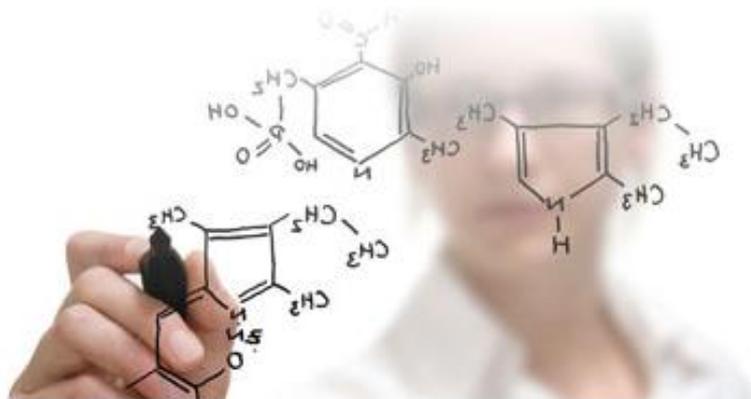


International Conference Initiatives in Chemistry Teacher Training
29th of November 2013, Limerick, Ireland

CHEMISTRY TEACHERS' TRAINING: BULGARIAN REALITY

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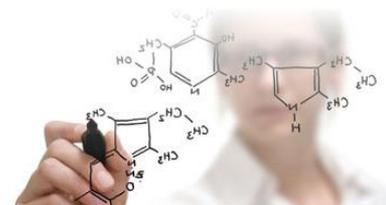
1 Teacher Training: policy and realities

1.1 State policy

- Ministry of Education and Science coordinates activities related to the planning, organization of education and improvement of teachers' qualification;
- The educational and qualification activities are performed by institutions or specialized units accredited by the National Evaluation and Accreditation Agency;
- Four state universities are accredited in training of chemistry teachers : Sofia University, Plovdiv University, Shumen University and South-west University of Blagoevgrad



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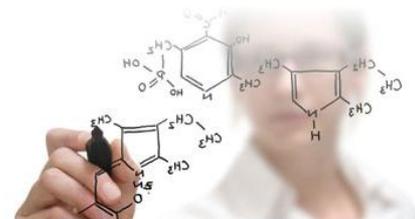
1.2 Training of Science Teachers

Initial Teacher Training

- *Bachelor degree courses* - combine double programmes (Chemistry and Physics, Chemistry and Informatics, Chemistry and Biology etc.)
- *Master degree courses* - for in-service teachers holding bachelor's degree in Chemistry but also in Chemical engineering, Agrarian science, Pharmacology, Dental medicine etc.
- Minimum amount of subjects, required for the acquisition of “teacher” qualification, is regulated by law



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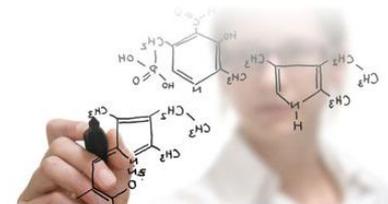


In-service Teacher Training

- Possibilities for in-service teacher training:
 - Universities (Sofia University, Plovdiv University and Thracian University of Stara Zagora)
 - other sources - special programmes, projects, websites and private organizations:
 - Project „Qualification of Pedagogical Experts”*, co-funded by the European Social Fund - over 42000 teachers (80% of the total number of teachers) to train by the end of 2014, focusing on novices and teachers who rejoin school staff after continual leave (over two years);
 - National Educational Portal* - developed by the Ministry of education
 - Teachers Innovators Network (Teacher.bg)* - virtual school on introduction of electronic teaching content in the classroom;
- Access to in-service training depends on school head administrations.



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1.3 Weak points

Continuous qualification of teachers

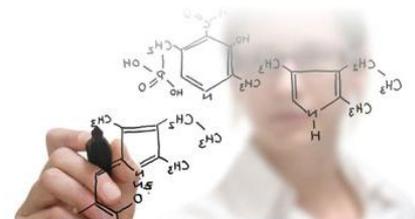
Bulgaria is among the European countries with the highest percentage of teachers who are Master degree holders, **but...**

- half of the teachers do not have qualification level;
- every second teacher possesses only minimum of required qualification and is not involved in a follow-up in-service training
- The five qualification levels are not compulsory and are covered after a certain amount of work experience is reached.

