A PARADIGM SHIFT IN DISTANCE EDUCATION IN RUSSIA TOWARDS OPEN, MASSIVE AND EXPERIENTIAL MODES OF TRAINING

I. Ainoutdinova[1], A. Blagoveshchenskaya[1], A. Nurutdinova[2], E. Dmitrieva[3]

[1]Kazan Federal University (RUSSIAN FEDERATION)
[2]University of Management "TISBI" (RUSSIAN FEDERATION)
[3]Kazan State Power Engineering University (RUSSIAN FEDERATION)

Abstract

The need for the study has been caused by the growing interest of educators in Russia in various electronic forms of teaching and learning capable of providing easily accessible high-quality and financially sustainable education at university level to anyone, anywhere and at any time. Accordingly, an increasing number of universities offer multiple educational opportunities to their students and distribute formal courses both in a traditional on campus mode as well as through a non-traditional delivery system at a distance. In order for distance education (DE) to be a viable alternative to traditional method of teaching and learning, it must be in line with the major trends and evolving practices of modern digital society. On the one hand, the labor market's demand for highly qualified specialists with numerous skills and competences revives interest in university courses, expands the number of students and makes education a really massive phenomenon. On the other hand, the required specific job skills and competencies can only be achieved and developed based on the quickly updated knowledge and technologies, which inevitably cause a total paradigm shift in education towards open and experiential modes of training of future specialists.

The purpose of this paper is to analyze and identify best strategies and models of distance education applicable to Russian universities in terms of effective massive, open and experiential teaching and learning. Other critical factors for the success of university education, such as access, equity, quality standards, student's engagement and involvement, teacher's training and readiness to non-traditional delivery modes, evaluation at all levels (including recognition and validation) and content design have also been considered. The emphasis was placed on growth and innovations instead of fixed traditions.

The methodological framework of this research rests on comparative analysis of the best practices of distance education offered by top universities worldwide. A comprehensive study of technical, pedagogical and managerial issues of distance education has also been provided. Based on empirical approach, testing, evaluation and control of usability, accessibility, availability and safety of some related techniques, tools and resources have been performed. An experimental study has also been conducted aiming to obtain, compare and employ certain relevant data concerning attitudes, priorities and learning outcomes of students in a traditional versus distance learning environment. The main result of the study is the design of a massive, open and experiential distance teaching and learning model that enhances the quality of university education in general and foreign language training in particular.

Keywords: university, students, distance education, technology, massive, open, experiential, training.

1 INTRODUCTION

The growing interest of Russian teachers and educators in various electronic online forms of teaching and learning is due both to the general trends in the development of the modern information society and the desire of universities to change the vector of their activities towards innovation, technology, accessibility, flexibility and professionalization of education [1]. Three events at least have recently brought home the importance of online distance mode of training at university level in Russia. First, the provisions of the Federal Educational Standards and the Federal Law "On education" No. 273 [2] legitimizing distance and e-learning methods and technologies are likely to expand the capacity of universities to create and implement their educational programs of different level of complexity with various majors both independently and via digital networks [1]. The importance of the legitimization of distance education in Russia as one of the promising forms of higher education is obvious, since for a long time it has been mainly regulated by decrees of the President and some departmental regulatory acts (for example, the Order of the Ministry of Education and Science of the Russian Federation of 06.05.2005 No.137 "On the use of distance educational technologies"), which to some extent conflicted with the formally expired but sill effective at that time Federal Law of the Russian Federation

of July 10, 1992 No. 3266-1 "On Education" [3], where, according to its Article 10, the distance form of education did not actually exist [1]. The same law in its Article 15 defined distance education as a form of classes supported by the use of remote educational technologies, implemented "with the use of information and telecommunication networks with indirect (at a distance) interaction between students and teachers" [3]. Analysis of the relevant legal acts on the topic shows that until 2012 distance education including university level was mainly perceived as a rather limited form of attestation in the form of external studies supplemented by the use of remote technologies ([1], [3]).

