

Improving Science Education 5-14 CPD Project News

Number 2
SUMMER 2004



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Background

This is the second edition of the ISE 5-14 CPD Projects Newsletter. It is intended to provide an overview of current activity in each of the consortia as centres of activity (see Figure 1 below). The major purpose of the first issue was to ensure that key members of each consortium and their contact details are known to one another and to interested third parties. A copy of Newsletter 1 is available for downloading from the "Local Links" drop down menu on the ISE 5-14 website. This second issue is intended to update everyone on more recent developments. NESSC and SEES, the two consortia first established, have by now completed the initial development and piloting stages. Both are well into their training schedules. We thus aim to give more detail here on the types of courses they have been providing. In the next edition of this Newsletter, we shall provide similar detail on TESC and GALLUS as well as reporting on some activities in the partner local authorities. We'll look too, at some issues for the future. The ISE CPD programme always was limited to an initial capacity building brief. We need to look ahead determining more closely how the more successful elements of the initial projects may be both sustained and more widely disseminated. These matters are due to be discussed at a meeting of the consortia, to be held as part of a national ISE 5-14 conference in Glasgow on May 21st.

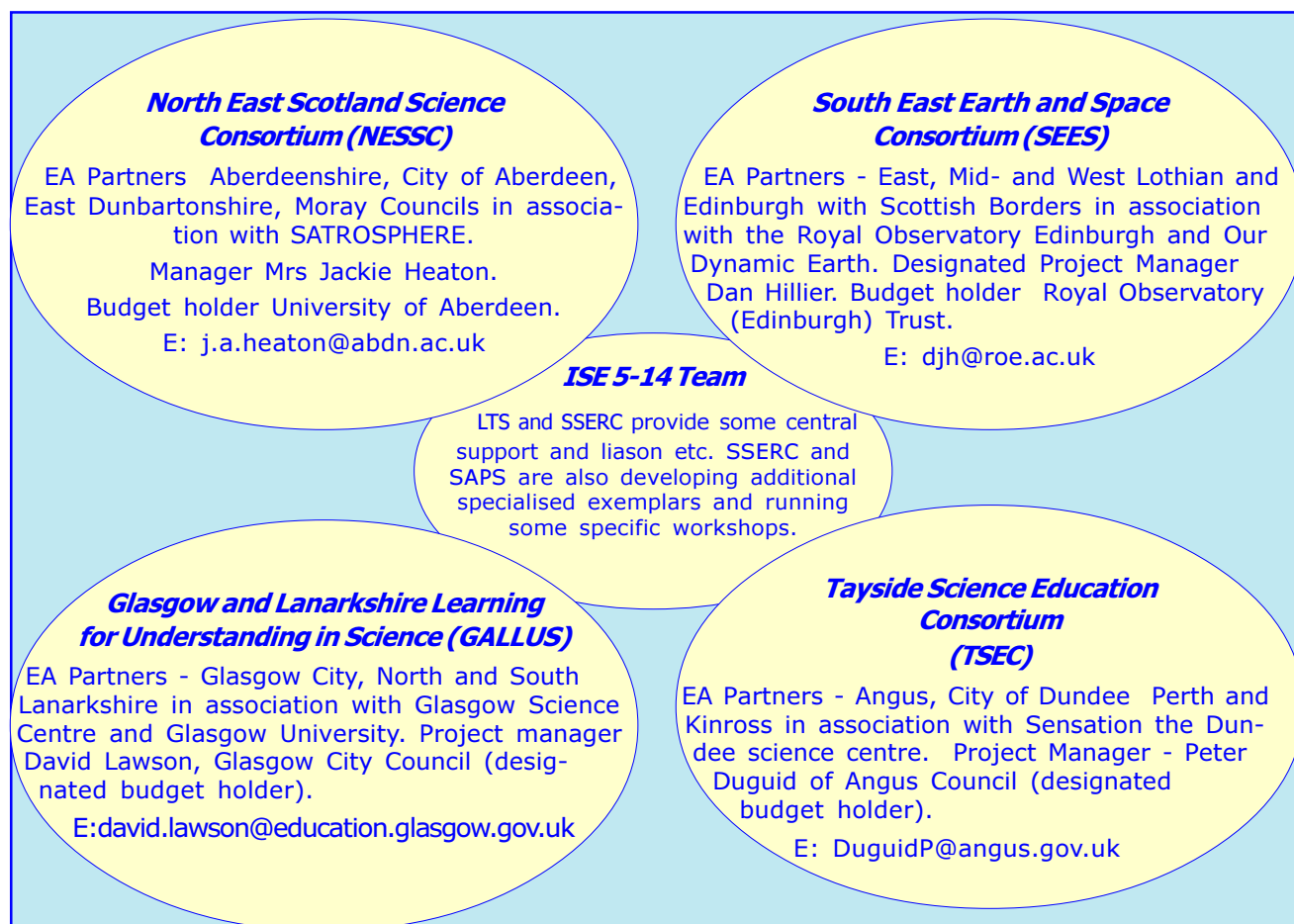


Figure 1 - Updated summary of basic information on the four extant ISE 5-14 CPD consortia together with details of fundholders and designated project management contacts. For SSERC and LTS National ISE team contacts see the header box at top right on this page.

The consortia

At the time of writing four consortia or centres of CPD activity are now operative one more than reported in issue 1. In alphabetical order these consortia are:

- **GALLUS** - the Glasgow and Lanark Learning for Understanding in Science Consortium.
- **NESSC** - the North East Scotland Science Consortium
- **SEES** - the South East Earth and Space Consortium
- **TSEC** - the Tayside Science Education Consortium

A total of four centres of CPD activity were called for in the original specification and so this goal has now been reached.

Discussions on other possible arrangements with groupings of 'rural and remote' areas are at a reasonably advanced stage.

A pilot project and feasibility study, managed through Highland Council is underway.

An updated summary of the partners and authorities involved with the various, fully active, consortia is given in Figure 1 on the front page.

Overview of consortium activities