http://bnr.bg/sites/radiobulgaria/Lifestyle/Life/Pages/011110_u4iteli.aspx

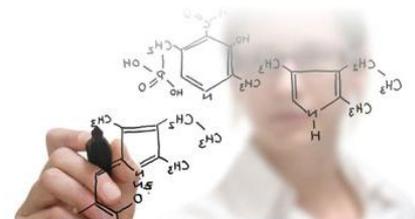


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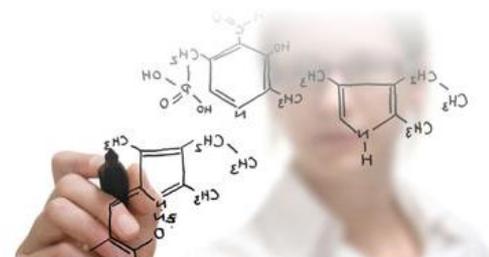
Low and inadequate material incentives for professional upgrading

- The funds allocated for that purpose amount to barely 0,8% of the entire salary fund
- 71% of all teachers are dissatisfied with their payment - the most satisfied are young teachers of age below 25 but they are the smallest group in the teachers' guild; Those of age 56+, who constitute the largest segment of the guild, are the most dissatisfied



Policy related to the young teachers

- Bulgaria has not programmes for introduction of newly appointed teachers;
- Quick professional growth requires working experience of at least ten years as a prerequisite for acquiring the status of “senior teacher”



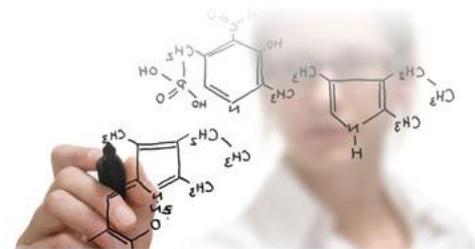
The major problem in the teachers' qualification policy:

- the *lack of present day analysis* on the specific types of in-service courses needed by teachers'
- The usual practice is to offer a list of courses which, as is often the case, are selected by the school principal



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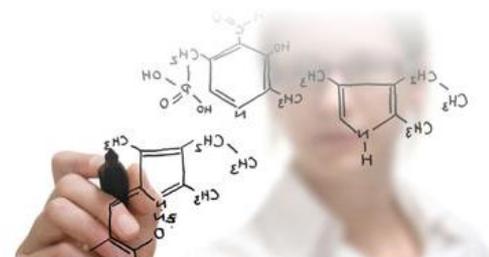
2 Training of Chemistry Teachers: the teachers' view point

An opinion poll conducted among pre-service and in-service chemistry teachers outlines several aspects:

- Need of further qualification oriented at the application of problem-based approach, team work, work in small groups, collaborative and joint learning in a classroom;



This necessitates the updating of university curricula for teacher training



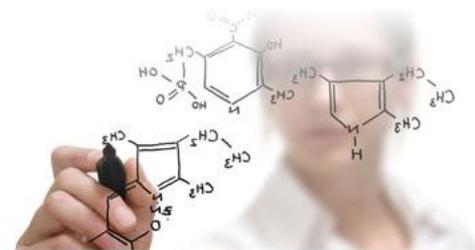
Training of Chemistry Teachers: the teachers' view point...

Chemistry subject content in schools is oriented more to theoretical rather than practical knowledge

- Science teachers are interested in a variety of modern scientific topics such as environmental chemistry, new materials, nanotechnologies, food and health, green chemistry etc.



Science curriculum should be improved to ensure more real life knowledge, experimental work and key competences.



Training of Chemistry Teachers: the teachers' view point...

There is a serious need of upgrading teachers' competences in application of ICTs in school science education;

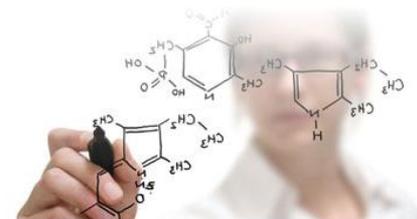
- Chemistry teachers are motivated to upgrade their ICTs competency



Important to evaluate the current level of teachers' competence so as to define the needs for improving their qualification



A system for evaluating chemistry teachers' competence based on the guidelines for ICT competence assessment standards of UNESCO developed by the Research laboratory on chemistry education (Sofia University)



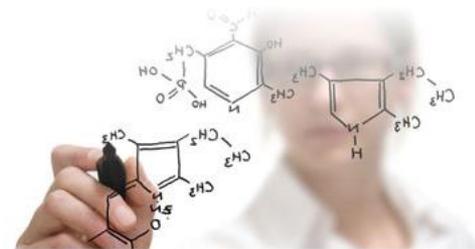
3 The Impact of the Chemistry Network Project on Teacher Training

