural environment of the university, one of which is digitalization.

To determine the essence of the search for strategic solutions for digitalization of the multicultural environment of the university, theoretical, empirical and diagnostic methods were implemented: review of the scientific literature, analysis of innovative strategic practices, observation, statistical methods. As a result, modeling of digitalization strategies of the university's multicultural environment under VUCA conditions is considered as the development and creation of a formal model of strategic decisions aimed at implementing the digitalization process of the university's multicultural environment.

The authors analyzed the programs of partner universities and organized international webinars and internships for bachelors and masters abroad. The experimental data shows the effectiveness of the formation of multicultural competences among students.

*Keywords: environment, multicultural environment, digitalization, modeling, modeling of strategies, VUCA conditions.*

### Introduction

The main trends in the modification of the modern educational environment are determined, among other factors, by integration processes, which are the source of fundamental changes in the modern world and influence the higher education system greatly. An open world space is being formed, reflected in the harmonization of educational standards in different countries of the world. An important segment in this process is the transformation of the forms and methods of educational activity, taking into account the introduction of innovative digital technologies and the personification of educational services.

The relevance of the problem is explained by the rapidly unfolding diversification of higher education, which increases the demand for the development of common goals [2, 11, 15, 17]. At the same time, the process of globalization of professions and increasing demand for university graduates prepared for activities in a multicultural environment and transnational corporations are of great importance. Professionally oriented higher education is considered in this regard from the point of view of the practice of the profession and academic mobility of future specialists in a multicultural and multilingual world.

M. Barnes means that the relevance of

the project lies in the need to optimize the educational activities of the university in terms of restructuring its polycultural environment, which includes analyzing the specifics of its filling and functioning, highlighting problem fields and finding and implementing innovative digital technologies in order to effectively personify the educational process [4, pp. 220–231].

Key challenges are:

– mainly the spontaneous nature of the university polycultural environment functioning, associated with the lack of a systematic account of the characteristics of the individual-personality and cultural characteristics of students – foreign citizens and students who speak several foreign languages or study them;

– not fully realized opportunities for using digital technologies and online courses for teaching students in the multicultural environment of the university;

– insufficient level of realization of the possibilities of virtual academic mobility of students in the process of studying foreign languages and cultures.

### 1. Methodology

In our research we try to find out the best approach of modeling digitalization strategies of the polycultural environment of the university in the conditions of VUCA. Thus, we can list some key points that should be the basis of modeling digitalization strategies:

1) description of the main trends in the development of multilingual and polycultural education by means of a multilingual learning environment and interactive forms of learning;

2) development of a set of methods and algorithms for the dynamic adaptation of the multicultural environment of the university to the individual characteristics of students through its digitalization;

3) creation of a prognostic model for the distribution and systematization of electronic educational content, taking into account the specifics of the polycultural environment of the university;

4) development and comprehensive description of optimal models for using online technologies and tutorial support of students in the process of teaching foreign languages and cultures;

5) description of the possibilities of digitalization of the university multicultural environment to ensure virtual academic mobility of students and to build an individual educational route for the purpose of personification;

6) development of digitalization strategies in the process of polycultural and multilingual education of students.

The main approaches to the development of the conceptual foundations of digitalization of the polycultural environment of the university and multisegmental modeling of the digitalization process in its main aspects are:

*“Lifelong learning”*. This approach involves the creation of conditions for training with a view to its continuity and diversity using online technologies.

*Student-centered approach*. This approach means tutorial support for students in the process of teaching foreign languages and cultures, as well as systematic accounting of the characteristics of individual-personality and cultural characteristics of students – foreign citizens and students who speak several foreign languages or study them.

*Practice-oriented approach (work-based learning)*. This approach provides a focus on the development of scientific and innovative potential of students and the formation of their linguistic and cultural competences through the introduction of online technologies and digital educational resources.

*The approach “open education”*. This approach aims to provide open access for students to digital educational technologies and electronic content to ensure virtual academic mobility of students.

As a significance can be expected polysegmented modeling of the digitalization process of the university polycultural environment in its main aspects. We used such **methods**:

Theoretical methods: a) analysis of normative documents on education was used to justify the urgency of the problem and determine the legal possibilities for its solution; b) the theoretical and methodological analysis allowed to formulate the key initial positions of the research; c) system analysis was the basis for a holistic review of the problem; d) forecasting and long-term planning was used to identify and analyze the factors that caused the emergence of the problem under study, justification of the possibility of its solution.

