Complying with The Code: optimising student learning in animal-based practicals.

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Abstract: A current debate within biology teaching programs is whether we should continue to use animals in learning activities, and how such use can be best justified from an ethical perspective. Alternatives such as computer simulations or models are often suggested, and some tertiary teaching programs have responded to pressure from students and animal rights groups by removing the use of animals entirely from their teaching programs (Downie & Meadows, 1995; Mangan, 2000).

However, such decisions may be detrimental to student learning. Active and problem-based learning allow students to acquire and then apply knowledge in a context-specific environment (Porta, 2000). Students gain a deeper understanding of fundamental concepts from opportunities to interact with real animals, which often show variation lost through the use of models; they are able to develop discipline-specific manipulative skills (Peat & Taylor, 2005), and gain an appreciation of the methods used to construct scientific knowledge (Wheeler, 1993). Students themselves appreciate and gain high satisfaction from hands-on authentic activities in biology laboratories (Peat & Taylor, 2005).

It is time for UTAS and other Schools of Biology and Zoology across the Australian university sector to re-evaluate our use of animals in university teaching. We are developing a resource which will facilitate peer- and self-assessment of the relevant aspects of animal use in biology teaching: colleagues from mainland universities agree that such a tool is currently lacking, and would be of value in designing learning tasks which meet the requirements of the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (The Code) (Aust. Govt., 2004).

We will evaluate and improve our own use of animals in teaching, whilst developing a resource kit to assist others in the sector to do likewise. Initial paper surveys of 1st, 2nd and 3rd yr students at three Australian universities on student perceptions of the value of using animals in teaching and learning will be followed by design of a "checklist" of strategies and a CD resource to use when designing learning activities based around the use of animals in teaching aimed at assisting teachers to meet the specific requirements of The Code.

Outcomes will include increased student awareness of both ethical issues relating to the use of animals in teaching, and students' responsibilities to maximise learning opportunities from those animals, the production of a practical tool to support the development of animal-based practical activities and improved delivery of our own animal based teaching activities to maximise learning opportunities for students.

Preliminary results of 1st yr paper surveys indicate that only 12.5 % of students come into UTAS Zoology classes stating they have not worked with animals or animal tissues before, although 19.6 % of students have at this stage given no conscious thought to animal ethics issues relating to the use of animals in teaching and learning. Only 8.3 % believe the use of animals in T &L is always acceptable, regardless of circumstances: most state that animal use in teaching should be carefully considered. Many cite the opportunity to bridge gaps in understanding between theory and reality as a benefit.