The Use of Digital Technologies in Education: Academic University Experience

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Аннотация

This article uses the experience of the State Academic University of Humanities (GAUGN University) to consider the possibility of implementing technological solutions into the educational process. These technological solutions may allow not only improve the quality and efficiency of teaching in individual disciplines but also contribute to the creation of a collaborative environment for the professional community for scientists and educators. One of the technological solutions this article points out is the creation of a scientific journals network on the editorial and publishing platform JES ("Journal of Education and Science"). The functionality and the modular structure of the JES platform can be actively used in the educational process for testing and development of educational and methodological literature within electronic library systems, such as SOCHUM. The platform can as well become a repository for a variety of online courses and other digital products. Based on the examples outlined in the article, it is claimed that digitalization requires advanced information and communication technologies to become an integral part of the education system, allowing the creation of new educational modes and techniques to enhance student learning. The article also notes that the digital transition inevitably affects the change in the scientific research methods and practices, especially in the humanities, and therefore, the choice, implementation and application of digital technologies and digital content in education become particularly important.

Ключевые слова: digitalization, digital technologies, academic university, humanities, online education, scientific literature, electronic library systems, VR-university

[1]
INTRODUCTION

The first quarter of the 21st century was marked by the advance and spread of information and communication technologies, which completely changed society. Digitalization and automation have impacted the usual practices of everyday life and changed the traditional ways of social communication. Digital transformation has gradually entered education, and at first educational institutions were using technology mostly to supplement the already existing elements of the educational process (for example, to compensate for the lack of library collections through the digitization of educational and methodological literature). However, the constantly improving functionality of electronic resources has allowed educators to replace some outdated educational modes with innovative engaging learning formats by utilising new technologies. In 2021, providing effective information support to the educational sector within the framework of organizing the educational process and managing educational activities was noted by the Government of the Russian Federation as one of the strategic directions in the field of digital transformation of education related to the sphere of activity of the Ministry of Education of the Russian Federation. It was mentioned in Decree No. 3427-r of the Government of the Russian Federation of 2 December 2021.

[2] The need to expand the distance learning capability has been an important factor in the digital transformation (particularly during the coronavirus pandemic in 2020 (Fomin-Nilov 2021)), which in turn required the improvement of organizational forms of the educational process (for example, an electronic diary). In higher education, administering diverse tasks has led to the implementation of the internal digital environment in most universities. Based on the specific needs and requirements of a particular educational institution the internal digital environment can be represented by either a set of integrated modules within one digital product (for example, the portal "1C: University") or a combination of module sets.

[3] At the same time, global digitalization in education revealed a problem of educational content verification available online and used for educational purposes. Researchers from diverse scientific backgrounds have engaged with this problem over

many years. In the 2012 All-Russian Year of History events the influence of digital technologies on the development of historical research and education was discussed. The representatives of the historian professional community raised concerns that a wide range of Internet resources tends to replace the results of scientific research with alternative interpretations of historical facts, and sometimes utter falsifications. According to researchers, such Internet resources are "widely used and beginning to increasingly overshadow and deceive the voice of professionals" (Lipkin and Sekirinsky 2015). Digital dissemination of information has inevitably influenced the change in the scientific research practices influenced by the coexistence of traditional and digital modes of information storage (Volodin 2015; Borodkin 2016; Volodin 2020).

4　　The discussion around the digitalization of education has only revealed parts of the bigger problem related to the rupture of stable connections between secondary and higher education, particularly visible in the field of humanities (Uvarov ed. 2019).

5　　Development and improvement of various forms of science and education integration have always been one of the major priorities for the State Academic University of Humanities (GAUGN University) founded in 1994 on the basis of research institutes of the Russian Academy of Sciences. The idea of creating an electronic journal that will use the advantages of modern information technologies and at the same time maintain a high scientific level of published materials was born within the university. This idea was initially discussed in 2005 by Denis V. Fomin-Nilov, at that time the Head of the Centre for Information Technologies of the Institute of World History of the Russian Academy of Sciences and later the rector of GAUGN University.

