



To investigate the potential of extending and enhancing the use of museum specimens in Biology teaching and learning.



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Animal Form and Function to Animal Kingdom



I took over the bulk of teaching in 2006. Previous course questionnaire noted:

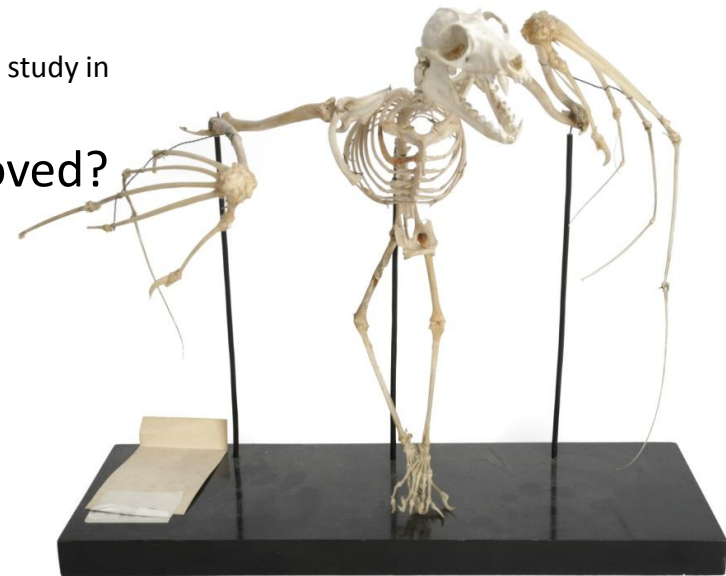
- Dissatisfaction with laboratory practicals.
- Poor general approval.

Also:

- Changes in 'A' level syllabus.
- Students aware of 'teaching styles'.
- Obvious changes in technology to deliver lectures.

Anecdotal data from course feedback (2006 onwards)

- What was the most effective thing about this module?
 - Practicals repeatedly singled out
 - ‘Live animals and museum specimens’
 - ‘also the use of museum specimens complemented the lectures well and illustrated some key points.’
 - ‘the fossils practical allows me to think more deeply about evolution.’
 - ‘dissections’
 - ‘The practical class, especially the specimens and museum pieces.’
 - ‘...was easier to see it in real life instead of a diagram.’
 - Practicals allowed us to see and understand the specimens we study in lectures.’
- How do you think the module could be improved?
 - More use of museum specimens
 - More specimens to dissect (!)



Research and development

1. Reinstate collection for use by MSc students.
2. Grant from Centre for Integrative Learning.
 - Guidance in formulating a questionnaire.
 - Paper forms filled out during practicals.
 - Attitudes to Museum specimens, living animals (invertebrates), microscopy, video, computer.
 - Data
 - ❖ School of Biology research ethics committee approved.
3. Annual fund grant
 - Curation (David Fox)
 - Biological Photography and Imaging
 - Display cabinets
 - Volunteers



What they were asked

- Age
- Gender
- Degree
- Closed questions
 - Five Likert scale (amount of agreement/disagreement)
 - Eight yes or no
- Three open questions



