

Ross, K. Lakin L. and Callaghan P. (2000) Teaching Secondary Science – constructing meaning and developing meaning. David Fulton publishers London

The summary of the chapter Links with Industry states that:

Effective links between education and industry are a crucial bridge between the world of work and the world of education. The growth of such links in the UK has been a major success story. They add value and improve business competitiveness by raising the aspirations and the skills of the individuals involved – a view increasingly shared by the worlds of education, business and government. In this chapter we will follow the history of such developments, tracing the successes but also visiting the low points. We identify effective strategies and focus on specific resources, exploring at the same time the possibility of bias. We conclude with comprehensive guidance on how to ensure effective industry education liaison, and look the future in a drive towards industrial development that is sustainable.

The chapter details the questions that the authors put to their trainees about the pros and cons of developing industrial links including the need to consider bias in resources, which might form a part of a wider resource evaluation session.

Ratcliffe, M (Ed) ASE Guide to Secondary Science Education ASE/Stanley Thornes

Chris Oulton contributed a chapter on Science and Environmental Education. Whilst this can be done within a classroom, and some suggestions as to how this might be done as a professional development activity are included, its link with field work is strong.

The chapter includes the ASE Policy on Environmental Education and a section on Thinking about Practice.

The chapter by Bill Harrison deals with industrial Links: Purposes and Practice. It considers the background to this type of link and the benefits that might accrue. There is a major section on the development of industry-education partnerships including curriculum initiative and school-industry placements. Harrison makes the point that 'key areas of partnership activity essentially fall into four categories:
Development of industry based resources as contexts for learning school science
Scientists in schools

Teachers and pupils in industry that is placements or visits
Industry support and contexts for science activities, loan of equipment, provision of expert advice and services.'

He goes on to point out that the Pupil Researcher Initiative is one school science initiative operating in all four of these categories.

Walker 1998 is amongst the authors who shows that such activities generally have a very positive immediate impact. Harrison states that there is 'very persuasive evidence from schemes such as CREST, the PRI, Nuffield Science Bursaries, science

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Challenge ...that pupil achievement within these activities is often significantly greater than would normally be expected.

A number of other networks are mentioned SATROs and Education Business Partnership, the ASE BA field officers, SETNET and regional SETPOINT
A good reference section has been included.

Wellington, J. (2000) Teaching and Learning Secondary Science – contemporary issues and practical approaches. Routledge

Chapter 12 of this book is entitled Using Out-of School Sources to enrich science education. The introduction to the chapter states:

‘Many people equate learning in science with the formal science curriculum. Yet much, if not most, of children’s learning about science takes place outside the confines of a timetable and a school. There is a mound of evidence to show that this ‘informal’ learning is both powerful and tightly held onto. Museums, newspapers, magazines, television and the Internet can all be sources of learning outside school. This chapter considers children’s out-of school learning sources and studies in detail two sources which teachers can make use of.’

In addition the chapter goes into detail about the difference between formal and informal learning and then considers how to use informal learning. Examples are given such as using ‘informal’ sources of text in science teaching and the use of interactive science centres.

A good reference section has been included.

Sills P., Crossman , J. Study Support in Teacher Training and Professional Development Part 1 Approaches to developing ITT and CPD course content DfES (Ref: DfES 0492/2001)

These materials have been written as a collaboration between Centre for Education Leadership and School Improvement (CELSI) Canterbury Christ Church University College and Education Extra. They are designed to stimulate and support the development of study support programmes for trainees and practising teachers.

The materials themselves have the following six objectives:

- To familiarise HEI and other tutors with developments in study support theory and practice
- To locate these developments in educational theory contexts
- To guide approaches to planning and gaining formal approval for new course content
- To provide case study exemplars of HEIs which have established training in study support
- To identify study support resources and networks for tutors to access
- To encourage the fuller coverage of study support on Initial Teacher Training (ITT) and Continuing Professional Development (CPD) programmes

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The materials can be downloaded from:

<http://www.standards.dfes.gov.uk/studysupport/res/publications/teachertraining1>

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