

Dear colleagues!

This thematic issue of the Journal represents various approaches to the development of the digital learning environment and digital competencies in the context of the 4th Industrial Revolution (in other terms, Industry 4.0) to the international community. Leading experts from Moscow, St. Petersburg, Omsk, Krasnoyarsk, the Republic of Tyva and France offer their concepts for revising learning models and technologies based on the challenges of the Information Age.

Due to the rapid growth in the use of digital technologies in all national education systems, including those in Russia, there are alternative points of view and various methodological approaches in the professional community to the transformation of the teacher training system for the development of digital skills and competences of students focused on the digital economy.

The group of authors Margarita I. Shutikova, Sergey A. Beshenkov and Eteri V. Mindzaeva are focused on the analysis of the educational aspects of the 4th Industrial Revolution as a new stage in the development of the economic, social and technological sphere in the context of educational opportunities of the information and cognitive technologies. The authors study new possibilities of these technologies and the scope of their application in education based on the concept of information and communication, as well as cognitive technologies convergence.

Iuliia V. Vainshtein, Victoria A. Shershneva, Roman V. Esin and Mikhail V. Noskov devoted their research “**Individualisation of Education in Terms of E-Learning: Experience and Prospects**” to the issues of compliance of modern universities to the challenges of the digital world. Practices of individualization of education in the context of e-learning are presented in the article. To individualize students’ educational environment, the authors determined the prospects of developing adaptive e-learning courses, which content is focused on the individual characteristics of students. The results of this study may form a basis for organizing adaptive learning in the electronic environment not only in mathematical, but also in other curriculum disciplines in different areas of training, both at schools and universities.

Consideration of the regional features of the local aspect of one of the Siberian republics is given in the study by **Dolaana O. Kuular, Marina I. Ragulina and Mikhail P. Lapchik** “**Future Teachers’ Training in Identification and Development of IT Giftedness at Schools of the Republic of Tyva**”. The article features the challenges of improving professional training of future teachers

aimed at the identification and development of IT giftedness of students, based on the consideration of ethno-psychological, ethnocultural and ethnosociocultural characteristics of the Tuvinian cultural and educational environment.

A qualitatively new approach to the university education, based on the analysis of international experience, taking into account the challenges of the global labor market, is introduced in the article by **V.V. Grinshkun** and **N.A. Usova** “**Use of the Hardware and Software Complex “Moscow Electronic School” in Training Teachers Working Under the International Baccalaureate Programmes.**” The results of the study featuring the degree of influence of the educational resources of the Moscow Electronic School project on the professional qualities of teachers working under the International Baccalaureate programmes are introduced in the article. The presented study results indicate an increase in the professional qualities of teachers in the field of educational, extracurricular, and scientific and methodological activities, aimed at developing digital competency, as well as social and emotional skills for future success in the global digital world.

Preparing the present issue of the Journal, we considered it important to present the study by **Liudmila V. Kulikova** and **Elizaveta Yu. Mikalauskaite** “**Subjectification Strategy of Author’s Statement in English Literary Xeno-Narrative**”, which was carried out based on the electronic corpus of English and Russian readers’ comments/reviews of the analyzed narrative. It should be noted that in the “Target Competence Model 2025”, communication and intercultural interaction skills are significant for effective communication and self-development of a person in the digital environment.

New technological revolution requires reconsideration of digital competence models. It is no coincidence that the European model DigCompEdu 2.1 in the field of “Security” competencies pays special attention to the competence aimed at protecting health and well-being of people in the digital world. The article by **Iskandar Sh. Mukhametzyanov** “**Digital Educational Environment, Health Protecting Aspects**” is devoted to the analysis of the current high-tech information and educational environment, including educational organization and students’ place of residence or stay, in the context of its impact on students’ health. Major aspects of protecting yourself and other persons from possible dangers in the digital environment are discussed in the article.

In the context of the education paradigm transformation in the digital society, it is necessary to reconsider the existing approaches and models of learning. In this regard, we would like to draw our readers’ attention to the article by **Sergey**

Karakozov and Natalia I. Ryzhova “Information and Education Systems in the Context of Digitalization of Education”, devoted to the mathematical models that adequately reflect strategies for development of a person, sustainable small groups and large dynamic human communities. The authors make a significant contribution to the development of the terminology of modern information and educational systems, a description of the mechanisms for their analysis and identification of the basic characteristics determined by the modern processes of development and digitalization of society.

A study by the Academician of the Russian Academy of Education **Vladimir S. Sobkin** (co-authored with **Aleksandra V. Fedotova**) “**Teenagers in Social Networks: Patterns of Usage and Aggressiveness**” is a unique study from the international point of view in terms of the relevance of the problem under consideration, the diversity of the sociological research data analytics and the depth of analysis of the influence of socio-demographic and behavioral characteristics determining the attitude of adolescents to aggression in social networks.

An important role in the issue of the Journal we would like to offer to your attention was played by the participation of expert authors with significant international experience in digital education. The article by French scientists **Samuel Nowakowski** and **Guillaume Bernard** “**From Digital Humanities to a Renewed Approach to Digital Learning and Teaching**” describes creative solutions for applying digital technologies based on the new educational online platform KOALA (KnOwledge Aware Learning Assistant), which allows analyzing digital materials in the field of humanities and meet education challenges of the 21st century.

We took a liberty of sharing our own methodological and technological developments in training teachers of the new generation (“Teacher 4.0”) and formation of their digital competency using electronic portfolio. Taking into consideration rapid changes taking place in the professional labor markets and the growing demand for individual support of various categories of students, digital skills of the tutor that are adequate to the progress of digital technologies, require systematic introduction. We hope that the experience of Siberian Federal University in the use of innovative education technologies, diagnostic tools and open authentic assessment of digital competencies of the future tutors by electronic portfolio will be useful for various educational organizations in the era of digital transformations.

The present thematic issue does not claim to be a complete presentation of conceptual and practical knowledge in the field of digital technologies in education.

It rather motivates creative scientists to take new steps to develop methodology and practice for innovative learning models, training the Teacher 4.0 and develop digital competences that meet the challenges of the information age.

You, dear readers, be the judge of the quality of the present issue.

We are looking forward to your constructive feedbacks!

Academician of the Russian Academy of Education

Doctor of Pedagogy, Professor

Director of School of Education, Psychology and

Sociology of Siberian Federal University

Olga G. Smolyaninova