Second, the request of the civil society to strengthen Russia's position and competitiveness on the international labor markets and in the sphere of educational services has led the home government to join the Bologna process under the Lisbon Recognition Convention [4], the latter aiming to create *inter alia* a single information and educational environment in Europe (the European Higher Education Area) and over time, together with the UNESCO, to produce the same on a global scale thus opening higher education to a diverse student population and allowing them to choose most appropriate modes and forms of study including digital teaching and learning environments [5]. Such freedom of choice will apparently provide an easily accessible high-quality and financially sustainable online education at university level to anyone, anywhere and at any time if only these initiatives be backed by the well thought out and duly organized policies and strategies [5]. The European University Association (EUA) Trends 2018 survey [6], based on the data gathered from more than 300 higher education institutions in 42 European countries, suggests that teaching and learning in higher education now need to be commonly embedded in both national and institutional higher education frameworks related to credits, learning outcomes, modes and forms of study, and teaching/ learning in digital environments ([5], [6]).

And third, the aforementioned events jointly spawned the project named MDEE (the "Modern Digital Educational Environment of the Russian Federation"), which is being successfully implemented in our country now. Its priority goal is the modernization and intensification of the educational system in general and professional (experiential) training of students in particular. Also, the project involves the creation of conditions for improving the quality of education and bringing educational programs of universities into line with the needs of the digital economy [7]. The project has been implemented since 2016 along with the employment of other initiatives of the Russian government, namely "The Strategy for the Development of the Information Society in the Russian Federation for 2017–2030" and "The Digital Economy of the Russian Federation Program", 2017 [8]. Together, these documents define the goals, objectives and basic directions of development of the digital economy of the Russian Federation in the context of changing technological and societal demands for the period up to 2030. They aim to resolve at least part of the current problems concerning normative regulation, information infrastructure, information security, formation of research competencies and technical achievements, advances in personnel and education, etc. [8]. If at least some of the stated tasks are resolved, this may lead to the development of the digital economy, increase the country's competitiveness, improve the quality of life of Russians, ensure economic growth and strengthen Russia's national sovereignty.

The needs and challenges of the evolving digital economy cause a total paradigm shift against the earlier-existed approaches to higher education in general and future competent personnel training in particular. The model of training based on a concept of "lifelong learning" once created by L. Watkins is quite common and widespread today [9]. Being recognized as the ongoing, voluntary and self-motivated pursuit of knowledge for personal or professional reasons [9], lifelong learning finds more and more supporters including traditional colleges and universities. Among the other issues of concern is the design and implementation of efficient and effective digital environments and learning spaces of universities being organized in accordance with the changing learning needs, styles, preferences, capabilities and pace of modern students, usually referred to as the "digital generation Z" ([10], [11]). The major developers of the MDEE project, the 16 leading Russian universities that received grants based on the results of the competitive selection, plan to design and develop their digital environments and learning spaces through the widespread introduction of the digital modes and forms of study based on interactive participation of all subjects of educational process and supported by open online access to programs, courses, materials and resources of universities via the Internet [7]. The MDEE generators mainly rely on promoting distance education, publicizing of MOOCs (massive open online courses), launching crowdsourcing and other online platforms for creating, hosting and conducting best educational courses and lectures for an exponential number of students and trainees ([7], [8]).

2 METHODOLOGY

The methodological framework of this research work rests on a set of social, pedagogical, integrative, competence and comparative approaches covering all aspects of both teachers' and students' academic

activities enhanced by the needs and challenges of the digital era [7]. A comprehensive analysis of technical, pedagogical and managerial issues of distance education as an efficient massive online mode and form of study at university has also been provided as an integral part of the work. The need to study best international practices and experiences in distance education and MOOCs has been caused by the aim to analyze and identify the applicable modes and models capable to serve as a source of innovation and reform so as to improve the overall system of university education in Russia.