Data

2009

- 64 replies out of 133 (50%)
- 66% female (58% in year)
- 27% male

2010

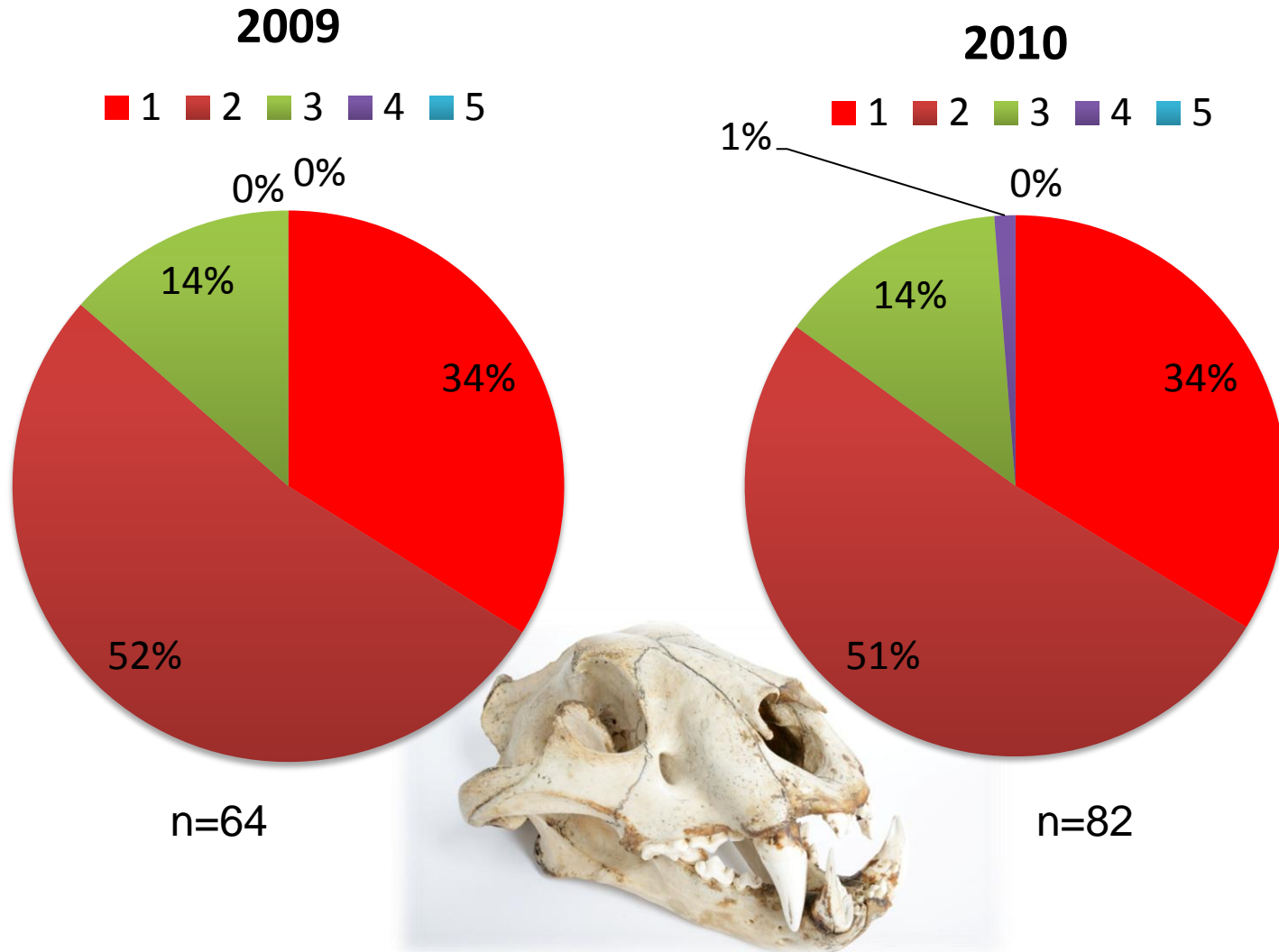
- 82 replies out of 170 (48%)
- 66% female (62% in year)
- 30% male



Response to question 1

How would you rate the helpfulness of the specimens you saw in the lectures?

