

Whales, Dolphins and Sharks

Harnessing enthusiasm and autonomy to
engage and motivate students

Dr Graham Scott

How did I get here?

(not on my own!)

- My approach and its development
 - Students should be enabled to own their learning
 - Student managed learning
- Feed-forward and self management in personal practice
 - Teaching fellowships, innovations and The Ed Wood Teaching Award

Student managed learning

- Enabling students to take ownership of their learning
 - through appropriate self management
 - allowing them to decide what to learn
 - allowing them to decide when and where to learn
 - through reflective practices
 - enabling students to assess the quality of their own work
 - helping students to generate and use their own feed-forward
 - helping students to identify and articulate their learning achievements

So what does that mean in practice?

- Fieldwork:
 - enthusiasm
 - enquiry
 - creativity

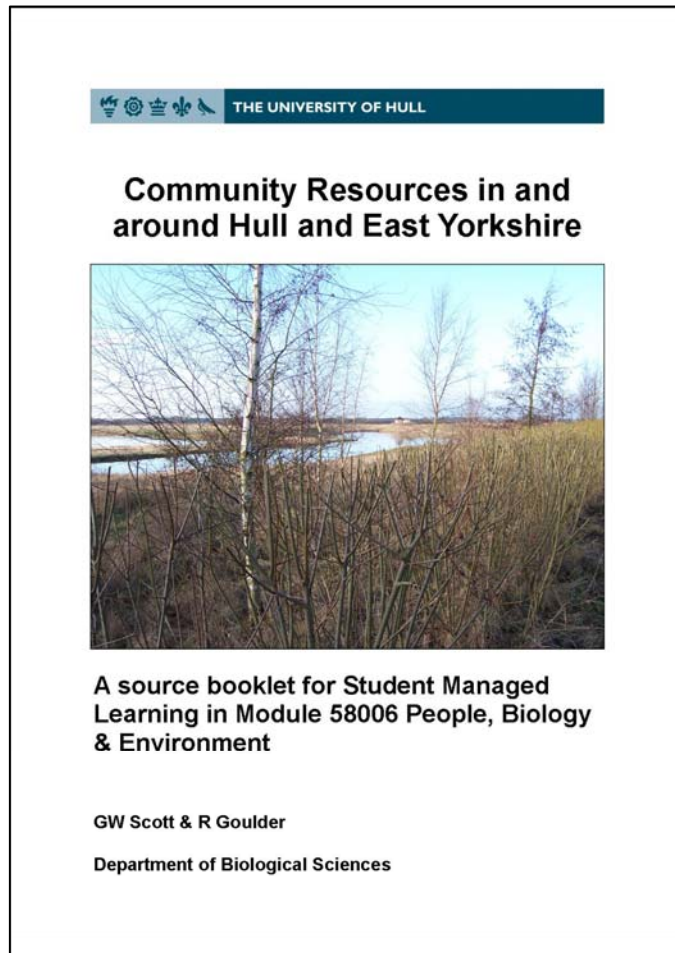
- Freedom in:
 - project design
 - techniques
 - data to be collected
 - location

Goulder, R & Scott, G (2009) Bioscience Education 14-1

Scott, G & Goulder, R (2009) Bioscience Bulletin 27

Goulder, R & Scott, G (2006) Journal of Biological Education 41, 26-29

Handing over control of the subject



- People, Biology and the Environment
 - Human Biology students undertake self directed fieldwork and determine their own learning


Goulder, R & Scott, G (2010) Bioscience Education 16-c1

People, Biology and the Environment

Newlands Allotments

Allotments are on the brink of a revival after more than half a century of neglect and decline. They are reservoirs of urban wildlife and offer an escape from modern life.

Allotments were established by a parliamentary act of 1887: "An Act to facilitate the provision of Allotments for the Labouring Classes". The *Allotment Act*, as it usually referred to, stipulated that in any situation where six or more ratepayers, or persons registered to vote in elections requested it then local authorities were bound to make provision and set aside some land for the purposes of allotment gardening (Buczacki, 2007).




A Newlands Allotments plot. Note the cultivated ground, the greenhouse and the succession of planting. Note also the complex 3D structure provided by the tree stumps in the foreground, the trees in the background and the shrubs which edge the plot.