Our study has been supported by deep analysis and synthesis of the best scientific findings on the topic presented by the prominent Western and Asian scholars such as F.B. King, [12], M. Warschauer [13], D. Keegan [14], C. Jansen [15], M.G. Moore [16], L.C. Ragan [17], C.J. Bonk [18], K. Aoki [19], etc. We also examined and analyzed the latest trends in the field of teaching and learning of university students in the digital learning environment ([15], [17], [20], [21], etc.); identified thematically significant historical facts ([16], [18], [22], [23], etc.); singled out some unique characteristics, elements and principles of distance education and MOOCs employment applicable for university students in Russia ([12], [14], [17], [19], [24], [25], [26], etc.); examined the major tools, drivers and start-ups for efficient operation of relevant distance education platforms, massive open online courses (MOOCs) and virtual worlds to gather ideas and then publish and disseminate them for public opinion ([10], [13], [16], [17], [18], [21], [27], etc.). We also made an attempt to clarify the conceptual apparatus since there was an evident lack of a precise vocabulary in the domain of distance learning, distance education and online training, which only limited the ability of researchers and practitioners within that field of knowledge to communicate clearly and succinctly with each other ([12], [14], [25], [26], [28], [29], [30], [31], [32], etc.).

Based on the empirical approach testing, evaluation and control of usability, accessibility, availability and safety of some major digital distance education methods, techniques, modes, forms, tools and resources have been performed ([7], [8], [13], [16], [18], [28], [29], [30], [31], [32], etc.). The experimental study has also been conducted in order to obtain and compare certain relevant data concerning the learning outcomes of university students in a traditional versus digital learning environment. The process involved 30 teachers of foreign languages and more than 350 law faculty students, the latter having been divided into experimental groups and temporarily placed into separate learning environments, i.e. conventional or traditional (face-to-face) versus digital (at a distance). We took into account the latest US national research statistics and findings on "Generation Z" or simply "Gen Z" published recently by the Center for Generational Kinetics based in Austin (Texas, USA) [11].

First, we analyzed the general and most defining characteristics of the "Gen Z" students; and then their preferred styles, modes and pace of study. In the end, we examined with due diligence the applicable teaching and learning methods and techniques, which may simultaneously address academic, digital and social needs and skills of the "Gen Z" students as well as support their real-life expectations. The task of our research was far beyond the scope of the experiment since we aimed *inter alia* to design and implement such courses and programs that would be of interest not only for the allocated students-participants, but also for any students with the differing status though anywhere and anytime. We have to admit that this last step could hardly be realized without the institutional potential of university administration since most of the global MOOC platforms (Coursera, Udemy, Udacity, etc.) [1], which may attract exponential number of students and make higher education really massive, open and experiential, normally work with institutions and their administrative staff only thus limiting access of solo teachers and educators with their courses and lectures on the digital market [31].

3 RESULTS

The main result of the study is the design and implementation of the model of an efficient and effective student-centered digital learning environment of university that involves distance education programs and enhances the quality of education in general and professional (experiential) training of future graduates in particular. In our vision, university environment should be a multilingual educational space based on inclusion of the native language and one or more foreign languages being taught to students (English, German, French, or Spanish). Such space shall functions in the interconnection and complementarities of all its components that are traditionally integrated into educational process of university [10]. The learning environment should also be organized in accordance with the changing learning needs and styles of the "Gen Z" students, their preferences and capabilities [13]. The learning environment should thus be organized with a due ICT-based or digital support where educational tools and resources might function as adaptive, familiar and comfortable instrumental facilitators and drivers of the learning process ([10], [15]). The digital environment of university, supported by direct quick access to computers and the broadband Internet, should include the well-structured university's website, educational portal for electronic and distance learning offering *inter alia* access to massive

open online courses (MOOCs), information-sharing crowdsourcing communities and virtual networking platforms, digital libraries, etc. [1]. Classrooms and lecture rooms should be equipped with all sorts of digital devices and multimedia equipment, adapted for work with external, remote and internal free and easily accessible digital educational resources [10]. Moreover, universities shall not fear to integrate their institutions with the communities in which they exist and operate [28]. Culture of sharing ideas for enhancements in educational context is receiving the increasing support today. The reason is obvious: distance education initiatives give universities better chances to hear from students, faculties and community members about their current advances and drawbacks [28]. Distance education ideas help universities remain competitive, build their reputation, enroll more students that are new, etc. Besides, being receptive to ideas and change makes universities much more attractive to prospective students.