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ELECTRONIC SCIENTIFIC EDUCATIONAL JOURNAL "ISTORIYA"

An important milestone in the active implementation of digital technologies in the educational process was the foundation of the Electronic Scientific and Educational Journal "ISTORIYA" in 2010. Founded by the Institute of World History RAS and GAUGN University, the "ISTORIYA" Journal at that time was the first humanities periodical in Russia distributed online exclusively on the Internet (https://history.jes.su/), at the same time not just an online version of the traditional print magazine. The "ISTORIYA" Journal website was hosted on the editorial and publishing platform JES ("Journal of Education and Science"), which allowed every journal user to create a personal account on the platform, choose a suitable subscription type, authorize leaving comments on publications and evaluate them, engage in discussion with the authors, and become an author and editorial board member and reviewer. The journal has become a social network for user interaction and publication activity (Tarkhanov, Fomin-Nilov and Fomin 2020).

7　　120 scientific issues of the journal on a range of topics were published in the "ISTORIYA" Journal in November 2022, and the number of registered users – potential authors and subscribers – reached 12 000 people. The accessibility and user-friendly and functional interface of the online platform allowed "ISTORIYA" Journal to create an online environment for historians to communicate and collaborate within and beyond the

academic professional community. The journal attracted secondary school teachers, methodologists, educational specialists and university teaching staff from all over the country and abroad (Yablokov 2021).

8   In April – May 2015, on the initiative of the Federal Service for Supervision in Education and Science (Rosobrnadzor), the All-Russian project "Portrait of a History Teacher" was launched. The Federal Institute for Pedagogical Measurements and the State Academic University of Humanities staff processed 5545 questionnaires submitted by history teachers from 72 subjects of the Russian Federation. The study results were used for scoping the areas for the development of digital technologies in education aimed at improving the teaching methodology by arranging capability building sessions for teachers and developing teaching materials. "ISTORIA" Journal was in charge of the editorial and publishing preparation of educational literature, more specifically the testing stage. The journal issues have been arranged in themes that allowed for the maximum efficiency of the experimental testing. This technique was first applied in the preparation of textbooks developed within the framework of the federal project "History of Russia through the History of the Regions". At the preparation stage, the team of authors provided editorial materials for each theme to the editorial board. Each theme was reviewed by the journal editorial board as a separate article. The special issue of "ISTORIA" Journal contained the themed articles and became a blueprint for the future printed publication available for participants involved in the testing. Participants included experts, secondary school teachers, methodologists and education specialists, as well as students. Based on the feedback provided, the authors addressed and refined the materials to adapt them to the requirements of the educational process.

9   Thus, "ISTORIA" Journal played an important role in improving the methodology for the development of educational and methodological literature for teaching history. The online journal allowed to reduce the publishing costs as printing and other machine-readable storage devices were not necessary. Within the framework of the federal project "History of Russia through the History of the Regions", educational materials on the history of Siberia (2014), the Saratov Volga region (2016), the Republic of Bashkortostan (2017), the Orenburg Territory (2018), the history of the Crimea (2019) and the Far East (2021) were developed and successfully tested (Fomin-Nilov and Yablokov 2019).

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ELECTRONIC LIBRARY OF SOCIO-HUMANITIES SOCHUM

The successful experience of using the editorial and publishing platform "Journal of Education and Science" in the GAUGN University demonstrated that advanced digital technologies have not only become an integral part of the educational process but also allow the development of new educational models and teaching techniques, including modern electronic library systems and innovative online courses.

11   In 2018, the GAUGN University the development of the Electronic Library of Socio-Humanities SOCHUM was launched. As opposed to the traditional electronic library systems, SOCHUM contained the Russian Academy of Sciences publications (Tarkhanov, Fomin, Fomin-Nilov and Yablokov 2018). The regularity of the publication

of the issues ensured the constant and automatic replenishment of the library with new, relevant publications which in addition to the traditional peer review undergo additional scientific and pedagogical review to ensure their high quality and compliance with advanced achievements of scientific thought. Multi-staged review process makes Electronic Library System SOCHUM an optimal and reliable tool for educational practices. Archiving work on compiling a full collection of issues of scientific journals of the Russian Academy of Sciences of a socio-humanitarian profile in the format of an online archive (https://arxiv.gaugn.ru/) was part of the project development. The collection included scientific monographs, collections of articles, conference materials, lecture video recordings and reports presented at scientific events.

