

Summary

1. Introduction

The aim for my doctoral thesis makes the complete survey to the situation and state in chemistry education process in different school levels and makes the research to modern activating methods, forms and means of education in preparation and practice of chemistry teachers.

My work has been focused mainly on project methods and their effect to chemistry education. Next part has been focused on laboratory experimental activities and other activating methods and their use for further education. These thesis have been completed by available supplements from years 2000 – 2008. It seems to be convenient for practical use.

There are implemented my professional activities – practical and educational teachers' preparation at Charles University – Faculty of Science and from my experience in secondary schools.

In every chapter there are used ideas and thoughts from international conferences, discussion classes and from articles in different magazines and volumes.

2. Nowadays situation and projects in education

After the conference in Lisbon in 2000 started in our country orientation to educational system, mainly to forming bolt qualification. That means, that in chemistry education we need logical system based on skills, communication, team co-operation, experimental topics, public discussion and evaluation of results.

Framing Educational Programmes (FEP) have been implemented into curricular documents of the Czech Republic since 2005 for all our schools from nursery and infant schools beside primary, secondary and grammar schools as late as special and artistic schools recently. All that schools have had to prepare their own School Education Programmes (SEP) according to FEP. In requests of FEP are many program elements of Project management

That is why I wrote one part about project proceeding and education. As a supplement there is a topic – activating methods in chemistry education, games, school projects, unusual experiments (with CD).

3. Research of chemical education

My research is focused on school equipment, educational technical equipment, number of experimental activities in chemistry lessons, project education and teachers' interest in use active methods.

The result of the research in Bohemian and Moravian schools is that during last 5-100 years there is only small innovation. The results are put into diagrams and graphs.

4. Practical laboratory activities in chemistry education

I am convinced that an interesting chemical experiment is able to explain abstract ideas quite well and it can connect theoretical and practical experience and improve students' knowledge in chemical process.

It is important to emphasise everyday life in chemical education, so in my experiments are used chemical substances which are taken from the kitchen, garden, garage, bathroom. Not only students but teachers should be active.

5. Activities in education and development of competitions and skills

In my thesis are analysed different methods in relation with skills gaining competitions and abilities in active students work. For this is important project education, work in groups and working sheets and educational games. Teachers' skills and ideas are essential.

6. Conclusion

To be able to prepare students for the 21st century, teachers must be skilled in using all important competitions and endorse these ideas. This can be done through a lot of changes in our society and it depends on the whole generation of people.

That is why it is important to educate teachers permanently. And what I really appreciate is, that teachers really want to be educated, use and improve e-learning, experiments, modern means of education as an integrate part of education.

I believe the project education is necessary to improve in all school levels.

References

The list of selected literature is presented at the end of this booklet.