1 = Very helpful ----- 5 = very unhelpful



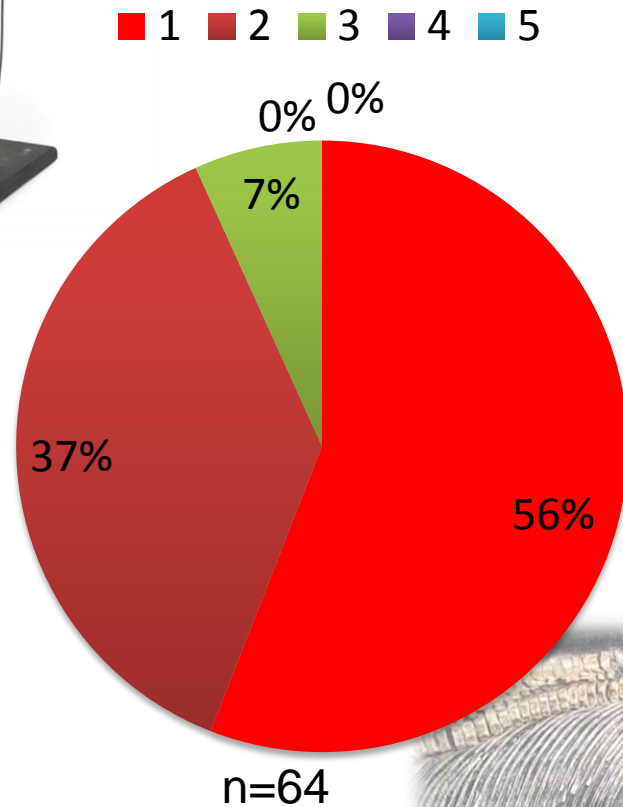
Response to question 2

How would you rate the helpfulness of having museum specimens in the practicals?

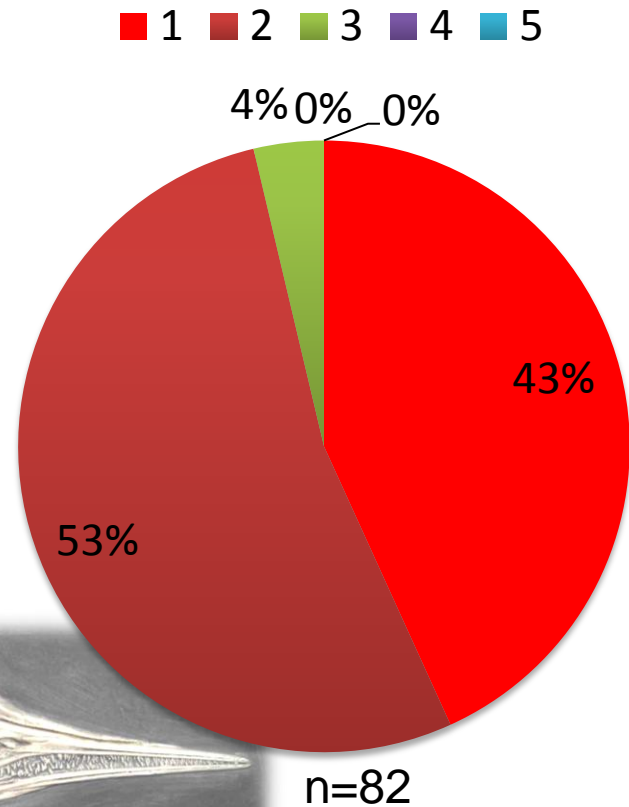
1 = Very helpful --- 5 = very unhelpful



2009



2010



More material was added after 2009's request.

