

## A Selected Bibliography of General Bioscience Education

**Bioscience Education** is a free, online journal published by the Centre for Bioscience.

**Bioscience Education**  
*e journal*

The Journal aims to promote, enhance and disseminate research, good practice and innovation in tertiary level teaching and learning within the biosciences disciplines through its range of articles. These articles include peer-reviewed research and practice papers, as well as reviews and descriptive accounts, volumes are closed and publicised in May and November annually.

Articles published to date include: Introduction and evaluation of peer assisted learning in first-year undergraduate bioscience; Teaching Ethics to Bioscience Students - A survey of Undergraduate Provision; Descriptive Essay: Introducing Undergraduate Students to Scientific Reports.

[www.bioscience.heacademy.ac.uk/journal/](http://www.bioscience.heacademy.ac.uk/journal/)

Fry, H., Ketteridge, S. and Marshall, S. (1999) **A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice**. London: Kogan Page.

The whole book is a good overview for those wishing to explore the issues of learning and teaching in higher education. Chapter 10 provides a basic introduction to issues relating to practical work. The depth of the material covered is limited by the fact that chapter is only 22 pages long so areas of interest/concern will probably need to be supplemented with other texts. The 5 case studies provide a useful indication on how some aims are achieved in practice. A new edition is available, published 2003 by Kogan Page (London).

Gabel, D.L. (ed.) (1994) **Handbook of Research on Science Teaching and Learning**. *A project of the National Science Teachers Association*. New York: Macmillan.

This book is an excellent starting point for those who want to delve deeper into the area of educational research. The book is primarily North American based but the majority of the findings are applicable to the UK situation. The focus is largely on theories and research relating to the teaching of science, however, most chapters do have recommendations for teachers/lecturers based on the findings.

More, I. and Exley, K. (1999) **Innovations in Science Teaching 2**, SEDA Paper 107. Birmingham: SEDA.

The book contains 27 case studies documenting innovative teaching practice in science, 11 of which are of direct relevance to the biosciences. Topics range from multi-media and resource-based learning to peer and self assessment. The case studies are an excellent source of information for anybody wishing to learn from the ideas and experiences of colleagues.

Orsmond, P (2004) **Self- and Peer-Assessment: Guidance on Practice in the Biosciences**. Teaching Bioscience Enhancing Learning Series.

This guide is the first in the Teaching Bioscience Enhancing Learning Series published by the Centre for Bioscience. The guide consists of three chapters and seven bioscience case studies illustrating how others have successfully introduced self- and/or peer-assessment into their teaching practice. Chapter 1 provides a general introduction to the topic of self and peer-assessment, Chapter 2 provides advice on how to implement self and peer-assessment and Chapter 3 provides more in-depth information on the topic and the opportunity to investigate it further. There is also an accompanying website with links to additional case studies and information.

[www.bioscience.heacademy.ac.uk/resources/guides/selfpeerassess.aspx](http://www.bioscience.heacademy.ac.uk/resources/guides/selfpeerassess.aspx)



Park, J et al. (2002) **Challenges of Teaching Agriculture at Institutions of Higher Education.** *Farm Management* **11**:327-339.

An overview of issues relating to the provision of agriculture and agriculturally-related degrees in the UK.

### **Proceedings of the Science Learning and Teaching Conference 2005 and 2007**

The biennial Science Learning and Teaching Conference brings together teaching practitioners from the biosciences, physical and materials sciences disciplines, with presentations, workshops and posters on a wide variety of topics including e-Learning, student numeracy and assessment. The Conference proceedings containing the full papers for workshops, presentations and posters are available to download from **www.sltc.info**

Reavey, D. (1996) **Group projects for undergraduates: end products for the real world.**

*Journal of Biological Education* **30** (4):265-268.

A novel and interdisciplinary approach to group work. If you want to do something different with your students then read this.

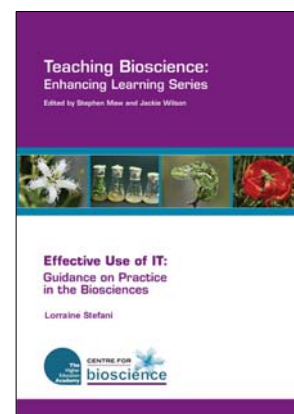
Stefani, L.A.J. (1994) **Self, Peer and Group Assessment Procedures.** In *An Enterprising Curriculum: Teaching Innovations in Higher Education*. pp. 25-52. Sneddon, I. and Kremer, J. (eds.). Belfast: HMSO.

The chapter deals with 2 case studies, one focussed around collaborative self, peer and tutor assessment, the other around peer and self assessment in the context of group work. Potential gender differences are also addressed. These case studies would be an invaluable read for those persons wishing to alter the assessment of their practicals.

Stefani, L.A.J. (2006) **Effective use of IT: Guidance on Practice in the Biosciences**

This is the second guide in the Teaching Bioscience Enhancing Learning Series published by the Centre for Bioscience. The guide consists of three chapters and six case studies of e-learning in the biosciences covering a wide range of topics and subject areas. Chapter 1 explores some of the key issues associated with the use of technology in teaching and learning; Chapter 2 examines, in depth, curriculum design for e-learning with examples drawn specifically from the biosciences; Chapter 3 considers the potential for computer-based assessment strategies and also highlights some of the key principles of assessment that relate both to traditional and online assessment strategies.

**[www.bioscience.heacademy.ac.uk/resources/guides/elearn.aspx](http://www.bioscience.heacademy.ac.uk/resources/guides/elearn.aspx)**



Committee on Undergraduate Science Education (1997) **Science Teaching Reconsidered.**

**[www.nap.edu/readingroom/books/str/contents.html](http://www.nap.edu/readingroom/books/str/contents.html)**

This American online handbook aimed at new lecturers and graduate teaching assistants is divided into eight brief chapters. A readable text considering the effectiveness of science teaching; illustrated with examples of successful teaching practices drawn from a variety of science courses and including a number of practical ideas as well as some suggestions for further reading.