Chemistry Network Project activities on training issues of chemistry teachers aimed at:

- To clarify the problems related to chemistry teachers training through the viewpoint both of teachers and experts involved in teacher training activities;
- To discuss possible ways for improving the efficiency of teachers' training system in general and Chemistry teacher training in particular, by considering teachers' opinion



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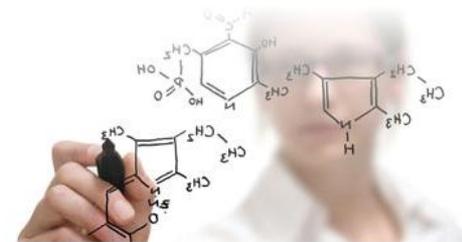


Project Activities

National workshop on Training issues of Chemistry teachers (May'2013, Gabrovo)

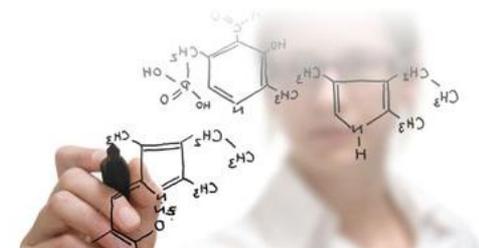
The participants agreed that:

- The role of the teacher in the modern process of chemistry education for increasing the interest and motivation of students towards the subject is crucial;



10 Skills for Modern Teachers

- In order to perform it teachers must constantly develop their pedagogic and communicative skills, particularly those ones related to the use of modern technologies for educational purposes.

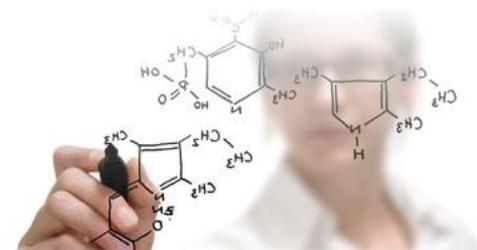


This raises problems concerning qualification such as:

- Developing a modern conception and updating the **normative basis** regulating the activities for teachers' qualification by considering and using teachers' opinion
- **Binding these activities with proper financial incentives**, which will motivate teachers to improve their pedagogical skills;
- **Developing effective qualification courses for distance or online training** which will enhance and motivate teachers to expand their competence



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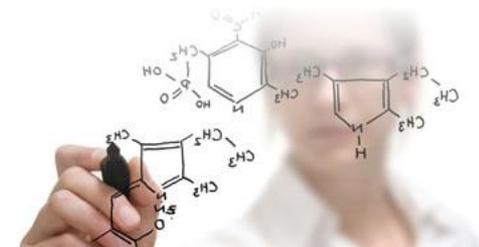
International Conference on Training Issues of Chemistry Teachers (TICT), 26 of June 2013, Gabrovo:

The participants came to the common conclusions that:

Although some practice in teachers training established in the different countries, **there is a common need of clear policy and regular activity in science teachers' training** to guarantee their permanent professional development and, thus, the high quality of the educational process.



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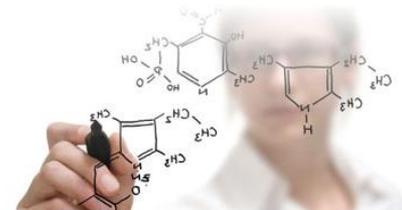
4 Conclusions

The national policies for teacher training should be addressed to the following:

- **the state should invest more in the natural sciences education**, including chemistry by supporting teachers' professional development
- **schools must be supported in attracting qualified teachers** and universities must be assisted to attract the best students for science teacher profession;
- the state educational requirements, programmes of study and curriculum should be reviewed and improved;
- **the legislative framework** defining the organization and conduction of training and the evaluation of the qualification and skills of the teachers should be updated



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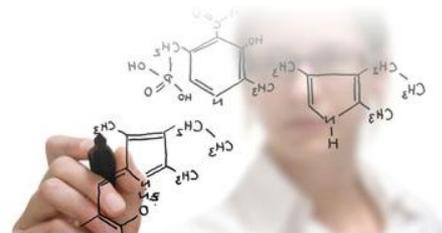
Chemistry Network Project Contribution

Chemistry is all around Network Project could effectively contribute to enhance the chemistry teachers' training and qualification by:

- involvement of new associated schools and institutions responsible for teachers' training in the Project activities;
- supporting science (chemistry) teachers in all aspects of their work by providing them with methodological materials, interactive teaching resources
- improving the interaction between chemistry teachers and scientific experts.



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Thank you for your attention!



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