

At the same time, the burden on the teacher has increased. In China, more than 10 years ago, the process of calculating the increased resource consumption of such a process began, and our teachers did not have time to reschedule work in terms of distance education. In order to facilitate teachers' work in the new conditions, the Scientific and Methodological Center for Higher and Pre-Higher Education has activated the work on creating electronic educational content, which is placed in the Media Library of electronic teaching aids. The number of users of this electronic educational resource has increased many times. We had to start the process of improving the resource, which is still ongoing and in the new school year, educators will receive a modern and more rational educational resource. We will soon start creating mass open online courses (MOOC). We invite all participants and guests of the conference to participate in the work on creating modern electronic educational content.

## DIGITAL COMPETENCE AS A NECESSARY CONDITION FOR DIGITAL TRANSFORMATION OF EDUCATIONAL AND SCIENTIFIC ACTIVITIES

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**Abstract.** The main results of a completed research conducted by the Institute of Information Technologies and Learning Tools of the NAES of Ukraine on the problems of forming competencies of educational process participants based on cloud-based information and educational systems. Namely: "Adaptive cloud-oriented system of training and professional development of teachers of general secondary education institutions"; "System of computer modeling of cognitive tasks for the formation of students' competencies in natural and mathematical subjects"; "Methods of using open electronic scientific and educational systems for the development of information and research competence of scientific and pedagogical workers". The developed and tested methodologies, teaching materials are presented. The system-forming factors of a complex of scientific researches are: the general purpose; the common and basic methodological fundamentals of the research (system-, competence- and project oriented approaches); the complex character of their simultaneous carrying out and implementation; the interdependence of the basic final results (formed digital competencies of participants of educational process); cloud computer-technological platform for research and implementation of educational applications.

The relevance is due to the general trends of implementation of ICT / digital technologies in the educational process, in particular, increasing attention to their conscious, competent use to solve various educational problems.

The combination of complementarity and multi-vector research is a defining feature of research work. General purpose: to substantiate theoretically the scientific and methodological principles of design and implementation of cloud-based information and educational systems for the formation of competencies of participants in the educational process. The processes of general education of students, training and advanced training of teachers and scientific and scientific-pedagogical workers of scientific institutions and institutions of higher education were subject to digital transformation.

**Keywords:** Digital transformation; digital competencies; students' competencies; teachers' competencies; scientific and pedagogical workers' competencies; scientists' competencies; Institute of Information Technologies and Learning Tools of the NAES of Ukraine; cloud-based tools; information and educational systems