

# A scaffolded approach to developing university students' appreciation of animal ethics issues

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# Outline

- The educational and ethical context
- Our scaffolded approach to curriculum design
- Do our graduates demonstrate an appreciation of animal ethics?
  - Data-gathering and key results
- Conclusions



# The main message

The undergraduate curriculum developed by the School of Zoology provides a range of learning opportunities that enable our students to graduate with a high level of awareness of animal ethics issues.

Our approach to curriculum design meets Section 6.1.3 of the Animal Ethics Code of Practice.



# The educational context

## Generic graduate attributes (UTAS)

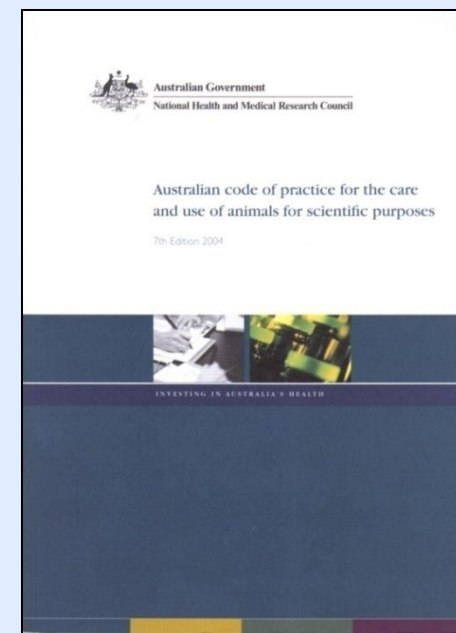
- Knowledge
  - Communication skills
  - Problem-solving skills
  - Global perspective
  - Social responsibility
- Acknowledge the social and ethical implications of their actions;
  - Demonstrate responsibility to the local community, and society generally. (UTAS GGA Policy 2001)

Educational responsibility to provide learning opportunities for our students that will allow them to develop these attributes.



# The Code

***“Students should be given the opportunity to discuss the ethical, social and scientific use of animals for scientific purposes, including teaching.” (Code: Section 6.1.3)***



## 6.3 PROPOSALS FOR TEACHING ACTIVITIES TO AN AEC

6.3.1 In addition to information outlined in 2.2.15 and 2.2.16, all proposals for animal use in teaching in which students are to interact with, or handle, animals or carry out a procedure on an animal must include details of:

- (i) the maximum number of students to be supervised by each teacher;
- (ii) the minimum and maximum number of animals to be used by each student;
- (iii) ~~the maximum number of times each animal will be used; and~~
- (iv) how the attainment of the educational objectives will be assessed.



# A scaffolded curriculum for teaching animal ethics

KZA407 Zoology Honours

KZA350 Reproduction and  
Endocrinology for  
Conservation

KZA301 Behavioural and  
Evolutionary Ecology

KZA211 Animal Evolution  
and Ecology

KZA212 Functional  
Biology of Animals

KZA161 Biology of  
Animals

KPZ163 Ecology



# First year: semester 1

## KZA161 Biology of Animals

- Activities do not require animal ethics approval
- Brief introduction to animal ethics
- Focus on taking responsibility for maximising own learning when using animal specimens
- Ethical guidelines for students in laboratory classes involving the use of animals or animal tissues (from ANZCCART 1994)

### ***Think about the use of animals or their tissues***

- Talk about this with other students and staff. Everybody should develop their own opinions about this topic and be prepared to air them, justify them, and modify them. Also, you should feel free to make suggestions that might improve future laboratory classes. Make sure that good use is made of the learning opportunity

### ***Be well prepared***

- This involves reading background material from lecture notes and references before coming to class, reading the laboratory manual before the class, and being generally prepared to maximise the learning experience.

### ***Think actively during the class***

- You should know what underlying principles are being taught in the class and understand the details which illustrate those principles. This is best achieved by active involvement rather than be merely waiting to be taught.

### ***Participation in the class should be active also***

- You should use every opportunity, within the approved scope of the class, to develop manual, observational, and recording skills.

### ***Think beyond the immediate scope of the class***

- Seeking to link the new knowledge and understanding gained in each class with other parts of the course is a learning device which will help you consolidate your knowledge.

**TREAT ANIMALS AND THEIR TISSUES WITH RESPECT AT ALL TIMES AND TAKE PARTICULAR CARE TO TREAT LIVE ANIMALS HUMANELY.**

- This also means that each person should feel free to seek advice on how to correct a situation when another person does not appear to be meeting this requirement.





