Scottish Technicians' Consultative Conference 2006

"Technical Support in schools must be strengthened so that pupils can have the experience and stimulation of hands-on practical work" and "Such staff members should be seen as an integral part of the science provision, having access to appropriate CPD and career enhancement opportunities".

The above is an extract from the Scottish Science Advisory Committee (SSAC) report – *Why Science Education Matters: Supporting and Improving Science Education in Scottish Schools* [1] – and the main reason that a project, funded by the Scottish Executive, was established in early 2005 to look at CPD and other related activities for technician services throughout Scotland.

1st Consultative Conference for Technicians (2005)

It is fair to say that the findings of any such project would be incomplete without first seeking the views and opinions of those at the chalk-face (or should that be whiteboard-face these days?).

It was for this reason that all Scottish local authorities were asked to nominate technician delegates to attend a consultative conference which was held in Crieff Hydro Hotel in late 2005. This was the first time that technicians from all over Scotland had been brought together in this way. The conference was judged to be a resounding success and it was agreed that a second conference should take place in 2006. A report from the first conference is available on the SSERC website [2]

2nd Consultative Conference

In 2006, all Scottish local authorities were invited to nominate delegates to attend a second consultative conference which was held in Crieff Hydro Hotel from 1 to 3 November 2006. Seventy-one delegates (representing 28 local authorities) attended.

Feedback from delegates indicates that the second conference was every bit as successful as the first. A full conference report is in preparation and will be issued to interested parties. An electronic version will also be made available on the SSERC website. The following is a brief outline of the event:

Project Update

Phil Muggins, Project Officer provided a project update covering the results of the National Survey [3] conducted by the project team between June and December 2005. She also updated delegates on CPD training programmes being

Figure 1 - Delegates had an opportunity to view training DVDs

developed and how these were progressing through the SQA for eventual credit rating and levelling. A total of 196 training days had been provided, so far, for technical support staff from throughout Scotland.

SafetyNet

Ian Birrell, SSERC's Network Designer, demonstrated the merits of *SafetyNet CD* and online as a reference tool for teachers and technicians. It was apparent that initiatives such as Safety Net would only be of use if technicians had access to a computer. A show of hands indicated that all delegates had either a dedicated computer or had access to one within their department. In evaluation forms 95% of delegates rated Safety Net as either 'Excellent' or 'Very Good'. Five percent thought it was 'Good'.

Training DVDs

Delegates were given the opportunity to view (Figure 1) and comment on two DVDs (*Safe Use of Fixed Workshop Machinery* and *Safety in Microbiology for Schools*) developed to supplement CPD training material for technicians. The *Safe Use of Fixed Workshop Machinery* DVD, which still required some minor editing, was rated as 'Excellent' or 'Very Good' by 91% of the delegates. The *Safety in Microbiology* DVD, which was very much a 'work in progress', was rated as 'Excellent' or 'Very Good' by 52% of delegates. Forty one percent thought it 'Good'. However, there was general consensus that the concept of using DVDs as supplementary training material was an excellent idea.

Guest Speaker

Jim Killen, retired Chief Technician for Renfrewshire, sent delegates off to lunch with a smile on their faces following some amusing anecdotes from his experiences in the technician service. In order to protect the innocent, no names were used.

Discussion Groups

Following feedback from last year, and being of primary importance to the success of the conference, it was decided that more time should be allocated this year for the group discussion session.

Delegates were divided into eight groups of nine with a Scottish Technicians' Advisory Group (STAG) representative appointed to each group to facilitate discussion.

Each group was given five key areas to discuss, asked to appoint someone to take notes and a spokesperson to present the group's findings at the feedback session the following day.

The key areas of discussion were:

1. Structures for Technical Support Staff

    - Schools
    - Central Services

2. Training

    - Induction Programme
    - Funding
    - Further Training

3. Appointment of Trainees

4. Staff Retention

5. Raising Technician Profile.

The feedback from the group discussions will be used to form the basis of recommendations in the final report to SEED.
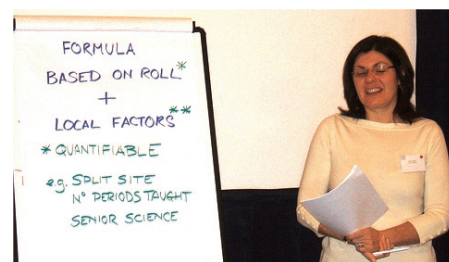

Figure 2 - Each group was given 5 key areas to discuss, asked to appoint a note taker and a spokesperson to present the group's findings at the feedback session.