To clarify the conceptual apparatus and eliminate the evident lack of a precise vocabulary in the field, we analyzed various viewpoints and came to conclusion that meaning of the terms "distance learning", "distance education", "e-learning", "online learning", etc. is almost the same and may in some cases be used interchangeably. Given that, all terms imply learning outside the classroom and out of direct contact with teachers or instructors (which requires greater self-discipline and self-sustainability from students), these approaches still have a slight difference. In short, this difference can be represented as follows. If the concepts of "distance learning" and "distance education" are often associated with education by correspondence and actually indicate only a distance between students and teachers, then both traditional and specific digital or online methods, means and tools based on computers or the Internet (e.g., telecommunication technologies) can equally be used in the learning process [16]. The concepts "online learning" and "e-learning" mean that the process of study of a particular discipline or topic also takes place outside the classroom (at a distance), but only using the Internet connection. In other words, "online learning" or "e-learning" is the process of acquiring knowledge and skills in the "here and now" mode of study, but with the help of computers or other gadgets connected to the Internet, through which interaction and exchange of information shall take place [17]. Distance education may thus be defined as a mode of teaching and learning characterized by separation of teacher and learner in time and/ or place for most part of training, digitally enhanced delivery of the learning content and gradual knowledge acquisition with a possibility of two-way interaction (learner-teacher and learner-learner) as a basis of meaningful communication for better learning outcomes [12].

The data driven analysis proved that most of the students showed better learning outcomes in the digital learning environment strengthened by various distance learning initiatives (58% against 42%). Students can benefit greatly from distance or online education in different ways. Based on research provided by Chris Evans and Jing Ping Fan [33], we admit that there are at least 3 major advantages of distance or online learning, namely, learner-determined location for learning – whereby students are able to choose their own place of study; learner-determined time of learning – students are able to organize their own individual learning schedule, rather than having to study on a specific day at a specific time; and finally, learner-determined pace of study – students are able to set their own individual pace of study without being held up by slower students or vice-versa [33]. Moreover, distance education sends an important and very deep social message: it affords educational opportunities to individuals unable to attend conventional classroom settings no matter what the reason is. Not only those students with disabilities will benefit from distance education but also those who are shy, inhibited or reserved. In a conventional classroom environment, the latter rarely ask questions or voice their opinions. However, communication methods of the digital environment (e.g., student chat-rooms, forums, etc.) can provide these students with increased confidence and wider opportunities to be heard [10]. A well-organized digitally-supported distance education may not only offer a variety of forms and modes in knowledge acquisition for many people. It may also give chance to perform improvement to students, enhance their social inclusion, form their active citizenship position, help proceed in their personal development, and raise competitiveness and employability [9].

The results of the survey provided by the authors in the course of their empirical research confirmed that the majority of the "Gen Z" students clearly realize the need for higher education as a start-up for their future successful career (72%), favor participation of teachers and instructors in their training (68%), and admit that the delivery of university programs and courses should be organized, managed and controlled (78%). Some students believe that a true professionalism is achievable at university if only the future specialist participates in additional educational programs or courses (54%), purposefully take part in independent distance training courses on different open platforms as MOOCs or other open educational resources (66%). Some students consider it necessary to bring changes into the curriculum towards increasing of hours for experiential modes of training (56%), while others believe that only part-time work in professional environment may apply the acquired knowledge and skills for practice (43%). Only a small number of the respondents who have provided information for

the survey do not see the need to expand education and training process to "continuity", including further regular upgrading or lifelong learning (13%) either due to their young age or due to low motivation. The study was conducted on the grounds of the Kazan (Volga region) Federal University in the period from September to December, 2018. The study involved 3 groups of law students of 2nd-4th courses of the Law Faculty. The average age of students-interviewees varied from 19 to 22 years.