Themes that might be explored:

- The socio-economic benefits of allotments
- The wildlife conservation value of allotments
- The educational value of allotments

From their establishment in the nineteenth century to the middle of the twentieth century allotments grew in popularity. In combination with home kitchen gardens and the *Dig for Victory* campaign they contributed close to half of the UK's fruit and vegetables during the Second World War (Pretty, 2001). By the 1970s their contribution had fallen to around one third of our consumption and today it is less than 10% (Buczacki, 2007). However, recent demand for organically grown food of known provenance has helped to bring about a renaissance for allotments and in many parts of the country waiting lists for allotment tenancies are long (Buckingham, 2005; Foley, 2004).

Linked modules:
 56167 Plant and Animal Diversity, 58171 Ecology and Evolutionary Biology; 58283 Conservation Biology; 58329 & 58375 Field Studies



A section of a wildlife friendly Newlands allotment. Note the "dead hedge" - a stack of dead twigs around 1.5m long by 1m high and around 30cm deep. This is an ideal habitat for insects and provides a good hunting area for small birds. This allotment site is surrounded by a mature living hedge. This provides nesting opportunities for birds and space for wild-flowers at its base.

The biodiversity value of allotments can be measured in terms of both wildlife diversity (the numbers of species of wild animal and plant encountered) and crop diversity (the range of species and varieties cultivated). Allotments are likely to be significant in the preservation of heritage varieties - vegetable, fruit and flower types that are no longer supplied by commercial seed producers but which have been saved from extinction by enthusiastic growers (for more information see www.gardenorganic.org.uk).

References
 Buczacki S (2007) *Garden Natural History*. Harper Collins, London.
 Buckingham S (2005) Women (re)construct the plot: the regeneration of urban food Growing. *Area* 37, 171-179.
 Chamberlain DE, Toms MP, Clearly-McHarg R & Banks AN (2007) House Sparrow *Passer domesticus* habitat use in urbanized landscapes. *Journal of Ornithology*, 148, 453-462.
 English Nature (2006) *Wildlife on Allotments* (eds E. R. Team) English Nature, Peterborough.
 Foley C (2004) *The Allotment Handbook*. New Holland Press.
 Pretty J (2001) Some Benefits and Drawbacks of Local Food Systems. *Sustain Agrifood Network*, 2 November 2001. (www.villagekey.com/localfood.html).


The potential importance of allotments to wildlife conservation has been shown by Chamberlain et al (2007) who showed that allotments support important populations of endangered urban House Sparrows (*Passer domesticus*).

How to get there
 The Newlands Allotments site is kept locked and access is by arrangement. Contact Dr Graham Scott to arrange a visit.

The site itself is within easy walking distance of the University campus. From Newlands Avenue via Sidmouth Street

Grid Reference: TA 076 315

This brick-pile is designed to provide a nesting or over-wintering habitat for a range of animal species. The smaller holes in the bricks should provide a nesting space for mason-bees and bumble-bees will build their nests in the small plant pots. Small mammals and amphibians will also make use of it.



Whales, Dolphins and Sharks

SML in a class-room setting

- Marine Biology students tend to want to learn about whales, dolphins and sharks
- This motivation can be harnessed to encourage them to move beyond their comfort zone