Recent and ongoing activities of the consortia are summarised in Table 1 below. In parallel with the CPD activity, Development Officers based in the Dundee and Glasgow offices of Learning and Teaching Scotland have been assisting teams of other local authority staff, mostly teachers, with the development of curriculum support materials. These exemplar materials have focused mainly on learning and teaching strategies, particularly those involving formative assessment and innovative home-works.

CONSORTIUM	ACTIVITY SUMMARY	OTHER COMMENTS
GALLUS (Glasgow and Lanark Learning for Understanding in Science)	Partners have reached agreement and project proposals were signed off at the turn of the year. The Steering Group has been set up and held the first meeting in mid-February .	Secondees/ Development Officers identified and recruited as first line trainers.
NESSC (North-east Scotland Science Consortium)	A second cohort of trainees has completed seven day training course. Courses are being continually refined in the light of evaluation which informs further development (see main text). Tutor Packs compiled. Some trainees now presenting sessions as trainers. Satrosphere is hosting some sessions. Local authority partners now providing extended support to schools.	Operates two different models of 'experiential' training courses to suit the needs of two different pairings of the local authority partners. See Figure 2.
SEES (South East Earth and Space Consortium)	Development and piloting phases completed. Three day train the local trainers has been run with a follow up day staged in March. Residential Easter School at Royal Observatory and Our Dynamic Earth 14-17 April. Interim evaluations are very encouraging. Final evaluation not yet available.	Local trainers' packs completed with trainees' materials at each of three stages. Summer School planning underway.
TSEC (Tayside Science Education Consortium)	Emphasis on skills within Attainment Outcome <i>Living Things and the Processes of Life</i> . The Storyboard for a DVD showing good practice is finalised and filming is well underway.	On target to finalise DVD by June. Will present at SETT 2004.
'Rural and remote' areas	Highland Council has seconded a primary and secondary teacher to a pilot project gathering information on CPD provision in science. They will produce a report bringing forward recommendations on possible arrangements for teachers in the Highlands and Islands and in other EAs with similar problems. Firm proposals are awaited.	In mid April Highland hosted a face to face meeting with a concurrent video conference. Participants included Dumfries and Galloway, Highland, Shetland and Western Isles.

TABLE 1 Summary of activities in consortia to date

Specific details of individual consortia

When SSERC and SAPS agreed to take on facilitation of this set of CPD projects, we were subject to certain conditions. Not the least of these strictures, ironically, was the over-riding requirement that we ourselves were to be:

"flexible and responsive to differences in local circumstances and needs".