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ONLINE COURSES OF THE GAUGN UNIVERSITY

In 2020, to create a digital educational environment within the framework of the National Project "Education", the GAUGN University developed and successfully tested online courses on the history of Russia and the history of Russian philosophy, developed by the GAUGN University together with the Institute of Russian History of the Russian Academy of Sciences and the Institute of Philosophy of the Russian Academy of Sciences. The abovementioned courses were developed based on the online versions of the relevant textbooks previously published in the Electronic Scientific and Educational Journal "ISTORIYA" in the format of traditional scientific periodicals. The online courses were tested on regional online platforms(Chernyaev ed. 2021; Petrov and Zakharov ed. 2018).

13   From the 2020/2021 academic year, all Year 1 undergraduate students at the GAUGN University enrolled in the study program "History of Russia" are delivered in a blended learning mode with the relevant online course being part of the program. 1159 students have already successfully passed the program (418 in 2020/2021, 407 in 2021/2022, 334 in 2022/2023). Apart from the GAUGN University students enrolled in the program in 2020/2021, 445 students from other educational institutions across the country took part in the testing stage of the online course on the History of Russia. External students who participated in the online course testing were enrolled in the following institutions: Bashkir State Pedagogical University by M. Akmulla (34 students), Vladivostok branch of the Far Eastern Law Institute of the Ministry of Internal Affairs of Russia (200 students), Orenburg State Pedagogical University (123 students), Tula State Pedagogical University by L. N. Tolstoy (88 students).

14   The online course on the History of Russia contains 18 video lectures, with each lecture being split into themes for the learners' convenience (94 themed videos in total). Apart from the self-paced learning modules that students are expected to complete in their own time, the course offers live sessions (seminars or consultations) facilitated by the teaching staff. The overall workload in the course is set to not less than 1 ZET (36 academic hours). The final assessment on the course consists of 180 multiple choice quizzes categorized into 18 themes corresponding with the lecture themes (at least 10 questions per theme, with each question having not less than 4 options and only one correct answer). The threshold value for successful completion of the quiz can be

determined arbitrarily, while the correct answers can be counted both in their total number and in proportion to each topic.

15   This way the GAUGN University online courses contain printed course materials, their online versions, online video lectures, seminars, consultations, and quizzes which provide a solid learning experience combining traditional and innovative approaches to teaching history. It is worth noting that the abovementioned online courses due to high accessibility and availability can become an integral part of current humanities study programs, as well as electives for students in other majors studying basic Russian history and philosophy.

16   The materials for these online courses are also presented on the portal "Modern Digital Educational Environment in the Russian Federation" created by the Ministry of Science and Higher Education of the Russian Federation to provide access to educational and methodological materials developed by educational organizations on various online learning platforms. At the same time, it is important to note that the total number of the Stepik platform users enrolled in an online course on the History of Russia since its placement on the platform exceeded 4,000 people at the beginning of November 2022. The increased number of enrolled students allows us to talk about the high demand for high-quality scientific materials on history in an accessible format from a wide range of users. Consequently, we claim that this online course has a high potential for the popularization of scientific knowledge among different population groups.

17   Denis V. Fomin-Nilov has noted that online courses can be useful not only for students in all study areas but also can be utilised to build teaching staff capabilities, as they contain materials developed by the leading researchers in the field of history. According to Denis V. Fomin-Nilov, "the online course is convenient due to the accessible way materials are organised and it provides the learner with the answers to some most difficult questions in Russian history based on the most current research".

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CONCLUSION

Information and communication technology advance in the 21st century has led to the digitalization of all aspects of life. One of the important consequences of the digitalization process is a wider range of communication opportunities both within professional communities and beyond. Regarding the educational system, active implementation of digital technologies allowed to increase in the efficiency of traditional pedagogical methodologies and practices as well as the development of innovative teaching modes to compensate for the negative aspects of digitalization related to the verification of educational content. The development of the pedagogical toolkit has created a unique environment to bridge the gap between science and education which has been most apparent in humanities. The State Academic University of Humanities (GAUGN University), initially specialized in training staff for research organizations of the socio-humanity profile, has become an optimal scientific and educational platform for testing innovative technological solutions. These solutions include the launch of online scientific journals within a single editing and publishing

platform (in this case JES "Journal of Education and Science" platform) that due to its educational functionality creates a collaborative space for the community of research and teaching professionals. The development of this platform made it possible to utilize the automated databases for the published periodicals within electronic library systems (in this case Electronic Library System "SOCHUM"). In addition to the electronic library systems, it is worth mentioning the development and implementation of interactive online courses and augmented reality, such as VR-University, aimed at widening the potential of online educational modes. The set of technological solutions described in this article developed and implemented at the Academic University (GAUGN University) may increase the quality and efficiency of educational programs. The educational process will be enriched by the most recent research findings which in turn may contribute to the further integration of academic science into the educational process.