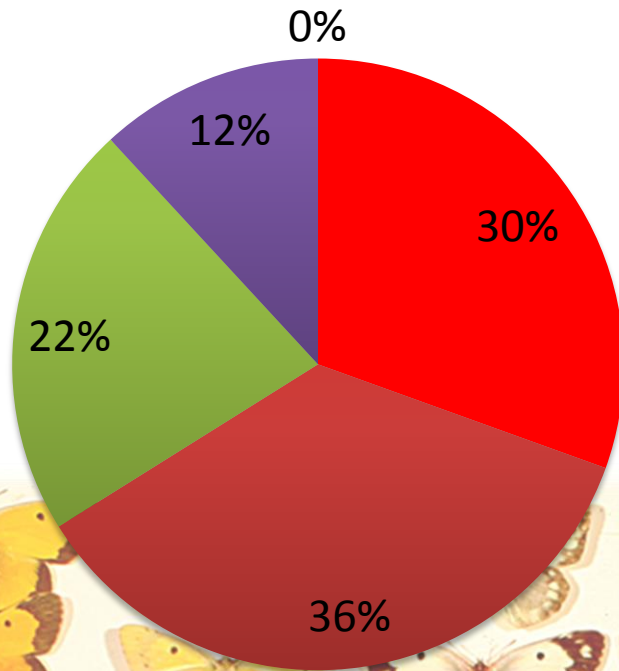
Response to question 3

Would you like to see more specimens used in the course?

1 = Strongly agree ----- 5 = strongly disagree

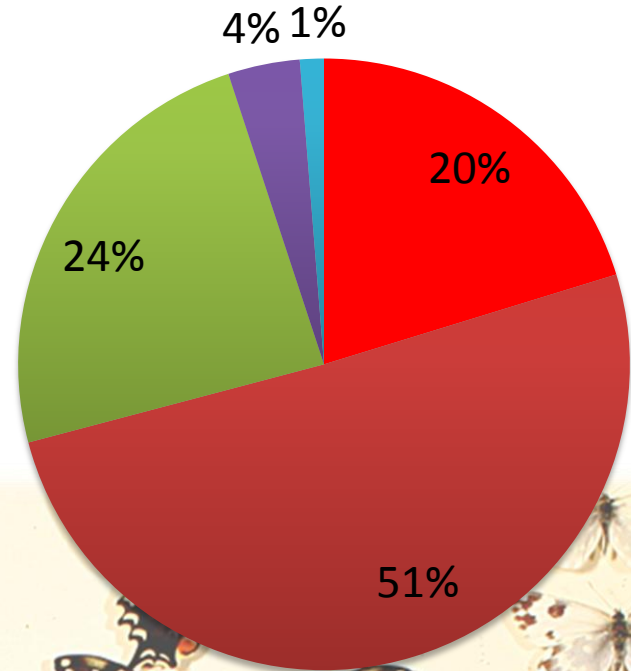
2009

1 2 3 4 5



2010

1 2 3 4 5



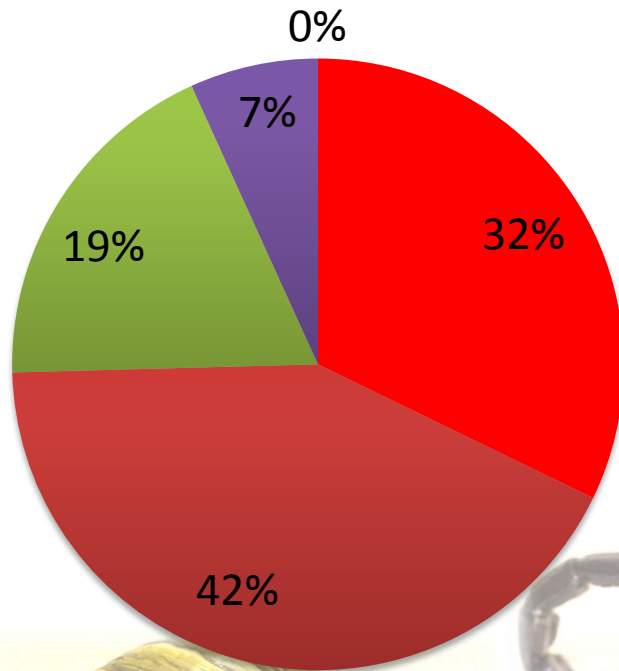
Response to question 4

I would like to see more living animals in the practicals?