The analysis of the literature on the topic also proved our hypothesis that most of the trends of the 21st century teaching and learning involve various digitally supported methods, technologies, modes, forms, tools and resources [6]. The most common trends may be presented as follows: (1) e-Learning, Web-based learning (WBL), mLearning (mobile learning), distance learning, distributed learning and other forms of online education [13]; (2) Employment of real world applications – allowing students to apply theories to realty and see them in action [34]; (3) Gamification – with nearly half of the teachers admitting that they have at times incorporated online games into their classroom educational setting ([7], [32], [35]); (4) Employment of Open Source Textbooks, Massive Open Online Courses (MOOCs), crowdsourcing platforms based on networking, cooperation and collaboration, etc. ([18], [26], [31]); (5) Blended learning with its "flipped class" method, in which students first learn about a new subject at home, especially online, and then have discussions on it in the class face-to-face atmosphere – regarded as the foremost trend in language education for current university students [13], etc.

4 CONCLUSIONS AND RECOMMENDATIONS

The results of the research show that year by year distance education is getting more and more supporters ([5], [6]). So it's no wonder that most of the rating Russian and foreign universities are in a hurry to occupy their niche place in the growing trend and provide their students diverse opportunities either to obtain a course certificate or a diploma degree, or just remotely upgrade their qualifications [15]. The distance form of education does not only promote massive open access to higher education, reduce financial and energy costs, eliminate territorial and temporary barriers, but also improves the quality of education by introducing both disruptive and sustainable innovative teaching and learning technologies; by enriching curricula with classes based on experiential modes of training; by developing digital libraries, virtual and networking platforms; by distributing MOOCs and other electronic resources [31]. Though we assume that distance education is a modality today, along with its evident advantages, it is worth noting some problems concerning its implementation in Russia [36].

First, as a disruptive technology, distance education still lacks its complete realization in Russia, often has performance problems, seems to be known to a limited group of educators or students and might not yet have a proven practical application at university level. Though the appropriate use of this technology enhances learning opportunities, improves learning outcomes and facilitates networking and collaboration, some opponents state *inter alia* that in the absence of teachers "standing behind" learners might need too much of self-discipline and self-sustainability which is hardly achievable in the absence of a well-grounded and reasonable motivational readiness of students ([36], [37]). Besides, lack of social interaction or participation, in view of some opponents, may cause a feeling of isolation, while absence of social atmosphere may minimize motivation and interaction and worsen discipline. Limited direct access to instructors on demand to ask questions may cause to miss some important information, while absence of immediate feedback on performance may cause to miss some necessary and critical advice. Also, technical requirements may be difficult to meet for those who do not have a constant, reliable access to technology or who is still not completely computer literate ([36]; [37]).

It is noteworthy too that when choosing a distance mode of training for any of many valid reasons both educators and practitioners should be very attentive in selection and usage of didactic materials, teaching methods, technologies, tools and resources. If the purpose of a distance program is to teach, then that program must provide a comprehensive instruction that fosters creative interaction among/ between students and with their professionally trained tutors [21]. To help online instructors establish best distance practices and achieve performance expectations of the "Gen Z" students, core principles of effective online teaching have been developed at Penn State's World Campus, later presented in the Special Report by Faculty Focus [17]. Findings of this research may contribute to better understanding of current trends in higher education with a special emphasis on teaching and learning at university level. Personal experience allows us to speak about advisability and practicability of further development of online electronic modes and forms of teaching / learning, including distance education and MOOCs.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

REFERENCES

[1] I.N. Ainoutdinova & A.A. Blagoveshchenskaya, "The potential of Massive Open Online Courses (MOOCs) for revival of distance education in Russia", in ICERI2017 Proceedings: the 10th annual International Conference of Education, Research and Innovation, pp. 8335–8344, 2017.