# First year: semester 2

## KPZ163 Ecology

- Activities do not require animal ethics approval
- Focus on thinking about ethical use of animals in research
- The Code and Animal Ethics application procedures at UTAS, government permits, experimental design- the 3 Rs

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**When conducting studies of animal behaviour, researchers must consider many factors, in particular animal ethics. What are some of the factors in regard to animal ethics you would need to consider before undertaking a particular research program?**

*(Please note that this assignment will be marked on both the information it contains as well as its presentation. You may use a pen or you may use a word processor. If you choose to use pen, please make sure it is **legible**! Whether you choose to use a pen or a word processor please **proof read** your work! We covered most of the issues during the practical classes, but please access information from outside sources and practise your referencing skills. Remember that personal opinion in scientific writing must be carefully considered and is not necessarily relevant. The University of Tasmania website has a lot of information available and supports the material presented in the class)*





# Second year

## KZA211 Animal Evolution and Ecology

- Field trip: activities do require animal ethics approval
- Focus on thinking about taking responsibility for ethical and safe handling of animals during a variety of field procedures
- The Student Declaration
- Concepts reinforced in KZA212 in Functional Biology of Animals semester 2

### ATTACHMENT B: DECLARATION FOR STUDENTS

Declaration for students involved in a teaching project involving live animals. This form may be returned to the AEC when signatures are obtained (usually at the commencement of the project – approval will be given on the understanding that this form will be submitted when practicable).

Animal Ethics Committee approval number: .....

Responsible investigator: .....

#### Please sign to certify the following:

*I am familiar and will comply with all relevant Commonwealth and State or Territory legislation and the requirements of the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes 7<sup>th</sup> edition 2004. I accept that I have a responsibility to ensure that the investigations and procedures proposed in this form are conducted fully within the conditions laid down by the Code and I undertake not to use any animals or carry out any procedures which have not been approved by the Committee. I accept that the responsible investigator has ultimate responsibility for the project.*

Full Name	Signature	Date



# Third year: semester 1

## KZA350 Reproduction and Endocrinology for Conservation

- Activities do require AEC approval
- Focus on development as professional scientists
  - Compulsory Animal Ethics Workshop in week 1 + written ethics exercise
  - Techniques used by real-world animal biologists
  - Animal Handling workshop

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Generic attribute	Developed in:	Assessed by:
Knowledge	Lectures, practicals	Formal examination; practical book
Communication skills	Practicals; lecture 1 workshop, discussions in practicals	Written assignments; poster assignment
Problem-solving skills	Lectures, practicals	Discussion paper; review essay, scenario-style questions in examination
Global perspective	Lectures, practicals	Review essay; scenario examination questions
Social responsibility	Workshop on animal ethics Lectures on conservation, use of animals and animal tissues in practical classes	Compulsory participation in the Animal Ethics workshop, completion of ethics exercise in week 1



# Third year: semester 2

## KZA301 Behavioural and Evolutionary Ecology

- “Explore the ethical and social dimensions of behavioural ecology and more generally any research involving animals” (KZA301 Unit Outline)
- Independent group research projects
  - design projects within an ethical framework
  - take responsibility for care of animals & data collection



Monamy and Gott (2001). Practical and ethical considerations for students conducting ecological research involving wildlife. *Austral Ecology* 26:293-300





# KZA407 Zoology Honours

- “..training in ....the preparation of ethics and permit applications.” (Zoology Honours Handbook, p.5)
- “All students are required to attend an Animal ethics workshop as conducted by the University of Tasmania’s Animal Ethics Committee (AEC). This requirement applies irrespective of whether the research project involves use of animals under the purview of the AEC” (Zoology Honours Handbook, p.16)