Empirical methods: a) generalization and analysis of effective international experience and practice of domestic and foreign higher schools in the modeling strategies of digitalization of the polycultural environment in the conditions of VUCA; b) the focus group method was

used to elucidate students' attitudes towards the formation of polycultural competences during the modeling strategies of digitalization.

Observation methods: observation (direct, indirect) was used to determine the potential of students to participate in the program of forming competencies in foreign languages during the modeling strategies of digitalization.

Diagnostic methods: questioning, interviewing, conversation, testing, self-assessment, expert assessments were used to determine the level of the formation of linguistic, polycultural and professional competences of students.

## 2. Results

The main trends in the modification of the modern educational environment are determined, among other factors, by integration processes, which are the source of fundamental changes in the modern world and actively influence the higher education system. An open world space is being formed, expressed in the harmonization of educational standards in different countries of the world [28, pp. 89–95]. An important segment in this process is the transformation of the forms and methods of educational activity, taking into account the introduction of innovative digital technologies and the personification of educational services [1, 5, 6]. The concept of VUCA, according to many researchers, most accurately describes the complexity of the situation in a developing and dynamic environment in which global higher education is today [10].

VUCA determines a chaotic, turbulent and rapidly changing educational environment, which is a new norm in global higher education and requires universities to forecast, adapt and quickly respond to changes by creating effective educational strategies and practices [26].

The scientific discourse of modern research in the area of interest to us can be conditionally represented in the following segments:

*Segment 1* – studies on a multicultural environment (A. Galante [9, pp. 29–39], T.-L. Lai [14, pp. 412–415], B. Mickenbecker-Subai [18, pp. 10–13], O. Steinmark [20]). In their studies they describe the meaningful and functional content of the multicultural environment of the university and prove the important role of a foreign language, which, if a separate university is used in the scientific and educational environment among Russian and foreign teachers, scientists and students, is a key factor in the formation of a unique system – multicultural language envi-

ronment that contributes to the solution of many problems – the transformation of the university into a center of international education and academic exchanges.

*Segment 2* – studies on the digitalization of the educational activities of the university. In the works of S.G. Evsyukov [7, pp. 3–12], V.S. Efimov [8, pp. 52–67], T.V. Nikulina [19, pp. 107–113] the concept of “digitalization” is defined, and also the specifics of the digitalization process of the university educational activities are described, in particular, it is indicated that digital technologies are positioned not only as a tool, but also as an environment of existence that opens up new possibilities: learning at any convenient time, continuing education, the ability to design individual educational routes, etc.

*Segment 3* – studies on the digitalization of the multicultural environment of the university. Studies in this area are devoted to the development of problems relating to:

1) the transfer of existing training materials, including lectures, presentations, textbooks, assignments for independent work and knowledge control tools, into the electronic environment (T.V. Nikulina, E.B. Starichenko [19, pp. 107–113] and others);

2) the formation of an interactive electronic environment for interaction between the teacher and students, including the creation of electronic classrooms for teachers, conducting webinars, discussion forums, etc. (S. Archakova [3, pp. 12–15], A. Villegas [27, pp. 20–22]);

3) the creation of new types of educational tools: electronic textbooks, electronic problems, video lectures, quests, computer games (M. Kong [12], V. Kudinov [13]);

4) the creation of fundamentally new forms of training through the use of electronic media – expanding the spectrum of imaginative information transfer, modeling various situations during role-playing games, simulating competitive games, etc. (G. McAllister [16, pp. 122–125], S. Suvorova [22–24]).

The analysis of these studies proves that at the present stage of development of society, taking into account the conditions of VUCA, the need to optimize the educational activities of the university in terms of restructuring its multicultural environment and its digitalization, which includes analyzing the specifics of its filling and functioning, highlighting problem fields and finding and introduction of innovative digital technologies with the goal of effective personification

of the educational process, i. e. development of appropriate strategies [21, pp. 477–486].

In the course of our study, we identified the features of teaching a foreign language taking into account the challenges of the education system in the era of the digital economy [25] and took them into account when modeling the system of subprocesses and their meaningful content.

*1 feature:* the need to introduce innovative methods, approaches and educational models in the process of teaching a foreign language with a target dominant in preparing students for quick adaptation and effective implementation of professional activities in the new digital economic environment.

*Subprocess 1* – the formation of linguistic and cross-cultural competences with a high level of liability.