[2] Federal Law of the Russian Federation "On Education in the Russian Federation", No. 273-FL of December 29, 2012. Retrieved from URL: http://zakon-ob-obrazovanii.ru/ (17.11.2018).

[3] Federal Law of the Russian Federation "On Education in the Russian Federation", No. 3266-1 of July 10, 1992. Retrieved from URL: http://base.garant.ru/10164235/ (17.11.2018).

[4] The Lisbon Recognition Convention – The Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, 11.04.1997. Retrieved from URL: https://www.coe.int/t/dg4/highereducation/recognition/lrc_EN.asp (22.11.2018).

[5] Corporate authors: European Commission/ EACEA/ Eurydice, "The European higher education area in 2018: Bologna Process implementation report". Luxembourg: Publications Office of the EU, Education, Audiovisual and Culture Executive Agency (EACEA). – Pages 330, 2018.

[6] M. Gaebel & T. Zhang, "Trends 2018: Learning and teaching in the European Higher Education Area", Report (October, 11th 2018), European University Association (EUA). – Pages 109, 2018.

[7] T. Dmitrieva, E. German, & T. Khvatova, "Digital technologies and higher education in Russia: new tools of development", in SHS Web of Conferences Proceedings: IV International Scientific Conference "The Convergence of Digital and Physical Worlds: Technological, Economic and Social Challenges" (CC-TESC2018), Vol. 44, No. 00029, pp. 1–7, 2018.

[8] E.G. Popkova & V.N. Ostrovskaya, "Perspectives on the use of new Information and Communication Technology (ICT) in the modern economy", E. Popkova, V. Ostrovskaya (eds.), Springer. – Pages 1178, 2018.

[9] P. Jarvis, "Towards a Comprehensive Theory of Human Learning", Psychology Press. – Pages 218, 2006.

[10] M.B. Brown & J.K. Lippincott, "Learning Spaces: More than Meets the Eye" / Malcolm B. Brown & Joan K. Lippincott. EDUCAUSE Quarterly, vol. 26 (1), pp. 14–16, 2003.

[11] D. Villa & J. Dorsey, "The State of Gen Z 2017: Meet the Throwback Generation: White Paper". Research by: The Center for Generational Kinetics, Austin, Texas, USA. – Pages 30, 2017.

[12] F.B. King, M.F. Young, K. Drivere-Richmond & P.G. Schrader, "Defining Distance Learning and Distance Education". AACE Journal (Norfolk, VA: Association for the Advancement of Computing in Education), 9(1), pp. 1–14, 2001.

[13] M. Warschauer, "The Paradoxical Future of Digital Learning". Learning Inquiry, 1(1), pp. 41–49, 2007.

[14] D. Keegan, "Foundations of distance education (3rd ed.)". Series: Routledge Studies in Distance Education. London, New York, NY: Routledge. – Pages 240, 1996.

[15] C. Jansen & P. Van der Merwe, "Teaching Practice in the 21st Century: Emerging Trends, Challenges and Opportunities". Horizon Research Publishing, Universal Journal of Educational Research, 3(3), pp. 190–199, 2015.

[16] M.G. Moore, "Handbook of Distance Education", (3rd ed.), Michael Grahame Moore (Ed.), London, New York, NY: Routledge. – Pages 752, 2012.

[17] L.C. Ragan, "Principles of Effective Online Teaching: Best Practices in Distance Education". Higher Ed. Special Report / Christopher Hill (Ed.). A Magna publication: Faculty Focus. Madison, Wisconsin, USA. – Pages 26, 2012.

[18] C.J. Bonk, M.M. Lee, T.C. Reeves & T.H. Reynolds, "MOOCs and Open Education around the World". Taylor & Francis Group: Routledge, Oxford, UK. – Pages 398. 2015.