1 = Strongly agree ----- 5 = strongly disagree

2009

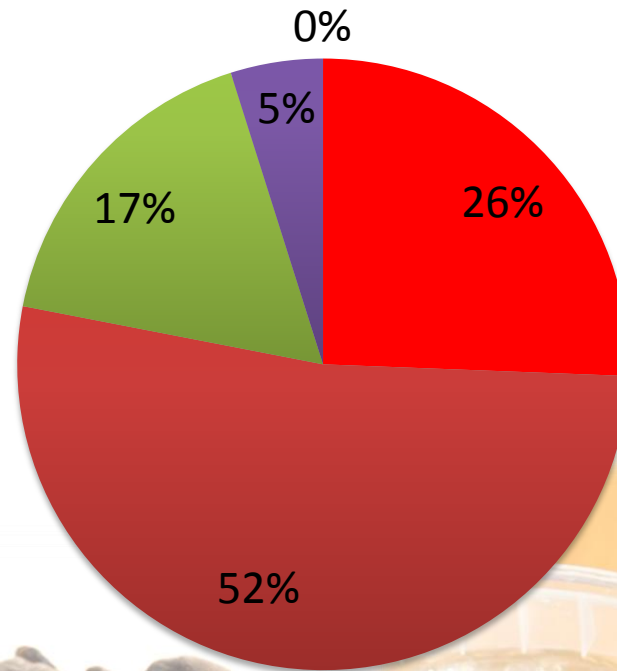
1 2 3 4 5



n=64

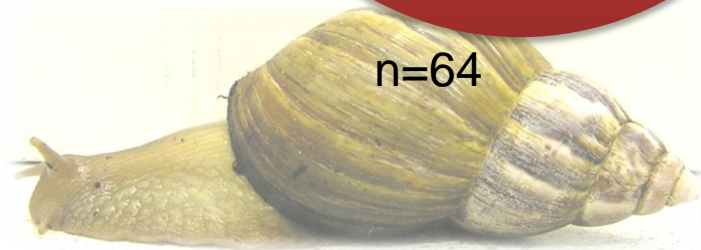
