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## **Formation model of information competence of bachelors specializing in mathematics & computer sciences**

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### **Abstract**

This paper considers the problem organizing the formation of information competence. It's the basis of professional competence of bachelors specializing in "Mathematics and Computer Science", who is the future of the industry of information technology. An educational model based on the use of aggregate pedagogical approaches: integrative, differential and personality-centered, profession-oriented and competency is proposed. The mechanisms contributing to the realization of each of the pedagogical approaches applied have been pointed out. The model is based on the use of active and interactive forms and methods of training, e-learning tools. Great importance is given to the development in students of all components of information competence: knowledge, operational-activity and personality. The educational experiment conducted by the authors jointly with the students of the Institute of Mathematics and Mechanics named after N. I. Lobachevsky of Kazan Federal University, studying computer disciplines, has shown the growth in number of students with a high level of development of each of the components of information competence on the average from 3.6% to 32% and reduction in number of students with low and very low levels of development of information competence from 70.1% to 16.2%. The obtained results confirmed by the statistical criteria of hypothesis testing prove the effectiveness of the proposed pedagogical model of forming information competence of bachelors who are preparing to work in the field of information technology, by e-learning tools.

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### **Keywords**

Computer self-efficacy, Differential approach, E-learning, Information competence, Integrative approach