The only mandatory requirement we had of consortia was that there had be cross-sectoral working and inter-authority collaboration. Other components, for example a commitment to work with other agencies and organisations such as science centres or higher education establishments, were seen as bonuses.

Pleasingly, most of the consortia fulfill these requirements also. Nonetheless, no two consortia are identical. Some of the differences are worth expanding upon.

NESSC

The North East of Scotland Science Consortium is of particular interest. It has chosen to operate two distinct models or 'paths' for training local trainers. The intention is to meet the different needs of each of two pairs of authorities (see Figure 2 overleaf).

The NESSC programme has already begun to build on existing developments to support the Improvement of Science Education 5 to 14 in

all four Council areas. It will extend the support available in later phases of the project, to develop a sustainable support infra-structure for classroom teachers.

Aberdeen City and Aberdeenshire each have a seconded Development Officer for Science 5 to 14, and schools participating in the PILOT have a Science Co-ordinator working with colleagues in their local school groupings - ASG/LEARN Clusters. There are also Secondary Principal Teacher networks at this level. In Moray and East Dunbartonshire there are no networks of Science co-ordinators, but each of these Councils has appointed several "Development" or "Science Support" Officers.

As part of the planning for the NESSC proposal, the following training needs were identified by Councils:

1. Role development for seconded Development Officers (Moray) and Science Support Officers (East Dunbartonshire).
2. Role development for Science Co-ordinators (Aberdeen City and Aberdeen).
3. Opportunities for Science Co-ordinators and Development Officers or Science Support Officers to provide peer or mutual support.
4. Additional training for teachers – accessible through full day and twilight.
5. In-school support for Science implementation.

