EMERGENCE AND DEVELOPMENT OF CHEMISTRY EDUCATION

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Abstract. *This article provides detailed information about the emergence and development of chemical education in our republic. The activities of scientists who made a significant contribution to the field of chemical education are highlighted.*

Keywords: *chemistry education, structure, content, chemistry teaching, improvement of chemistry education.*

Introduction

Currently, in the period of independent economic development of our Republic, every teacher, pedagogical team, public education departments are engaged in the education and training of the growing young generation in order to make them capable of work. should be organized based on the requirements of the field. Especially, studying the activities of scientists who have made significant contributions in the field of chemistry teaching methodology and using them in teaching this subject is of great importance in educating young teachers who have matured in all aspects [1-10].

Based on the study of the scientific and methodological works of scientists who worked in this field, two directions can be identified.

1. Work carried out on the methodology of teaching chemistry in high school.
2. Work carried out on the methodology of teaching chemistry in the higher school.

But this division is conditional, and the results of most of the conducted studies were related to both areas at the same time. Therefore, the results of the study presented below were summarized.

People who are famous for their work in the field of studying the history of chemistry are not only pure chemists, but also Methodist scientists. As evidence of our opinion, the scientific and pedagogical activity of D.I. Mendeleev, M.V. Lomonosov can be an example of this. The factor that forced D. I. Mendeleev to discover the periodic law was his work as a chemistry teacher at a higher school. Due to the results of his teaching of inorganic chemistry, he created the manual "Principles of Chemistry" in 1808. This book was reprinted eight times during his lifetime.

M.V. Lomonosov created a manual for students "Fundamentals of Chinese Physics and Chemistry" for the higher school. From this point of view, it can be said that every scientist, while creating something new in science, also thinks about the application of this new science in life.

Many of our famous scientists who lived in our republic and were engaged in scientific and pedagogical activities and who have passed away wrote many textbooks and manuals and contributed to the field of education. Among them, academicians O.S.Obidov, S Yu.Yunusov, H.U.Usmonov, Yu.T. Toshpolatov, etc. can be included. Among our scientists working today are A.Mahsumov, I.R.Askarov, SH.V.Abdullaev, A.A.Ibragimov, H.T.Omonov and others. are also contributing to this field.

It is especially important to study the activities of scientists who have been and are going to be in scientific activity in the above two fields of chemistry teaching methodology. The study of the literature in this field showed that the teaching of the school chemistry course in our republic was first carried out by A. Mamajonov, A. Fayozov, P. Chernov, A. Azimov, M. I. Umarov and others. After the independence of our republic in 1995, H.T. Omonov was the first in Uzbekistan to complete a doctoral dissertation. (Omanov Kh.T. Filosofsko-pedagogicheskie osnovy khimicheskogo obrazovaniya i voprosy ego sovershenstvovaniya. Autoref. dis.... doktor pedagogicheskih nauk. T.: 1995.46s.).

Later, in 1997, under the scientific guidance of Doctor of Chemical Sciences, Professor O.N. Musaev and Candidate of Technical Sciences, Associate Professor M. Nishonov, by J. Mamajonov on the topic "Improving the teaching of teaching materials related to the chemistry of higher compounds in the high school chemistry course" candidate's thesis was approved.

In 2005, under the guidance of associate professor M. Nishonov, SH.A. Mamajonov defended his candidate's dissertation on the topic "The structure and content of the chemistry teaching methodology course of higher educational institutions".

In 2012, L. T. Zaylobov, under the supervision of associate professor N. G. Rahmatullaev, defended his candidate's thesis on the topic "Improving the teaching of oxidation-reduction reactions in general chemistry based on information technologies."

It should be noted that the amount of scientific work carried out to improve the teaching of chemistry courses in higher schools is not high. After 1995, not a single doctoral dissertation was approved.

The first textbook in our republic called "Methodology of Chemistry Teaching" was created in Uzbek language in cooperation with M. Nishonov, SH. Mamajonov and V. Khojaev and published by "Teacher" publishing house. the first textbook was published in Uzbek in 2012 under the co-authorship of Kh.T. Omonov and others.

Later, on the basis of the new program, in 2023, the textbook "Chemistry Teaching Methodology" by M. Nishonov, SH.A. Mamajonov and others was published in the "Fan and Technologies" publishing house. Methodical manual for chemistry teachers was first prepared and published under the leadership of professor of Andijan State University, doctor of chemical sciences I.R. Askarov, co-authored by K. Gofurov and N. Tokhtaboev. At present, scientific research on the improvement of higher chemical education is being consistently carried out by the chemist Methodist scientists of our republic.

The content and structure of chemistry education in the credit-module system, improving its teaching is a new pedagogical problem that is waiting for its solution.

REFERENCES

1. M.Nishonov. Methodology for studying chemical processes occuring in soils.- Science and innovation, 2023 том 2 номер Special Issue 6 страницы 236-242
2. M. Nishonov, N. Holiqova. The importance of using educational resources in independent learning of chemistry. Scientific newsletter of Namangan State University. Namangan 2022. No. 3, pp. 80-83.
3. M. M. Yunusov, M.Nishonov. Studying the Efficiency of Teaching the Chemical Technology Course Using Information Technologies. Eurasian Journal of Learning and Academic Teaching, (2022). 13,33–38.

4. M.Nishonov, Sh.Mamajonov,V.Xujaev – Kimyo o’qitish metodikasi.Toshkent: O 'qituvchi, 2002.
5. М.Ф. Нишанов, АА Хайдаров, Д.М. Мирзаев - Значение изучения среды раствора при профессиональной подготовке студентов направления «Пищевая технология».Журнал Universum: технические науки, 2020 Номер 10-2 (79) Страницы 92-94
6. M. Nishonov, S Mamajonov, D Tojimamatov -Methodological significance of studying the migration of microelements in water and soils. American Journal of Applied Science and Technology, 2022 Том2 Номер07 Страницы10-14
7. М.Нишонов,С.Тешабоев.Мактабда кимёдан амалий ишлар. - Т.: Ўқитувчи, 1992,134 бет
8. M Nishonov, Sh.A. Mamajonov, D Tojimamatov -Methodological Significance of Studying Chemical Pollution of the Environment by Microelements.Eurasian Research Bulletin, 2022 Том10. Страницы 55-58.
9. M. Nishonov, Sh.A. Mamajanov . Improving the Structure and Content of the Course" Methods of Teaching Chemistry" in Higher Education.Pedagogical Education, 2004.
10. M.Nishonov, T.Amirova. Integrative description of the science of chemistry teaching methodology with didactic analysis.- Science and innovation, 2023 том 2 номер b6 страницы 245-248
11. M.Nishonov. Methodological significance of studying the transfer of dissolved microelements through soil solution.- Science and innovation, 2023 том 2 номер special issue 6. страницы 64-68