



MANAGING SCIENCE AND TECHNOLOGY

one school's approach

AT BRINDISHE SCHOOL SUBJECT COORDINATORS HAVE BEEN REPLACED BY TEAMS WITH RESPONSIBILITY FOR SUBJECT AREAS. **KEITH BARR** DESCRIBES THIS SUCCESSFUL AND POPULAR SYSTEM

The Brindishe science and technology team meet for a planning session

At Brindishe School in South East London a system of teams with team leaders is used to manage and organise all subject work throughout the school year. It is a highly effective system, receiving due praise in a recent Ofsted inspection. In this article I set out a typical science/technology year at Brindishe to show how the system operates in practice.

Coordinators or team leaders

Brindishe School is a one-form entry primary school, with 245 children on roll. A system of team

leaders for subject management was introduced in 1998. Previously, individuals held the title of subject coordinator and were solely responsible for developing and delivering subject management. Much of this work was carried out privately, with occasional whole-staff involvement. A different approach involving more collaborative working and more shared working was deemed to be a better system for raising the knowledge and understanding of teachers and teaching assistants. The essential difference between 'coordinator' and 'team leader' is that the team leader is

achievement in science and technology.

The school has teams for numeracy, literacy, science and technology, humanities, and assessment. Each team has a designated leader and other teachers and teaching assistants can choose the teams to which they belong. Individuals are encouraged to join a team to which they feel they can make a significant contribution. Team leaders are also members of other teams.

The science and technology team

The science and technology team consists of: the head teacher, who was a science adviser for Bexley LEA (the head is also team leader for assessment); two class teachers; one teaching assistant; the school's 'housekeeper' and the science/technology



able to discuss subject development within a team, which encourages diverse thinking, a broader level of staff involvement and a sharper focus on raising children's access and

team leader (myself). The team is also allocated a few hours of administrative support time.

School development planning

One of the planned INSET days at Brindishe is for whole-school

Table 1

Subject development plan 2002/2003: Science and technology

Objective: All children to have access to a broadening range of science/technology learning opportunities

development. This usually takes place in June and is a meeting for all school staff, including senior management and team leaders, class teachers, all teaching assistants and support staff. Everyone is included, so all have a say in what has been achieved and what will be tackled next.

During this meeting the development plan is reviewed, enabling all team leaders to reflect on their subject achievements over the school year. With reflection completed, attention focuses on the future and ideas are gathered for the following year's plan. After this meeting, the head teacher collates all thoughts and suggestions and writes and presents the whole-school plan to everyone during the first INSET day in September.

Year planning in science and technology

The team leader organises the first team meeting of the year from the school development plan. If areas for development in science and technology are identified in the whole-school plan, then these will be incorporated into the year plan specifically for science and technology (see Table 1). Each year plan has an overall aim for the year and then, through a series of headings – resources, teaching and learning, etc. – the team leader begins to develop the work for the following year. When planning development tasks, team leaders are mindful of times and deadlines and these are

