

**EDUCATION IN DIGITAL SOCIETY:
NEW CHALLENGES FOR EDUCATORS**

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Abstract. The modern society has dramatically changed recently as information technologies have entered all areas of human society, therefore, in order to be able to comprehend and act in this new digital world, citizens need particularly new education. In the light of this context, the aim of this study is to clarify forms, methods and resources for teaching and learning in a digital society and major skills of graduates, to evaluate the current situation in the field of developing these new skills in provincial institutions of higher education and the necessary changes for adapting teaching and learning to the challenges of the global market.

Based on the literature review, we have found out that the key skills in a digital society are knowledge management, self-learning and lifelong learning skills. The analysis of educational resources has shown that not only new digital educational platforms, which can be used both by students and their educators for the purpose of lifelong learning, have been created but also there is a great variety of accessed free online open educational resources, what is more, educators can use various Google apps for creating their own resources.

The factual basis of the research includes data of a content analysis of all current 64 curriculums in humanities of the three leading Volgograd institutions of higher education and a survey of students with the aim to identify the degree of their use of digital devices and technologies, the use of digital technologies by educators in the teaching process, as well as the degree of immersion of educators in development of digital skills of students. Content analysis of the abovementioned curriculums showed that insufficient attention is paid to subjects associated with information technologies.

According to the survey, the current generation of young people can be called a “digital” generation, since all modern students are strongly interested in technologies, have a smartphone and at least also a computer or

a laptop and use them daily. The results of this research demonstrate that the current generation of students is characterized by their immersion in using digital technology, and using digital technology in their education is reasonably demanded. Moreover, such distinctive features of modern youth as distracted attention, easy online interaction, visual perception, clip thinking and the desire for personal freedom must be considered by the higher school educators in the process of teaching students.

Regardless of the fact that the students are totally involved in using e-devices for learning, only slight support from educators in their learning process was mentioned. The research data indicate that most students do not know about online educational platforms and have never used any elements of distance learning. Almost half of the students mention that educators have not developed their knowledge management skills and only the minority mentions that some Google apps for education have been used in their educational process. Though a slight majority of respondents reported using visualization and flipped learning by their educators, only a small group claimed that educators use gamification or their own audio or video educational resources.

The lack of academic disciplines associated with IT must be compensated by teaching all curriculum disciplines with the use of digital technologies. The challenges for educators in a digital society are transforming their functions into ‘navigator’ in the educational, including digital, environment, being familiar with using new learning tools and technologies in their teaching and effectively making use of them.

Keywords: higher education, digital skills, digital generation

Introduction

Mankind has entered the new stage of the society development – a digital society. Digital innovations have influenced all the spheres of the society: economy and industries, science, government, security, health services, education and culture in many different, complex, and even contradictory ways. As globalisation and technological progress change modern societies and economies, a fundamental transformation of education and training is required in order to deliver the knowledge and skills needed for growth, employment and participation in society.

According to the World Bank, Russia ranked a relatively high 34th (out of 157 countries) in the WEF Index of Human Capital Index in 2018 (World Bank, 2019:62). On the other hand, as stated by a WEF survey of business managers of the educational system’s compliance with the tasks of ensuring the competitiveness of the economy, Russia occupies the 72th place out of 140 countries (World Economic Forum, 2018:485). This means that the

system of Russian higher education must be subject to rapid transformations, since, for successful functioning of digital society, Russia needs a sufficient number of literate users of information technologies.

Objectives

As there is a great demand for rapid transformations of the higher education for preparing students to comprehend and act in an increasingly digital society, the purpose of our research is to clarify what vital skills should be taught, what forms, methods and resources should be used, to estimate the present situation in the sphere of developing these skills and to determine the new challenges for educators in their professional career.

Methodology

To answer the research question, we used an analysis of the literature under study, content analysis of university curriculums and a survey of students of Volgograd area.

Transformation of skills. The analysis of scientific literature has shown that in addition to some 'basic skills', such as communication, literacy (e.g. media literacy, digital literacy, reading), critical thinking and judgement, knowledge management, typing, teamwork and collaboration, creativity and innovation entrepreneurship, problem solving, personal resilience, adaptivity to multi-cultural settings, new digital skills are required (World Bank, 2019:50).

These skills can be divided into technical skills (required to use digital technologies) and digital navigation skills, which include understanding how to provide one's well-being in this new world and how to develop appropriate mentality for a digital world (Grand-Clement S., 2017:6). Digital navigation skills can be determined as knowledge management (finding, evaluating, analysing and disseminating information), agile management, change management, self-learning and lifelong learning, discerning the limits and barriers of technology (Sousa M.J., 2019:328). In a digital, society, the traditional education system is already incapable to provide graduates with a long-term guarantee of employment, since high rates of knowledge update require continuous retraining, and the volume of this knowledge doubles on average every 1,5 years. Therefore, the ability and willingness of people to learn throughout life come to the fore in a digital society.

Resources for learning. In order to ensure the possibility to educate citizens according to individual curriculums in the course of all their life, anytime and anywhere, it is necessary to modernise the system of education and professional training, bring educational programmes into compliance with the needs of digital economy, widely introduce digital tools of learning activity and completely include them in the information environment.

Digital educational platforms such as EdX, Network University, Coursera, which aim to provide advanced academic online programmes to a worldwide constituency of students and professionals have been successfully functioning for many years. The project 'Open Education' is a modern educational platform offering 345 online courses on basic disciplines studied in the leading Russian universities for everyone and totally free of charge. These courses are specially designed with online materials, in-built learning support and assessment and can be included into curriculums of students. The Russian Federation initiated the priority project 'Modern Digital Educational Environment', the central idea of which is providing access to online courses developed and implemented by various organisations on different online education platforms to all categories of citizens and educational organisations of all levels of education.