*2 feature:* the requirement for the skills to establish and maintain partnerships and participate in intercultural dialogue in a foreign language in the context of digitalization of all spheres of public and economic life.

*Subprocess 2* – the formation of information and communication, foreign-language communicative competence and critical thinking.

*3 feature:* the need for skills to enter into intercultural communication in the context of the VUCA world [26], characterized by uncertainty, complexity and diversity.

*Subprocess 3* – the formation and improvement of foreign language intercultural competence in all its components: cognitive, linguistic, speech, sociocultural, etc.

For the implementation of these subprocesses, appropriate innovative methods, technologies, forms and means of teaching a foreign language are required related to the digitalization of education, for example, interactive electronic workshops, online courses, Skype technology, etc.

The digitalization strategies of the multicultural environment of the university, considered as the circumstances of the educational process, in which representatives of different linguistic cultures participate, should be developed taking into account the specifics of VUCA and the main challenges associated with:

– mainly the spontaneous nature of the functioning of the multicultural environment of the university, associated with the lack of a systematic account of the characteristics of the individual-personality and cultural characteristics of students – foreign citizens and students who speak several foreign languages or study them;

– not fully realized opportunities for using digital technologies and online courses for teaching students in the multicultural environment of the university;

– insufficient level of realization of the possibilities of virtual academic mobility of students in the process of studying university disciplines.

**Modeling** in a generalized sense in pedagogical science is interpreted as the development and creation of a formal model of the pedagogical process or its components, reflecting the main ideas, methods, forms, means, techniques and technological solutions that are subject to further experimental study in real pedagogical process. Also, modeling is the study of objects of knowledge on their models; building models of real-life objects and phenomena.

Several types of modeling are distinguished in mathematics, economics, and social sciences: imitation (situational), material, ideal, sign, mathematical, etc. In the theory and methodology of teaching foreign languages, modeling is considered in the aspect of creating a language environment in the form of speech situations of various kinds.

We consider **the modeling of digitalization strategies of the university polycultural environment under VUCA conditions** as the development and creation of a formal model of strategic decisions aimed at implementing the digitalization process of the university's multicultural environment.

One of the **priority strategies for digitalizing** the multicultural environment of a university under VUCA conditions, in our opinion, is the development of its conceptual framework based on a comprehensive analysis of its structure and filling according to the criterion of homogeneity / heterogeneity and the implementation of a set of methods and algorithms for the dynamic adaptation of the multicultural environment of a university to individual students' characteristics by digitalizing it.

The main options for implementing this strategy are as follows:

– systematic accounting of the characteristics of the individual-personality and cultural characteristics of students – foreign citizens and students who speak several foreign languages or study them;

– analysis of the specifics of the multicultural environment of the university and the main factors that have a negative impact on the quality of the educational process in this environment;

– identification of effective methods for the dynamic adaptation of the multicultural environment of the university to the individual characteristics of students through its digitalization;

– systematization of electronic educational content, taking into account the specifics of the multicultural environment of the university;

– the use of online technologies and tutor support for students in the process of teaching foreign languages and cultures;

– digitalization of the multicultural environment of the university to ensure virtual academic mobility of students.

**Possible strategies** may also include the following:

1) a description of the main trends in the development of multilingual and multicultural education by means of a multilingual learning environment and interactive forms of learning;

2) the development of a set of methods and algorithms for the dynamic adaptation of the multicultural environment of the university to the individual characteristics of students through its digitalization;

3) the creation of a prognostic model for the distribution and systematization of electronic educational content, taking into account the specifics of the multicultural environment of the university;

4) development and comprehensive description of optimal models for using online technologies and tutorial support for students in the process of teaching foreign languages and cultures;

5) a description of the possibilities of digitalization of the university multicultural environment to ensure virtual academic mobility of students and to build an individual learning path for the purpose of personification;

6) development of a model of “blended learning” using online technologies in the process of multicultural and multilingual education of students;

7) development of virtual academic mobility programs for students;

8) development of a project for a single cluster model of methodological support for digitalization of the multicultural environment of the university.

### 3. Conclusions

The implementation of the national program “Digital Economy of the Russian Federation”, approved by the Government of the Russian Federation in March 2017, leads to significant

changes in all spheres of society. The implementation of the digital economy into the traditional one implies that specialists have certain knowledge, skills and abilities to work and communicate in a daily digital environment. Of particular importance in this context is the possession of foreign languages, the teaching of which is increasingly oriented towards diversity, reliance on digital educational resources, and information.