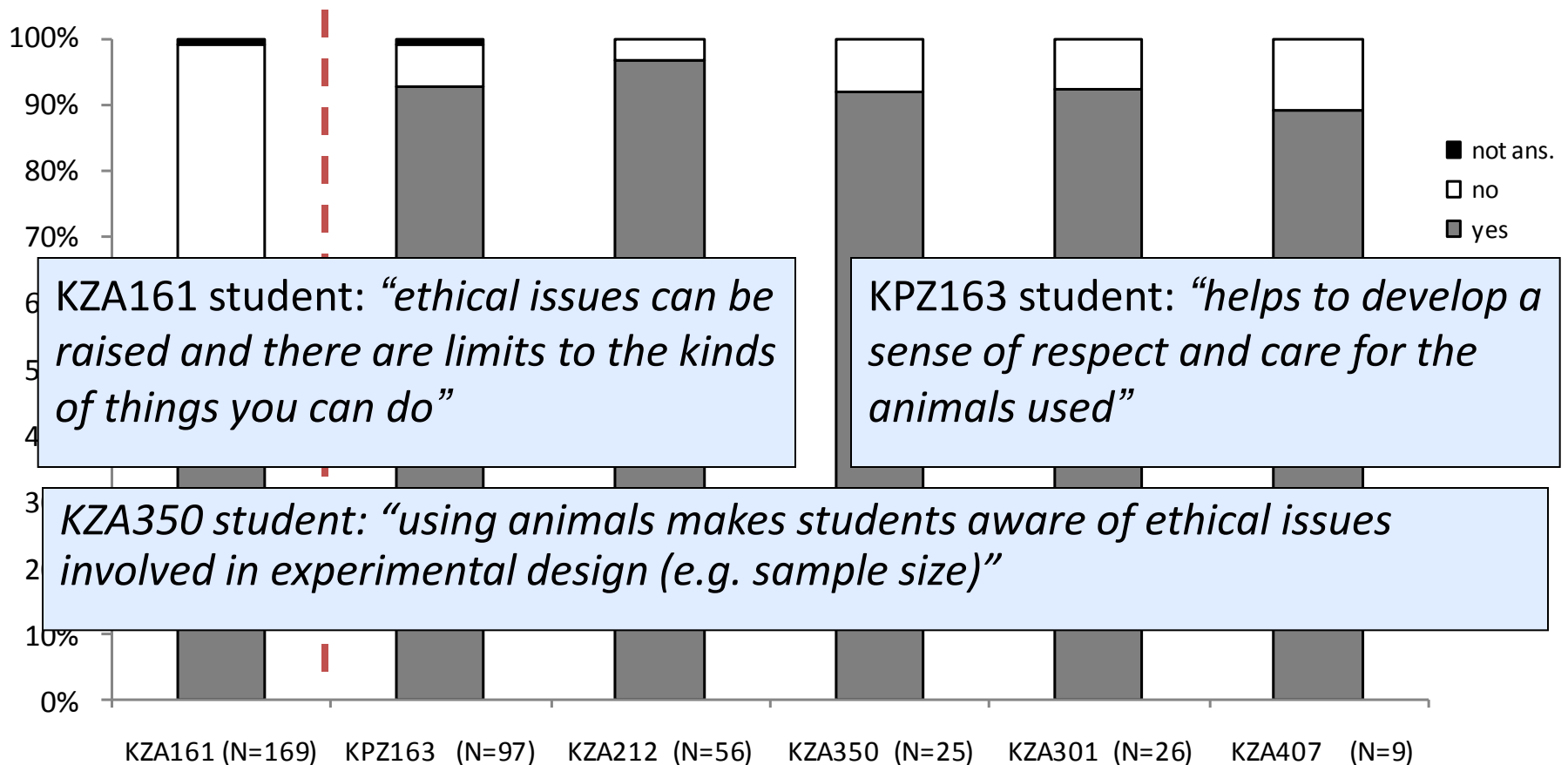


# Do our graduates demonstrate an appreciation of animal ethics?

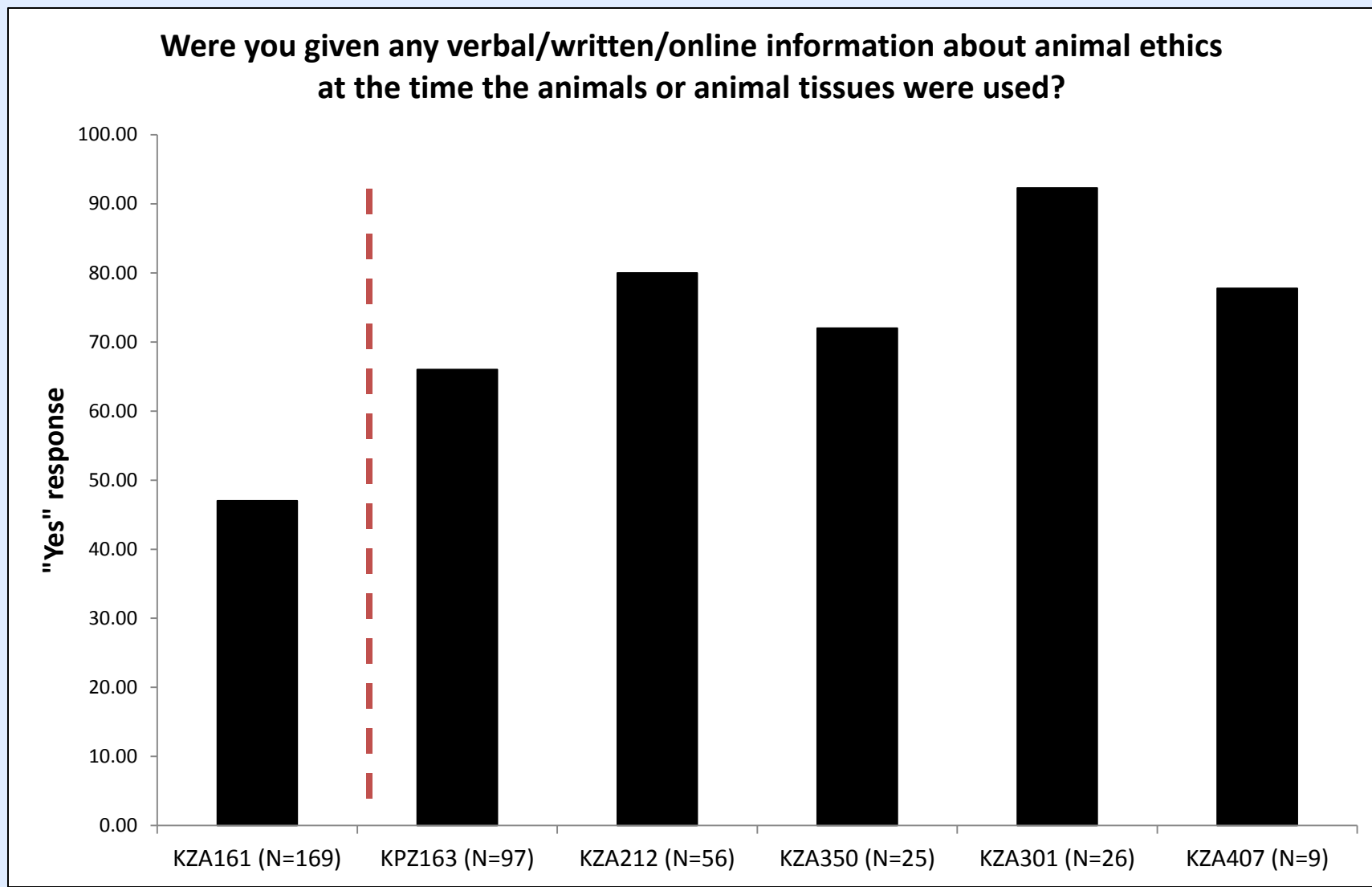
1. Specific ethics-themed internal assessment tasks in some units
  2. Student survey (HEC Approval H0010485)
    - KZA161 (sem 1) and KPZ163 (sem 2)
    - KZA212 (end of second year)
    - KZA350 (sem 1) and KZA301 (sem 2)
    - KZA407 (Honours)
- Nine questions
    - Yes/no, Likert scale or open-comment responses
      - whether they had thought about animal ethics issues relating to the use of animals in teaching and learning
      - the extent to which they had obtained information about animal ethics issues;



**Prior to this questionnaire have you ever consciously thought about animal ethics issues relating to the use of animals in teaching and learning?**







# Student comments

## Developing as socially responsible scientists

### *Ethical care of animals*

- .... skills in handling and ethics considerations for fieldwork (KPZ163).
- really enjoyed the practical where we were taught the appropriate way to handle live animals. It was a different perspective to think about in terms of your own safety and that of the animals (KZA350).
- a respect for the care and use of animals and their tissues (KZA301)

### *Skills for our future graduates*

- It has taught/made me more aware of animal ethics .... it will be useful experience in the future as a scientist (KZA212)
- using animals makes us think more ourselves about the animal ethics issues, which are likely to be important in our futures in this field (KZA301)
- improve appreciation of the use of animals and the type of animal ethics involved with studies and the type of level of approval needed (KZA301)



# Summary of evidence

- a) Assessment marks in specific assignments
- b) Survey results demonstrate:
  1. After their first semester at UTAS, nearly all our students report actively thinking about animal ethics issues.
  2. A greater proportion of students report that information on animal ethics issues is provided in a timely fashion as they progress through our undergraduate program.
  3. Qualitative comments demonstrate that our students develop an awareness of their social responsibility as biologists working with animals.



# Conclusions: the main message

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# A final comment from one of our third year students:

*"We are so lucky to have been able to work with real animals and animal tissue..... At every stage animal ethics are drilled in. No one in the School of Zoology at UTAS could possibly take this for granted"*



# Acknowledgments

We acknowledge and thank our colleagues in the School of Zoology UTAS for their active and enthusiastic commitment to embedding animal ethics across our curriculum.

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