2010

1 2 3 4 5



n=82

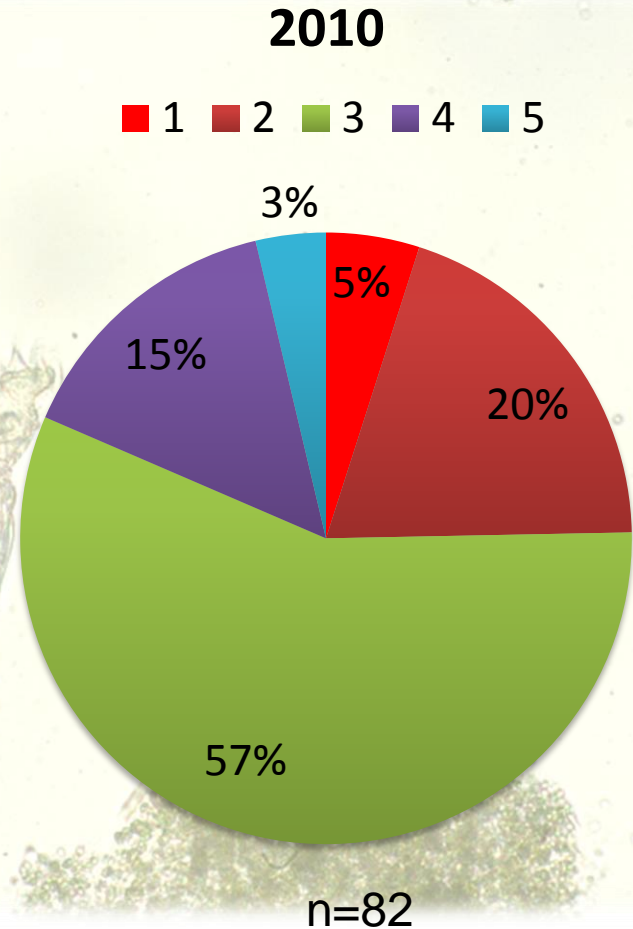
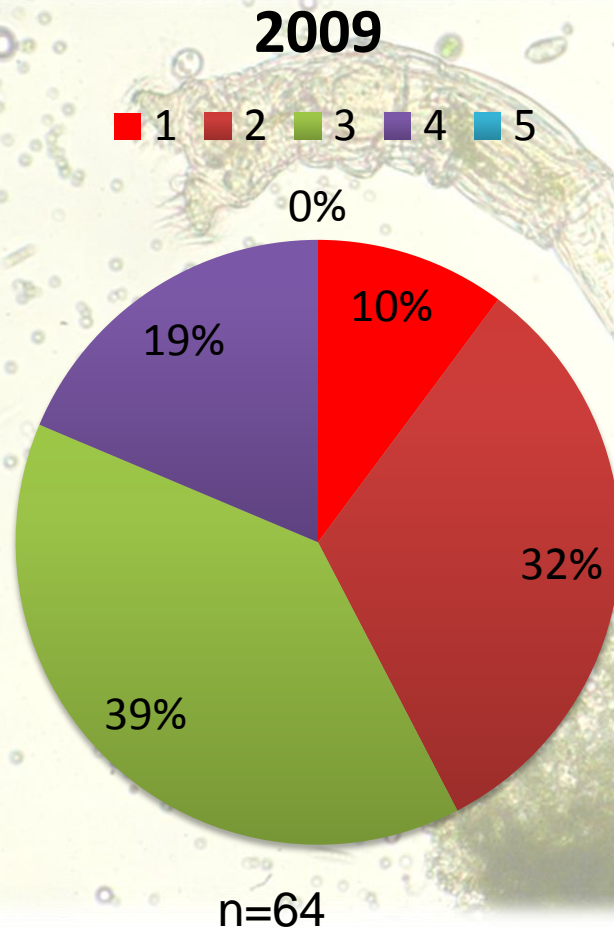
More added from previous feedback



