

FORMATION OF RESEARCH COMPETENCE OF MASTERS OF
CHEMICAL SPECIALTIES

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Annotation. *This article discusses the methodology for the development of research competence of masters of chemical specialties. The integration of research activities into the educational process, the development of practical skills, the creation of a stimulating environment for research, as well as the use of modern digital technologies that will improve the effectiveness of training and prepare competitive specialists.*

Keywords: *research competence, master's degree, modern methods, digital technologies, innovations, research activity, interest in science.*

The most urgent task of higher education is to prepare highly qualified specialists for masters. Proceeding from this goal, reforms in the field of education are being carried out in the republic, the organization of educational organizations based on advanced foreign practices, the improvement of the personnel training system, as well as the formation of a list of master's degree specialties in which educational programs are being improved. [1]

Master's degree programs in chemistry are designed to prepare highly qualified specialists who are able to solve current scientific and practical problems in the field of chemical science and production. Research competence is one of the key factors determining the successful professional realization of graduates.

Modern chemical science is facing new challenges that require researchers not only to have deep theoretical knowledge, but also to possess modern research methods, the ability to analyze data, effectively present results and work in a team.[2]

The existing methods of developing the research competence of masters of chemical specialties often turn out to be insufficiently



effective for training specialists who are able to successfully solve urgent problems in modern conditions.

Key aspects of improving the competence of masters. Integration of research activities into the educational process:

Introduction of project-based learning: development of educational projects that include the stages of problem setting, experiment planning, data analysis, results design and presentation.

Individual research trajectories: creation of individual research plans taking into account the specialization of the undergraduate and current tasks in science.

Active participation in research groups: integration of undergraduates into research teams, work on real scientific projects.

Practical skills development:

Training in modern research methods: practical seminars on statistical data processing, methods of experiment planning, the use of specialized software packages (for example, ChemDraw, Gauss, origin).

Master classes from leading scientists: introduction to advanced research methods, presentation of current scientific problems and their solutions.

Creating a stimulating research environment:

Creation of research laboratories and centers: equipping modern laboratories with the necessary equipment and materials for conducting research.

Encouraging participation in scientific conferences and competitions: providing an opportunity to present research results, receive grants and other forms of support.

Development of scientific communications: organization of seminars, discussions, round tables for the exchange of experience and establishment of scientific contacts.

Development of communication and presentation skills:

Training in scientific communication skills: conducting trainings on the preparation of scientific publications, presentations at conferences, conducting scientific discussions.

Development of skills in writing scientific articles: training in the requirements for the design of scientific texts, rules of citation and bibliographic description.

Application of modern technologies:



The use of digital technologies: training in working with information databases, software for scientific research, big data analysis. Implementation of the distance learning process at any time using interactive presentation systems, video conferencing systems, virtual halls, electronic resources in the activities of the institution. In working with masters, use digital technologies such as:

- application of digital didactics and models of digital education;
- development of scientific websites (for discussions) for teachers and students;
- widespread introduction of mutual exchange of experience to apply the accumulated experience in all universities, etc.[3]

Development of modeling skills: training in working with software packages for chemical modeling, conducting virtual experiments.

Application of modern analytical methods: training in the use of high-tech equipment for research.

CONCLUSION

Improving the methodology for the development of research competence of masters of chemical specialties is a priority task for the training of highly qualified specialists who are able to effectively solve current scientific and practical problems in the field of chemistry. The integration of research activities into the educational process, the development of practical skills, the creation of a stimulating environment for research, as well as the use of modern technologies are the main directions that will improve the effectiveness of training and prepare competitive specialists who can make a significant contribution to the development of chemical science and industry.

LIST OF LITERATURE:

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