Task	Action plan summary	Targets/success criteria	Timing/responsibility
Increase children's participation and access to environmental education.	All children to have opportunity to experience environmental education at the Greenwich Environmental Centre. Monitor classes over two years.	100% of children to have opportunity to experience learning at G.E.C. by end of 2004.	KB/PT Oct 2002 to Jul 2004
Implement a planned programme of activities for science week.	Organise and plan a range of activities, for all children to share, for science week.	100% of children have opportunity to enjoy and participate in a range of science-based activities.	SE/JR/PT/VP Mar 2003
Raise awareness of Planet Science website and develop science technology virtual classroom.	Use weekly web design club to draw children's attention to Planet Science and to create learning links and resources for science/technology virtual classroom.	All children in year 6 to have opportunity to design resources for science virtual classroom. Increase use of school website.	KB Oct 2002 to Jul 2003
Technology resources to be organised/redistributed into themed boxes.	Technology resources to be reorganised into themed boxes according to project/theme areas in Brindishe Curriculum, e.g. slippers, purses.	Resources to be in boxes, on shelves and clearly labelled ready for children to access.	KB/JR Oct/Nov 2002
Increase knowledge and understanding of how ICT can be used to support children's learning in science.	Planned programme of course attendance and school INSET. Bank of ideas for teachers to draw on and evidence of children's learning being supported.	Bank of ideas available for all teachers, all children using ICT to support learning in science.	KB/SE/PT/VP Oct 2002 to Jul 2003
Revise, increase and broaden range of science/technology books available for children in both KS libraries.	Audit range of books currently available according to areas of science/technology study. Removal of outdated and uninspiring books and reordering to replace and broaden stock.	All children to have access to a collection of relevant and new science and technology research materials.	JR/PT Nov 2002
Review science and DT policies following school review.	Rewrite existing policies or consider alternative policy document options, following the school overview of curriculum policy documents.	Revised/current policies for science and design technology to be in place by end of 2003.	KB/SE/PT/VP 2002/03
Audit current agreed curriculum for science and technology and begin to rebalance and integrate the primary curriculum.	Audit, review and reconsider content and timetabling of science and design technology curriculums.	All children to have access to a new reintegrated science and technology curriculum.	KB/SE/PJ Jan 2003/04
Increase access to and use of lap-top/whiteboard technology.	Audit and assess quality of CD-ROM provision in school. Highlight and increase use of resources available on CD-ROM/websites. Encourage and promote teaching via lap-top/whiteboard using CD-ROM and website materials for class stimulus.	Teachers to be aware of resourcing potential from CD-ROM and selected websites. All children to have access to web/CD-ROM resources via whiteboard/lap-top technology.	KB/SE Jan 2003 to Jul 2003

incorporated into the plan. Team leaders will also select who is to work on a particular area.

Team meetings

Team meetings are planned as an integral part of the yearly INSET programme. Two weeks are set aside, at the start of the autumn, spring and summer terms, for these meetings. During these weeks there are no other meetings in the diary and it is then up to each team leader as to when and how each team meeting is organised. Team leaders draw up agendas detailing objectives for the year, timings, who will complete each piece of work and success criteria.

With all team members present it is possible to set out clear plans for specific terms. At a meeting the team may discuss resources to purchase, and once decisions are made the administration officer will be asked to complete all orders. If storage of equipment needs to be organised the housekeeper will respond to the needs identified by the team and then carry out all purchases and labelling. Planning and organising science week activities might be done by two teachers, one key

stage 1 and the other key stage 2.

Once a task is allocated, individuals will organise this work to fit in with their own timetables, with the understanding that there is a date for completion and review.

The meetings in spring and summer begin with a review of achievements as well as planning for the forthcoming term.

Roles of team members

Team leader

The team leader has responsibility for the management, organisation and development of science teaching and learning, for strategic thinking and planning and for the improvement of children's standards of achievement. If results fall the team leader has to account for the change and put in place measures to improve standards.

The team leader:

- collects, scrutinises and presents science learning data which are collected at a class, key stage, whole school and national level;
- liaises with the head teacher and other members of the senior management team regarding assessment levels, targets and how to raise and broaden achievement by children;
- plans and organises teaching and learning audits, which involve lesson observations, work sampling and annotating teaching and learning data for whole-school feedback;
- liaises with the link governor and presents information to the governing body;
- is responsible for managing staff development and delivering school INSET, responding to individual requests for support and advice to support children's learning in science;
- gathers and uploads science work and information on to the school website.

The team leader at Brindishe is also available as a 'leading' teacher

for teachers from other Lewisham schools. This has also involved science teachers visiting from neighbouring secondary schools to see, and learn from, primary science teaching.

Head teacher

The head teacher teaches science in year 6. From a team leader's perspective, it is great, especially for the children, that another teacher in the school has a science background. She has been a science adviser and enjoys teaching science on a weekly basis. The year 6 children look forward to their science lessons with the head teacher. Receiving specific subject teaching is different for them and adds to their status in the school and their self-esteem. They know they are being taught by an expert in that subject.