Closing Address

Delegates were indeed privileged to have Bristow Muldoon, MSP for Livingston to give the closing address. Bristow has a BSc in Chemistry from Strathclyde University and is therefore no stranger to laboratories or the work of technicians.

Figure 1 - Bristow Muldoon MSP for Livingston

In his address to the conference he stressed that if students were to be inspired to choose science and technology as a career option then the teaching of these subjects must be relevant, exciting and fun. This could only be achieved if teachers were given proper technical support by well-trained and motivated technicians. It was gratifying that someone of Bristow's stature should take time away from a busy schedule to address the delegates.

The future?

Brian Richmond, Project Manager, closed the conference by outlining where the project would go from here.

The project team would continue to develop training programmes; it would arrange to have them trialled and prepared for submission to the SQA for credit rating and levelling within the Scottish Credit and Qualifications Framework.

At the end of the project it was hoped that there would be a range of CPD opportunities for technicians that carried national recognition, were transferable and more meaningful than in the past.

Through the final report the Scottish Executive would receive recommendations which it was hoped, would make the technician service a more attractive career choice that would help retain existing staff, attract good quality recruits into the service and address the problem of the age profile of existing staff.

Those who contributed to the success of the conference were thanked for their efforts and following a welcome lunch, the delegates left the sanctuary of the hotel to begin their journeys through the pleasant autumn sunshine back from whence they came.

References

[1] http://www.scottishscience.org.uk/main_files/pdf/Publications/Science_Report.pdf

[2] http://www.sserc.org.uk/members/SafetyNet/Technology/Tech%20Conf%202005%20-%20Report[1].doc

[3] http://www.sserc.org.uk/members/SafetyNet/Technology/Main_Menu.htm

Audacity - Further experiments

Following on from the Audacity article in Bulletin 218 here are some more :-

Bell or buzzer in the bell jar - Tape the microphone to the side of the bell jar and adjust microphone input level to full scale when the bell/buzzer is going with air in the bell jar. Gradually evacuate the jar and watch the amplitude of the trace. You will of course need to isolate the sound of the vacuum pump. Alter-

natively set an old-fashioned alarm clock (with bells) to go off once the bell-jar is evacuated. No one can hear you scream in space!

Howling Wolf - Wolf sound analysed with Analyze - Plot Spectrum then Tone generated to match up with natural sound. Use the web to find whale songs and compare the frequencies with that of the wolf.

Half full or half empty - 100 cm^3 glass beaker (empty) 'dinged' with a pen and allowed to ring. Frequency analysed and pure tone generated. Beaker half filled with water and process repeated. Why not try a calibration curve of frequency vs. volume?

There are more ideas for experiments with Audacity to be found at :-

http://www.sserc.org.uk/members/SafetyNet/bulls/218/Audacity_concluding_remarks.htm

Wiring plugs – banned or not?

Recently we have been asked by a number of schools whether it is legal for pupils in schools to wire plugs or other mains devices in the context of learning about mains electricity. We believe that there is no legal reason why you should not continue to do this very worthwhile training. The Electrical Safety Council (more below) agrees and, moreover, wholeheartedly supports the activity.

We trust that that scotches this myth, which, we presume, has arisen from commentary in the press following the introduction of the Building (Scotland) Regulations 2004, and similar regulations in England. Briefly, a building warrant is now required for many re-wiring jobs, but the need for a warrant depends on the type of work and type of building. The

law therefore seeks to ensure that house re-wiring is done competently. It does not, so far as we are aware, regulate the wiring of portable appliances. In any case what schools are engaged in is education and training, not house or school re-wiring. Controls on the re-wiring of buildings have no bearing on children being taught to wire a plug.

Dead working

Just a reminder that during the plug-wiring practical the mains electricity supply to the lab must be dead throughout the exercise. Information on electrical isolation can be found in Bulletin 209 [1]. Control measures and a justification for the activity were published earlier in Bulletin 181 [2].

Electrical Safety Council

This new, re-named, public body, established in April 2006, seeks "to be the most influential and respected UK driving force for consumers in the field of electrical safety". Its formation is the result of the renaming of the highly respected National Inspection Council for Electrical Installation Contracting (NICEIC). The need for renaming is understandable. NICEIC will continue to work with the electrical contracting trade, whereas the Electrical Safety Council will be a provider of advice to the general public. To see their tips on checking a plug, go to their website [3]

[1] www.sserc.org.uk/members/SafetyNet/bulls/209/safety1.htm

[2] www.sserc.org.uk/members/SafetyNet/bulls/181/2-6.htm#Pupils%20wiring%20plugs

[3] www.electricalsafetycouncil.org.uk/tips.html