Use of open educational resources promotes successful development of an independent learning skill, a critical skill for digital society, and the possibility to use open educational platforms. The educators can take open educational resources selectively from the Internet, and incorporate or adapt them into their own courses or create their own digital resources for their teaching and make them available to others.

Use of such Google Applications as Google Drive, Google Forms and Google Docs allows not only saving and viewing but also editing works of students (files) directly in the web interface, as well as creating text documents, sheets, forms, surveys, questionnaires, tests, presentations, vector graphics and processing data automatically. Google Docs and Google Forms provide the possibility for joint work of several users and can be an effective tool for joint project and research activity.

Learning and Teaching. In a digital society, in the era of excess of information, the emphasis is laid on what is being received, rather than on what is being delivered, so a more active role is placed on students and they have to take more responsibility for their learning. In this new context, the educator's role is to coach and mentor the learner and to point out where the student can access and evaluate information, rather than to provide the new knowledge (Grand-Clement S., 2017:7). Using digital technologies, the educator can help make the students' learning experiences more engaging and can foster 'deep learning', ensure the wellness of the learners, develop a team spirit, provide support and mentoring and guide the student in his process of learning. Solutions may include the development of blended forms of learning, which combine digital learning and face-to-face events, flipped classroom, using gamification and visualization, project work and other interactive forms of learning (Bates A.W., 2015).

The estimate of educator's readiness for teaching in a digital society. In order to estimate the degree of readiness of higher education for effective functioning in a digital society, we analysed all current 64 curriculums of undergraduate degree programmes in humanities of the three leading universities of Volgograd region: Volgograd Institute of Management, Volgograd State Socio-Pedagogical University and Volgograd State University. The aim of the analysis was to evaluate the amount of credit points dedicated to such disciplines as 'Computer Science' and 'Information Technologies'. To estimate students' and educators' involvement in the use of digital technologies, a survey of students of first and second years, who were randomly selected from the aforementioned higher schools, has been conducted. The research involved 159 full-time students of undergraduate programmes whose main subjects were in humanities, economics, law, languages, management, sociology and philology. The student questionnaire contained 30 questions evaluating the frequency of their use of social networking, media and entertainment applications (8) and their use of the online resources for the educational purposes (5); the extent of use of digital tools in the teaching process (7) and the degree of educators' involvement in the process of developing students' digital skills (8). For producing the descriptive statistics and verifying the reliability of the scale the data was analysed using a SPSS statistics software package.

Results

Content analysis of these curriculums showed that 25% of specialties have in their curriculums only the discipline 'Computer Science' in the volume of 1-3 credit points, 12% of curriculums contain only the discipline 'Information Technologies' (in the corresponding specialty), to which on average from 4 to 7 credit points are dedicated, and 40 curriculums, which comprises 63% of the total number, contain both the discipline 'Computer Sciences' and the discipline 'Information Technologies', however, the total number of credit points is on average 3-4 and does not exceed seven. Therefore, in our view, insufficient attention is paid to subjects associated with information technologies, and, correspondingly, to development of digital skills of students in terms of special subjects.

The results of the survey have shown that nowadays 100 percent of students own a smartphone and at least one more e-device. The respondents reported extensive use of the Internet and various mobile applications in their personal lives – 71% of the students use the Internet more than 4 hours every day; more than 95 percent of respondents reported using social and music applications in their everyday personal lives and 97 percent use the Internet for education: 85% of the students search the information for their

learning, 76% of them use the Dictionary and 59% occasionally use the electronic library resources.

The current generation of students is characterized by their immersion in digital technology, they are used to using social media in all aspects of their life and they expect their educators to introduce digital technology into the educational process. Distracted attention, the habit of consuming content in small portions, easy online interaction, visual perception, clip thinking, the desire for personal freedom are the distinctive features of today's students.

Despite the students' involvement in using e-devices for learning, they outlined only modest support from educators in their learning process. The survey data demonstrate that the majority of students (61%) have never heard of any particularly online educational platforms and 58 percent of them have not tried any elements of distance learning. Only 48 percent of students said that educators clarified how and which resources to use in their learning and coursework, and only 26 percent of respondents mentioned that their educators have ever used any Google Applications for educational purpose. Although only 56 percent of respondents reported educators' using of flipped learning, only 12 percent of those educators used their own audio or video educational resources. According to the data, only 59% of educators use visualization and only 15 percent use elements of gamification. Meanwhile, 82 percent of students enjoy their studying and are interested in continuing their education.

Discussion

Introduction of new disciplines promoting expansion of digital literacy of future specialists, or development and implementation of new programmes in higher education traditionally takes several years. In our view, the lack of academic disciplines associated with information technologies, learning which students could fully develop skills necessary for them in a digital society, must be compensated by teaching all curriculum disciplines without exception with the use of digital technologies. The educators are expected to be more flexible and able to take the challenge to apply information technologies and digital learning tools in the process of education and to form and develop necessary skills.

However, there is a gap between the skills which educators have for teaching the new generation and the need of a digital society. Therefore, it is necessary to increase the professional competence of the higher school educators, in terms of using digital technologies in the pedagogical process, so that during study of professional disciplines students could also simultaneously gain new digital skills necessary for their active participation in the life of a digital society.

In order to increase their own competence, educators can use resources of open online courses, in the process of teaching they should use open educational resources, or they can produce their own digital educational resources, including also applications provided by Google. Because of the growing time required for digitalisation, teachers require solid support during the production phase.

The main goal of educators is to adopt new ways of teaching in order to continue delivering user-focused services in the face of changing technology, competition, audience needs and behaviour. The functions of adviser, supervisor of training, project and research activity, 'navigator' in the educational, including digital, environment come to the fore.

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