Class teachers

Following a team meeting, a class teacher may be allocated the task of collecting work samples from their particular key stage to help support a school audit or an assessment focus. They could work on rewriting part of a policy document that specifically focuses on their teaching in school. Class teachers often organise visitors and information on resources for their specific areas of expertise. A class teacher may offer to open their classroom for visiting teachers, for example if a visitor wanted to gain knowledge from a foundation stage teacher.

Teaching assistant

This year, as part of science week activities, the team organised a quiz for all children in the school. The teaching assistant team member had the job of gathering two questions from all members of staff and collating the quiz ready for handing out during science week. Any money charged for science activities can be collected by teaching assistants and delivered directly to one of the school administration officers.

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Administration officer

Although the administration officer does not attend team meetings, the team does have some administration time at its disposal. The administration officer follows up resourcing decisions made by the team, finding catalogues and completing orders. She makes phone calls and sends faxes, checks details of trips and meetings, and helps organise visits from other teachers, and so on. This aspect of team work is particularly helpful because, as a team leader and full-time class teacher, getting to a phone can be difficult!

Housekeeper

Similarly, the school housekeeper does not attend meetings but is available to help with resourcing, storage, resource management and resource purchasing. For example, boxes for housing torches can be bought during the school week by the housekeeper, rather than having to be done during weekend time by the team leader.

The Greenwich Environmental Centre

The last contribution made to science team work at Brindishe School, is by the team at the Greenwich Environmental Centre. The team plans and organises regular class trips to the centre to cover all aspects of environmental work. There is a rolling programme of visits to ensure all classes visit once every two years. The team at the centre plans and organises events according to specific requests from the class teacher responsible.

Benefits of the team system

The benefits of team working to subject management are numerous and appreciated and welcomed by all concerned:

■ **Shared work load:** subject management is shared between colleagues; the team leader manages and organises and the whole team plans and develops science teaching and learning.

■ **Shared thinking:** at meetings subject development is open for discussion which makes the best use of collective minds and thoughts.

■ **Range of perspectives:** team members bring different perspectives to meetings which means that, for example, ICT, special educational needs, multicultural perspectives, etc., are linked with the development of science and technology.

■ **Focused thought:** allocating tasks frees up individuals to think specifically about the tasks they have to complete, for example team leaders can focus their thinking on the

development of teaching and learning without having to worry about buying resource materials; when buying storage for science equipment, the housekeeper might combine purchases taking into account other subject needs.

■ **Strategic thinking:** sharing work tasks means the team leader has more time available to think strategically.

■ **Organisation:** work for the year is organised; everyone knows when team meetings take place and when they will need to carry out specific tasks.

■ **Resources:** team members constantly evaluate the impact of teaching, teaching materials and resources, enabling the team leader to ensure the very best resources are available for all children.

■ **Assessment:** at team meetings standards of achievement are scrutinised by all team members, ensuring a thorough and consistent approach to assessment.

■ **Team ethos:** working as part of a team enables an ethos to develop; it is a more open method of working and team members take pride in their achievements because they know others will see the fruits of their work.

■ **Enthusiasm:** enthusiasm is infectious; having more than one teacher who is enthusiastic

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about science and technology rubs off on the children.

■ **Role models:** having more than one person responsible for science and technology means that male and female team members provide positive role models for being 'scientists'.

■ **Children's learning:** lastly, and most importantly, the team system has direct impacts on children's learning in science and technology.

Using a team system for the management of teaching and learning in science is a '*resounding success*' (Ofsted report, 2000) for all concerned. Unlike the subject coordinator who was solely responsible for subject development, the team leader, while still having responsibility for the 'big picture', has the benefit of a team of ever-more knowledgeable, skilled and enthusiastic teachers and assistants, who are ready and willing to work towards the development and improvement of science learning at Brindishe School.

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