[19] K. Aoki, "Generations of Distance Education and Challenges of Distance Education Institutions in Japanese Higher Education". Chapter 8 in Distance Education, P. B. Muyinda (Ed.), InTech, (Open Access). The Open University of Japan, Chiba, Japan, 2012. Retrieved from https://www.intechopen.com/books/distance-education/generations-of-distance-education-and-challenges-of-distance-education-institutions-in-japanese-high (21.12.18)

[20] F. Hurst, "The Death of Distance Learning?" Educause Quarterly, 24(3), pp. 58–60, 2001.

[21] S. Reid, "The integration of information and communication technology into classroom teaching", Alberta Journal of Educational Research, 48 (1), pp. 30–46, 2002.

[22] G. Leedham, Y. Ma. & M. Blumenstein, "Handwritten shorthand and its future potential for fast mobile text entry", International Journal of Pattern Recognition and Artificial Intelligence, No. 23 (1031), pp. 1–15, 2009.

[23] L. Black, "A history of scholarship", In M. G. Moore (Ed.), "Handbook of distance education" (3rd ed.), London, New York, NY: Routledge, pp. 3–20, 2013.

[24] D. Cormier & B. Stewart, "Life in the open: 21st century learning & teaching". In S. Murray, (Ed.) Proceedings of the Atlantic Universities' Teaching Showcase 2010, Vol. 14, pp. 24–31, 2011.

[25] S. Downes, "Learning Networks and Connective Knowledge". Collective Intelligence and E-learning, Vol. 20, pp.1–26, 2006.

[26] F.M. Hollands & D. Tirthali, "MOOCs: Expectations and Reality: Full Report". Center for Benefit-Cost Studies of Education: Columbia University, NY, USA. – Pages 211, 2014.

[27] D. Cormier & G. Siemens, "Through the open door: Open courses as research, learning, and ! Engagement". Educause, Vol. 45 (4), pp. 30–39, 2010.

[28] N. Sampson, "Meeting the Needs of Distance Learners". Language Learning & Technology, 7(3), pp. 103–118, 2003.

[29] S. Fleming & D. Hiple, "Distance Education to Distributed Learning: Multiple Formats and Technologies in Language Instruction". CALICO Journal, 22 (1), pp. 63–82, 2004.

[30] B.H. Khan, "Learning Features in an Open, Flexible and Distributed Environment". AACE Journal, 13(2), pp. 137–153, 2005.

[31] S.D. Karakozov & V.G. Manyakhin, "Massive open online courses in foreign and Russian education". Bulletin of the Peoples' Friendship University of Russia, Vol. 3, pp. 24–30, 2014.

[32] M.R. Nurkhamitov & N.V. Gerkina, "Using the technology of podcasting in modern foreign language teaching", Modern Journal of Language Teaching Methods (MJLTM), Vol. 7 (9/1), pp. 121–125, 2017.

[33] C. Evans & J.P. Fan, "Lifelong learning through the virtual university", Campus-Wide Information Systems, 19(4), pp. 127–134, 2002.

[34] R. Bolstad & J. Gilbert with S. McDowall, A. Bull, S. Boyd & R. Hipkins, "Supporting future-oriented learning and teaching: A New Zealand perspective". Report to the Ministry of Education, NZ Council for Educational Research. – Pages 74, 2012.

[35] R. Maloy, "Commentary: Building Web Research Strategies for Teachers and Students". Contemporary Issues in Technology and Teacher Education, AACE, 16(2), pp. 172–183, 2016.

[36] I.N. Ainoutdinova, A.N. Khuziakhmetov, & T.M. Tregubova, "Advantages and disadvantages of distance education for university students in Russia". Modern Journal of Language Teaching Methods, 7(9/2), pp. 72–86, 2017.

[37] J. O'Donoghue, G. Singh & C. Green, "A comparison of the advantages and disadvantages of IT based education and the implications upon students". Interactive Educational Multimedia, Vol.9, pp. 63–76, 2004.