

THE USING OF INFORMATION TECHNOLOGIES AND INNOVATIONS IN THE LESSONS OF CHEMISTRY

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ABSTRACT

This articles is devoted to the usage of innovations and classroom activities in the science of chemistry.

Keywords: Teaching of chemistry, information technologies, innovations in science.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Nowadays a great attention is given to the modernizing of teaching different science such as math, physics and chemistry as well. Also it is very important to highlight the fact that innovation in teaching is becoming very popular in some countries like Japan, Germany, Austria, China, South Korea. In addition, Those countries have been considered one of the developed in obtaining new innovations in teaching chemistry.

According to the international learning standards, it is very crucial to use information technologies in teaching science. It would be beneficial to young learners and to develop their creativeness and interaction moment in the class. Moreover, Some scholars from Mie University (Japan), Albert-Ludwigs (Germany), Gomal (Pakistan), University of Chemistry and technologies (Russia) invented scientific materials and books which are mainly based on the learning and teaching chemistry in combining with IT.

There much is made to the contribution to the development of the education system in Uzbekistan as well. For instance, some fruitful strategies and approaches of teaching have become main task of Ministry of Higher and secondary education of the country. The aim is to work in collaborating with other countries and obtain an effective classroom techniques and develop learning abilities of young learners.

Nowadays, a great deal is given not only to teach languages but also sciences such as mathematics, physics, biology, Information Technologies. There have been put some strategies to accomplish those subjects in detail and create new classroom strategies by the government of Uzbekistan.¹

There are numerous scientists who investigated the usage of IT in teaching chemistry and put in practice as a main book in some educational centers in Uzbekistan. For instance, A. A. Abdukadirov, M. Aripov, N.H. Avlyakulova, A. Anvarova, N. Boltayev, R.H. Djurayev, N.I.Taylakov, M.S. Divanova, M. Kadirov, J.G'. Yo'ldoshev, S. A. Usmonov and some others.

¹ Nizamova S.A. Developing innovations in teaching of chemistry. Monograph (2016 Tashkent 186 p)

In providing an effective method and techniques in teaching chemistry many scholars have taken part in, they are I.R. Askarov, F.A. Alimova, M.B. Ajiyeva, Sh. Begmatov, T. Gulboyev, A. Mamajonov, Z. Saidnasirova, S. Teshaboyev, N.H. Tokhtaboyev, M. Umarov, A.G. Muftakhov, M. Nishanov, H.T. Omonov, Sh. M. mirkamilov, A. Khaitov, E. Eshchonov, K.R. Gapurov and so on. Also the following scientists have written books that are based on the methods of teaching: A. Azimova, A. Mamajonov, M. Nishanov, S. Teshabayev, Sh. Iskhakov, Yu. Tashpulatov.

Furthermore, There are some scholars whose work has been analyzed, they are S.R. Alborovoy, V. Bepalko, V. Borisovoy, V.M. Monakhova, S.D. Polyakova, V. Safina, G. Selevko, G.P. Homchenko, D.A. Epshteyn. There are a great number of scholars from overseas who have taken a part in the contribution of education, to be detailed in science of chemistry. Zlato Selek, Juliyan Koyten, Katarina Javorovoy, Murat Demir Bakhsh, Mustafa Bayrakchi, Nazmiya Basr, Milena Kirova, Andriana Gafrova, and some tasks, activities which are regarded to chemistry Kaleva Grigoreva, Magdalena Golladj.

All scientists and materials from different countries given above are considered one of the beneficial for the solutions of teaching problems and effective learning. Also, concerning to Uzbek scientists who have actively used chemical elements and tools in laboratory in order to make the lesson more colorful and interesting.

Current time the problem of the using innovations and Information Technologies are taken one the essential in education system. Because today's learner is getting more talented and creative. Teacher should have encouraged each learner and provide them up to date materials such as in door and outdoor activities (My game, games in number, resume, step by step, card games, multi media tasks, diagram of Venna, ocean thoughts). Following technologies mean to establish something new to the improvement of the education. Teacher may have good results by using such interesting activities in assessing and see the progress.

In order to develop effectiveness of chemistry and its obtaining in classroom, there are put a number of tasks:

- Learn and analyze theoretical and practical out comings of innovation and IT in teaching schools and educational centers.
- Define effective innovations and communicative technologies in teaching with the help of integration.

- Find productive method of teaching in process of learning
- Create a new method of suggestion for assessing individuals in classroom
- Create a new strategy for using IT and innovations

By using these tasks in lessons teachers achieved numerous results such as:

- Learners have a big opportunities to use IT in classes
- Have been put a clear needs and analysis for lesson plans
- Have practiced some didactic materials activities which help to know more about chemistry and its history in secondary and higher level classes

Theoretical meaning of results consists of some explored and analyzed methods that can be helpful for conducting different lessons with different learners. Also they may develop learners integrated skills in learning chemical units and elements.

Practical characteristics of the analysis cover a number of lesson plans and interactive books, techniques which play a great role in the improvement of teaching chemistry. In addition, those results have been able to help effectively in comprehending innovations and IT in practical

classes from chemistry. Furthermore teachers get a new methods and strategies for their future auditoriums. Now, there are introduced several conclusions based on the information given above.

1. A new method of teaching chemistry has been systemized according to investigated materials, classroom methods for oral activities and has been for the use of learners and teachers. Also they may work in class relying on a new innovative ideas and Information Technologies.

2. There are also readymade materials and books of famous scientists that is aimed to develop learners decoding abilities and reflexive skills. Those books cover interesting innovations for the laboratory activities and experiments in the auditoriums.

3. A new lesson plans and organization moments for lab experiments have also been learnt and put in use.

4. Some high teach strategies and case study approaches have been created on the basis of learners ability and learning skills. These new strategies are considered as a key elements of teaching chemistry and its theory as well.

5. There are also chosen a new pedagogical criteria on the basis of mentioned ideas and projects such as didactic materials, innovation in science. Thus, they play a main role in the development of education system in future.

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