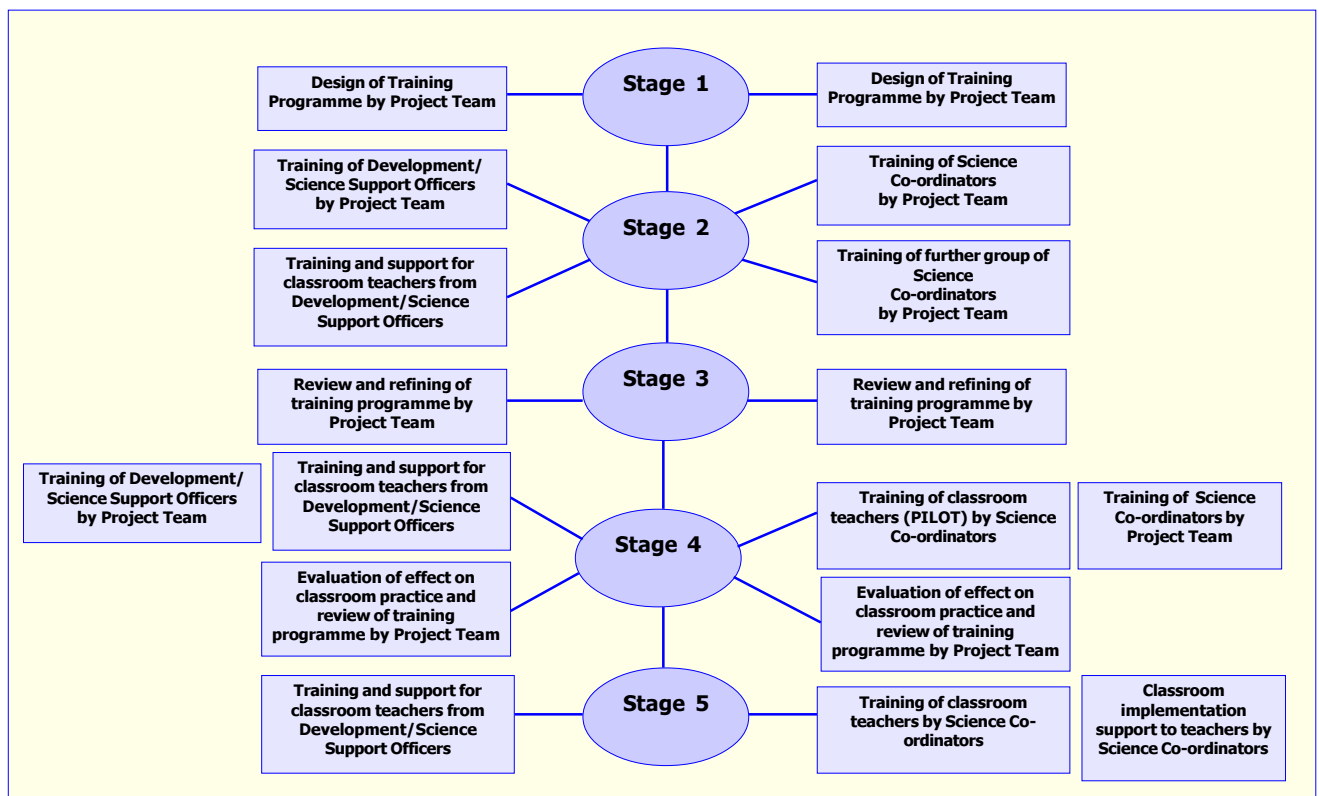


Figure 2 Two models of training operated by NESSC to meet different needs of the local authorities and their teachers. Model for East Dunbartonshire and Moray (left hand side). Model for Aberdeen City and Aberdeenshire (right hand side)

NESSC cont./

In the light of the training needs identified and the different approaches being adopted in the four Councils, the Project has not adopted one single model for the delivery of training and support. The models comprise a number of common stages, however, and evaluation of each model can feed into the development of the others. In addition, evaluation will also contribute to the comparisons between models at a later stage in the project.

By the end of March this year NESSC had already trained two cohorts of teachers and others with seven days of training each providing a total of more than three hundred 'trainee days'. A third cohort of twenty teachers and a fourth of about forty are due to be trained before the end of September this year.

SEES

Like NESSC, the South East Earth and Space Consortium was set up quite early in the life of the programme. It has been active now for just under a year.

The consortium, through the Royal Observatory Edinburgh (ROE) as its lead body, employed three teachers to form a SEES CPD project team. The teachers, one primary and two secondary, were seconded from their schools for an academic year.

They were based at ROE and worked in collaboration with the consortium management group. The team's main tasks were to develop and trial the practical CPD workshops and then train up local authority representatives (Local Trainers) to deliver them.

Phase 1 of SEES was very much a developmental stage. Prior to the production of these workshops, the SEES CPD team carried out an intensive programme of research and consultation. This focused on teachers' needs within the Earth and Space attainment outcome of the 5-14 Environmental Studies Guidelines, and on identifying the features of good quality CPD. The team consulted with local authority representatives, teachers, educational researchers and others.

The SEES team themselves also had an initial period of training including presentational and professional training skills and recent developments in learning and teaching methods. Early pilot sessions were attended and mentored by the training skills instructor. This was a fairly novel feature of SEES planning. Often, it may be assumed that since teachers can teach pupils they can also train one another. Yet the transactional skills needed for convincing communication with peers are no by means identical with those needed for teaching children.



Figure 3 Front cover of SEES trainer's pack.

The pack provides background notes together with copies of all of the materials for three sessions (P1-P3, P4-P6 and P7-S2) of training based on practical work-shops. Masters, as Word files and pdf versions, are also provided on CD ROM.

Clearly the success of this approach is heavily dependent on the skills and personal qualities of the person brought in to run the sessions on training and presentational skills.

During the preparation of the workshops and the associated training packs, an extensive evaluation process was carried out. This included the SEES CPD Team running pilot workshops (attended by fifty Primary and Secondary teachers), which were formally evaluated both by the participants and an external evaluator. All of the workshop materials, as subsequently used with local trainers, incorporated the results from each of these developmental processes. SEES Activities in 2003 and 2004 are summarised in the text box below.

- 1 Pilot Workshops - three twilight or afternoon sessions for a total of 48 teachers.
- 2 Train the local trainers course - a three and a half day course of training for trainers from four of the local authority partners.
- 3 Easter school - a three day residential event for twenty teachers from outwith the original partner EAs.
- 4 Summer school - as for 3 above.
- 5 Local authority activities - information to hand as yet from only two of the partner EAs. West Lothian has plans for six workshops this Summer and another cycle of six next session. East Lothian will begin its own cycle of training from August onwards.