

## **RSC Secondary and Further Education Group Conference**

**Tuesday 07th July 2015 - Sheffield University Chemistry Department.**

### **From the chair Dr Julie Hyde**

The idea to run a one day conference for chemistry Teachers was initially discussed a few years ago, but we needed to be the official Secondary and Further Education Group before the launch could occur. The new group was officially recognised in January 2015 so a launch in July 2015 seemed perfect. Preparation and planning of the programme (attached) was designed with carefully chosen topics to attract chemistry teachers. In fact for a first conference of this type we had hoped we would reach 25-30 delegates. 55 delegates attended so we were very pleased with the turnout.

I welcomed everyone to the conference and we launched with a presentation about the major “A” level reforms from Dr Neil Wade, Head of Qualifications at OCR. This presentation provoked discussions over the breaks and good attendance at the breakout sessions in the afternoon. I appreciate there is still more to discuss and would consider the “A” level changes to be included in another meeting.

Dr Bob Worley was then welcomed to present his microscale chemistry, which he demonstrates to teachers all over the world. With his enthusiasm and ideas, together with a demonstration thrown in, both of Bobs’ afternoon sessions were very quickly full. Teachers got stuck into the practical work in the afternoon learning new ideas and methods of teaching familiar topics.

The planning committee decided we would try to be inclusive of all types of education so we included a Work based learning session. Many teachers had not considered this type of qualification, the relation to the world of work and the opportunity of apprenticeships. Jessica Bull and Nick Backstrom shared their practices. Many schools offer vocational courses, more is known about these courses these days but still staff had not appreciated the opportunities open to their students, interesting discussions followed.

There are many Chemistry Educational Coordinators through the country now so we invited our local coordinator Dr Joanna Buckley to present about what the RSC has to offer in activities, resources and general support. Again many teachers were interested in this aspect of the RSC and the afternoon sessions were busy with discussions from Jo about how the RSC can help, the Learn Chemistry Partnership and other opportunities.

As expected with a busy day, teachers did not have a moment with all the networking and different sessions so an Educational Fun Lecture allowed some time to sit and enjoy the lecture by Dr Peter Hoare. The aim to inspire teachers to think about doing fun lectures themselves. Some simple but effective demonstrations were shown and hopefully everyone went home with some new ideas.

I closed the conference, asking the audience if they would be interested in another similar event. The opinion was a resounding “yes” next year. So the date is Tuesday 5th July 2016. If anyone has any ideas for topics, please let us know.

## **Dr Caroline Evans - Teacher of Chemistry Wellington College, Berkshire**

When the new academic year begins you can guarantee the first few days within schools will involve SLT describing CPD opportunities along with a cry that teachers need to ensure their own learning continues. Some teachers see this as a potential opportunity whilst others, often justifiably, feel it is adding to an already overloaded teacher schedule. Therefore I personally feel it is important to provide CPD events that do not impose and add to a workload but rather allow for teachers to relax and continue to build upon their own skills by enjoying events from inspirational leaders in their field.

In light of this, I was delighted to hear that the RSC SaFE Group had planned a Teachers' Chemistry Conference in July 2015 in order to provide a range of lectures and workshops to support teachers with their CPD whilst also providing an opportunity to network. The setting at the Department of Chemistry at the University of Sheffield provided a warm and welcoming atmosphere and allowed for teachers from all over the country to meet with their contemporaries and discover new developments within their field.

The event began with a keynote address about A-level reform by Dr Neil Wade (Head of Qualifications Reform), this talk allowed attendees to gain a greater perspective regarding future changes whilst also allowing them to seek answers to questions they have during this shift in the science A-levels. This followed with three short talks which provided an introduction to the afternoon breakout sessions giving everyone a flavour for the afternoon events.

Bob Worley proved an inspiring introduction about using microscale chemistry which was followed up by a fantastic workshop session. The teachers in this session were inspired by the resources and it provided teachers with new ideas particularly those who have to work on even the smallest budgets – his workshop demonstrated that there is no excuse for not including hands-on practical chemistry in lessons.

Jessica Ball and Nick Backstrom's work based learning session really got teachers thinking about skills required in industry. Nick's hands on activity of predicting the level of qualifications needed based on job specifications was highly enlightening and made me think twice when discussing job opportunities with students. Other workshops allowed for teachers to continue their discussions regarding the practical changes in the A-levels as well as meeting the Educational Co-ordinator from the RSC to explore the resources and enrichment opportunities.

As a teacher based in the South of England I particularly enjoyed meeting a wide range of staff based in areas such as Leeds and Birmingham. It allowed us to discuss topics such as the benefits of different resources available to us as chemistry teachers as well as the facilities on offer to us when collaborating with our local universities. Conferences such as these really do make CPD an enjoyable experience, one where both staff and ultimately our students can benefit from shared knowledge.

## **Jessica Ball (work-based assessor) and Nick Backstrom (Cogent skills)**

### **Work-based learning and assessment - links with Further Education and the role of apprenticeship schemes**

Jessica Ball introduced the importance of considering chemistry education in its wider context and that ultimately, the role of educators is to provide their students, at all levels, with the skills and knowledge they need to prepare them for work. As well as job-specific skills, employers are often looking for other 'soft skills', needed for most jobs such as creativity, the ability to make decisions, team working and problem solving. Young people with no career history may sometimes find it difficult to be able to show they have some of these more generic skills but chemistry, being one of the more practical subjects can provide a foundation for linking skills and knowledge.

Most people who handle and work with chemicals are not chemists but they will all need some form of training and knowledge, including cleaners, healthcare workers and those who deal with waste chemicals. For some, it may only need to be fairly generic and others may need more specialist knowledge and skills. Work-based training and assessment is relevant in many industries and at all levels and school, college and university chemistry has a role in providing the basic principles and skills which will be built on in the workplace.

There are number of routes in which learning can be delivered in the work place but increasingly the new apprenticeships, traineeships and foundation learning are gaining popularity as a pathway into careers, including those requiring chemical skills. Work-based qualifications can provide evidence to an employer, or potential employer, that a person has already demonstrated the skills and knowledge that they are looking for and often students undertaking a traineeship or apprenticeship can secure permanent employment on completion.

Nick Backstrom, of Cogent Skills, provided details of the apprenticeship frameworks and the links to further education covering the chemical and related industries.

In the breakout sessions, the full range of chemical skills and knowledge was considered from basic to advanced, covering the chemical and related industries and other workplaces. The view that the need for chemical knowledge and skills is all about chemical and pharmaceutical industries and lab work or getting higher level formal academic qualifications was challenged. The three activities covered:

1. Identifying where chemical skills and knowledge would be needed in various industries at any level including construction, agriculture, utilities (gas, electricity, water, waste) and healthcare
2. Looking at examples of vocational qualification 'units' where chemical skills and/or knowledge are assessed from Level 1 – Level 4
3. Looking at examples of job vacancies, identifying levels/ entry requirements and salaries for those in a work-based learning environment