Polysegmented modeling of the digitalization process of the university multicultural environment under VUCA conditions implies, first of all, the development of a flagship strategy and sub-strategies related to the development of its conceptual framework based on a comprehensive analysis of its structure and content and the implementation of a set of methods and algorithms for the dynamic adaptation of the university multicultural environment to individual features of students through its digitalization.

### 4. Acknowledgements

This research has been funded by the FS source on the topic “The digitalization strategies of the multicultural environment of the university in the context of VUCA” (No. 32H from 13.04.2020).

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Received 10 June 2020

УДК 374.1

DOI: 10.14529/ped200307

## ЦИФРОВИЗАЦИЯ ПОЛИКУЛЬТУРНОЙ СРЕДЫ ВУЗА В УСЛОВИЯХ VUCA: МОДЕЛИРОВАНИЕ СТРАТЕГИЙ

С.Л. Суворова, Т.В. Хильченко, А.В. Княжева

Шадринский государственный педагогический университет, г. Шадринск, Россия

В статье приводятся результаты анализа научного дискурса современных исследований цифровизации поликультурной среды вуза в условиях VUCA, которые представлены в трех сегментах: исследования, посвященные поликультурной среде; исследования, посвященные цифровизации образовательной деятельности вуза, и исследования, посвященные цифровизации поликультурной среды вуза.

В результате анализа авторами выделены особенности преподавания иностранного языка с учетом вызовов системы образования в эпоху цифровой экономики и смоделированы системы подпроцессов и их содержательно-смысловое наполнение. Особый акцент сделан на специфике условий VUCA (volatility, uncertainty, complexity and ambiguity), которые заключаются в стрессовости, постоянно меняющемся характере мира, в котором требуется быстро и адекватно перерабатывать огромные объемы информации.

В данной статье предпринята попытка разработать и описать современные тенденции цифровизации в условиях VUCA. Цель данного исследования – найти эффективные стратегии развития поликультурной среды университета, одной из которых является цифровизация.

Для определения сущности поиска стратегических решений цифровизации поликультурной среды университета были реализованы теоретические, эмпирические и диагностические методы, такие как обзор научной литературы, анализ инновационных стратегических практик, наблюдение, статистические методы и т. д. В результате моделирование стратегий цифровизации поликультурной среды университета в условиях VUCA рассмотрено как разработка и создание формальной модели стратегических решений, направленных на реализацию процесса цифровизации поликультурной среды вуза.

Авторы проанализировали программы университетов-партнеров и организовали международные вебинары и стажировки для бакалавров и магистров за рубежом. Экспериментальные данные, полученные при реализации разработанных стратегий, показывают эффективность формирования у студентов поликультурных компетенций.

*Ключевые слова:* среда, поликультурная среда, цифровизация, моделирование, моделирование стратегий, условия VUCA.

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**Суворова Светлана Леонидовна**, доктор педагогических наук, профессор, профессор кафедры теории и практики германских языков, Шадринский государственный педагогический университет, г. Шадринск, alex97@shadrinsk.net.

**Хильченко Татьяна Викторовна**, кандидат педагогических наук, доцент, доцент кафедры теории и практики германских языков, Шадринский государственный педагогический университет, г. Шадринск, tkhill@rambler.ru.

**Княжева Анна Валерьевна**, аспирант, Шадринский государственный педагогический университет, г. Шадринск, amur20@mail.ru.

*Поступила в редакцию 10 июня 2020 г.*

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#### ОБРАЗЕЦ ЦИТИРОВАНИЯ

Suvorova, S.L. Digitalization of the Polycultural Environment of the University in the Conditions of Vuca: Modelling Strategies / S.L. Suvorova, T.V. Khilchenko, A.V. Knyazheva // Вестник ЮУрГУ. Серия «Образование. Педагогические науки». – 2020. – Т. 12, № 3. – С. 87–95. DOI: 10.14529/ped200307

#### FOR CITATION

Suvorova S.L., Khilchenko T.V., Knyazheva A.V. Digitalization of the Polycultural Environment of the University in the Conditions of VUCA: Modelling Strategies. *Bulletin of the South Ural State University. Ser. Education. Educational Sciences.* 2020, vol. 12, no. 3, pp. 87–95. DOI: 10.14529/ped200307

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