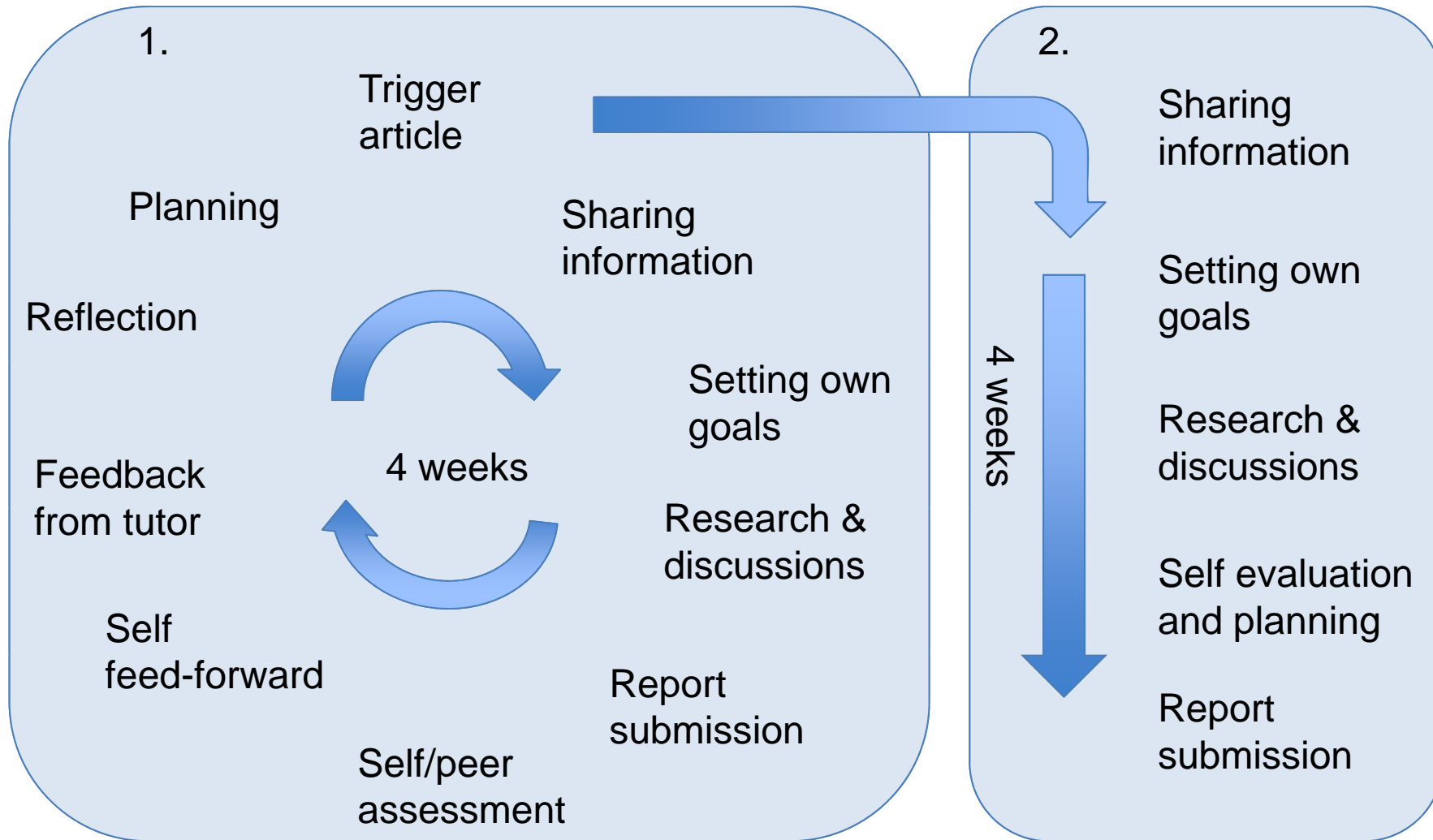
Triggers to stimulate engagement

- Short articles to trigger discussion
 - students bring own prior knowledge to group
 - themes of interest are identified





Learning process



Impact on students

- Improved student attendance
- Higher than average module marks
- Increased awareness that skills developed in this module can be used in others and in life after graduation:
 - e.g. research skills, listening & communication skills, time management, proof reading, group work, understanding that content is perhaps more important than appearance, understanding marking criteria, ability to reflect, confidence in ones-self.

Impact on peers

- Colleagues were initially sceptical
 - How could students decide what to learn?
 - How could I assess their knowledge acquisition if I didn't decide what they would learn?
 - How could students be expected to manage their own time?
- The SML approach is now used by a number of them
 - pre-certificate and final year fieldwork, level 5 group based core module, Biomedical sciences professional studies, modules in other departments

Ongoing impact on my own practice

- SML , feed-forward and reflection seem to work for my students – but how well? - how could this be developed further? – does it work for everyone?
- Feed-back from peers, evaluation and reflection have helped me to evolve my practice and to be confident in it.
- Awards such as the Ed Wood Teaching Award provide professional recognition and validation but more importantly they provide the impetus to reflect, to discuss with colleagues and to receive and respond to criticism.