

## **Electronic educational resources in chemical and pedagogical education**

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Today, in accordance with the world trends in the development of education which includes chemical education, e-learning, based on the application of distance education technologies, is relevant. In Russia, the use of distance education technologies and e-learning in a network form acquired the increased attention at the state level. The priority project is the "Modern digital educational environment in the Russian Federation", which passport was approved by the Presidium of the Council under the President of the Russian Federation on October 25, 2016. Distance educational technologies are considered as a set of methods, forms and means of mediated, as a rule, through the Internet interaction of trainees with each other and with the teacher in the course of training.

The Kazan Federal University (KFU) is successfully implementing e-learning, the goal of which is to increase the effectiveness of training in the result of the use of such active teaching methods as electronic educational resources (EER) and individual educational trajectories for students. At the Department of Chemical Education the work on the development of the EER is conducted since 2010. At present, the following EER are developed and applied in the educational process by the teachers of this department:

- "General theoretical bases of analytical chemistry. Qualitative analysis" (winner of the 2013 KFU competition).
- "Methods of solving problems of physcolloid chemistry in school chemistry",
- "Chemistry: preparation for the Universal state exam".
- "Practice on Chemistry", "Chemistry Teaching Theory".
- "Methods of chemistry", "Features teaching chemistry in rural schools".
- "Didactic games in the teaching of chemistry".
- "Methods of teaching and education".
- "Methods of teaching in the field of chemistry" [1, 2].

In addition, for the Admission Committee of the KFU, the EER has been developed to prepare for a unified state examination on general and inorganic chemistry. The Center for Advanced Training and Professional Retraining of the KFU since 2016 has been developed and used in Volga Region courses for advanced training of EER teachers of chemistry entitled "The improvement of the chemistry teacher professional competencies in accordance with the Federal state educational standard for basic general education".

### **References**

1. S. I. Gilmanshina (2014) from <https://edu.kpfu.ru/enrol/index.php?id=1028>
2. S. S. Kosmodemyanskaya (2016) from <https://edu.kpfu.ru/course/view.ph>