Библиография:

1. Borodkin, L. 2016. Modelling historical processes: from reconstruction to analysis of alternatives. St. Petersburg: 304

2. Chernyaev, A. ed. 2021. History of Russian Philosophy. Electronic Scientific and Educational Journal "ISTORIYA": https://history.jes.su/issue.2018.2.5.e18/

3. Fomin-Nilov, D. 2021. Digital future of socio-humanitarian knowledge and lessons of the pandemic. 9th International Scientific and Practical Conference "Scientific Publishing of International Level: World Trends and National Priorities": https://rassep.ru/academy/biblioteka/106116/

4. Fomin-Nilov, D. and B. Yablokov. 2019. The History of Russia through the History of Regions: Experience of Integrating Science and Education. Electronic Scientific and Educational Journal "ISTORIYA". Volume 10. Issue 5 (79): https://history.jes.su/s207987840002147-0-1/ DOI: 10.18254/S0002147-0-1

5. Lipkin, M. and D. Sekirinsky. 2015. History and Cyberspace: Digital Culture Blossoming or the End of History? Electronic Scientific and Educational Journal "ISTORIYA". Volume 6. Issue 5 (38): https://history.jes.su/s207987840001179-5-1/

6. Petrov, Y. and V. Zakharov. ed. 2018. History of Russia. A short course. Electronic Scientific and Educational Journal "ISTORIYA": https://history.jes.su/issue.2016.3.9.e10/

7. Tarkhanov, I. M. Fomin, D. Fomin-Nilov and B. Yablokov. 2018. Electronic library system of sociohumanitarian knowledge. Certificate of state registration of a computer programme. EBS.RU 2018617307 of 21 June 2018.

8. Tarkhanov, I., D. Fomin-Nilov and M. Fomin. 2020. Crypto access: Is it possible to use cryptocurrencies in scholarly periodicals? Learned Publishing. Issue 34 (1). DOI:10.1002/leap.1331

9. Uvarov, A. ed. 2019. Challenges and prospects of digital transformation of education. Moscow: Higher School of Economics Publishing House.

10. Volodin, A. 2015. Digital History: A Historian's Craft in the Digital Age. Electronic Scientific and Educational Journal "ISTORIYA". Volume 6. Issue 8 (41): https://history.jes.su/s207987840001228-9-1/

11. Volodin, A. 2020. The digital transformation of history? Data, standards, approaches. Electronic Scientific and Educational Journal "ISTORIYA". Volume 11. Issue 3 (89): https://history.jes.su/s207987840009746-9-1/ DOI: 10.18254/S207987840009746-9

12. Yablokov, B. 2021. Features of the development of online scientific periodicals on the example of the electronic scientific and educational journal "ISTORIYA". Electronic Scientific and Educational Journal "ISTORIYA". Volume 12. Issue 12 (110). Part 2: https://history.jes.su/s207987840017380-7-1/ DOI: 10.18254/S207987840017380-7

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Abstract

This article uses the experience of the State Academic University of Humanities (GAUGN University) to consider the possibility of implementing technological solutions into the educational process. These technological solutions may allow not only improve the quality and efficiency of teaching in individual disciplines but also contribute to the creation of a collaborative environment for the professional community for scientists and educators. One of the technological solutions this article points out is the creation of a scientific journals network on the editorial and publishing platform JES ("Journal of Education and Science"). The functionality and the modular structure of the JES platform can be actively used in the educational process for testing and development of educational and methodological literature within electronic library systems, such as SOCHUM. The platform can as well become a repository for a variety of online courses and other digital products. Based on the examples outlined in the article, it is claimed that digitalization requires advanced information and communication technologies to become an integral part of the education system, allowing the creation of new educational modes and techniques to enhance student learning. The article also notes that the digital transition inevitably affects the change in the scientific research methods and practices, especially in the humanities, and therefore, the choice, implementation and application of digital technologies and digital content in education become particularly important.

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