Response to question 5

I would like to see more microscopic animals used in the practicals.

1 = Strongly agree ----- 5 = strongly disagree

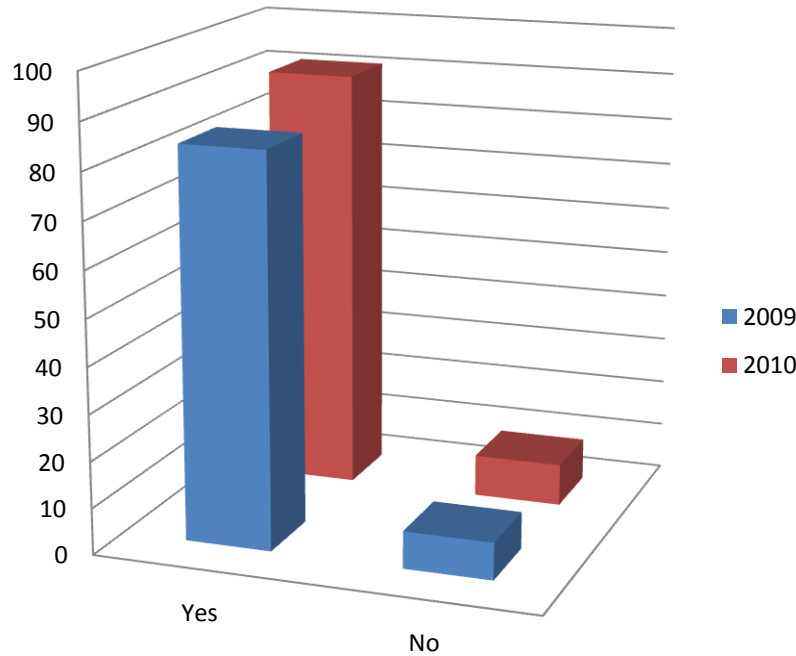




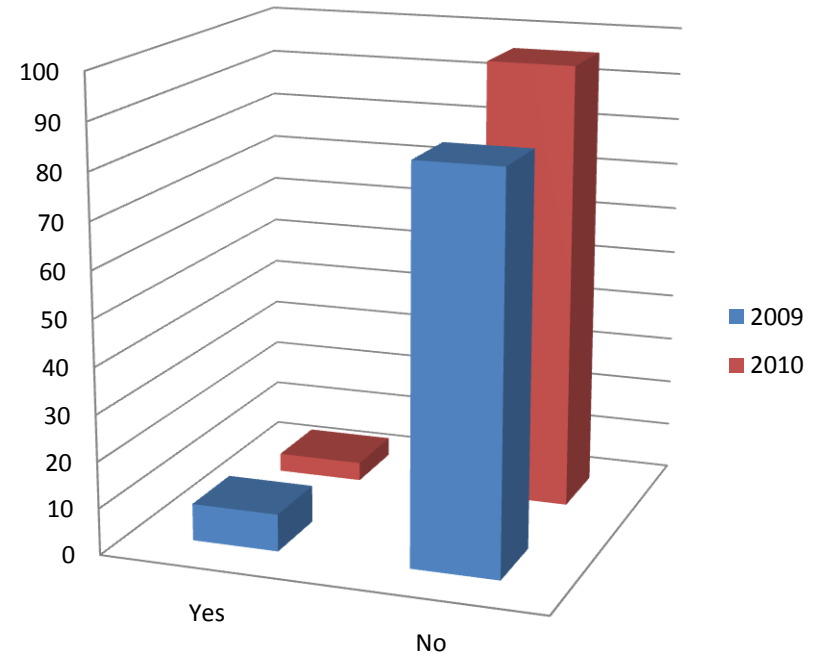
Yes/No questions

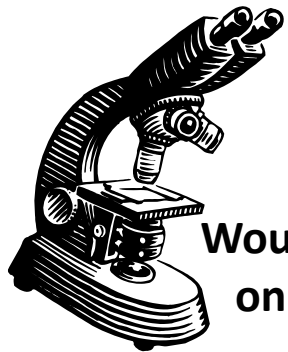


Would you like to see more animals through video presentations?

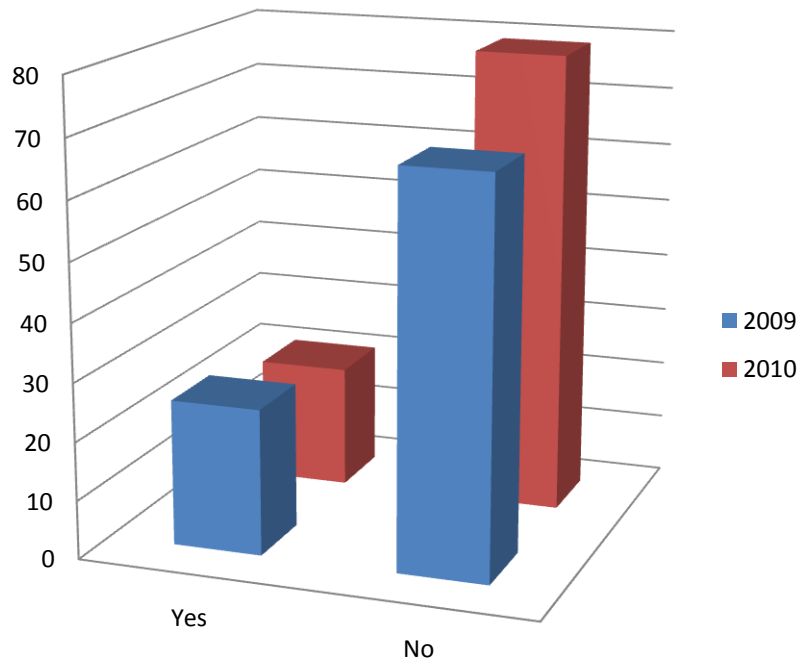


Would you like a more computer based component in the course practicals?

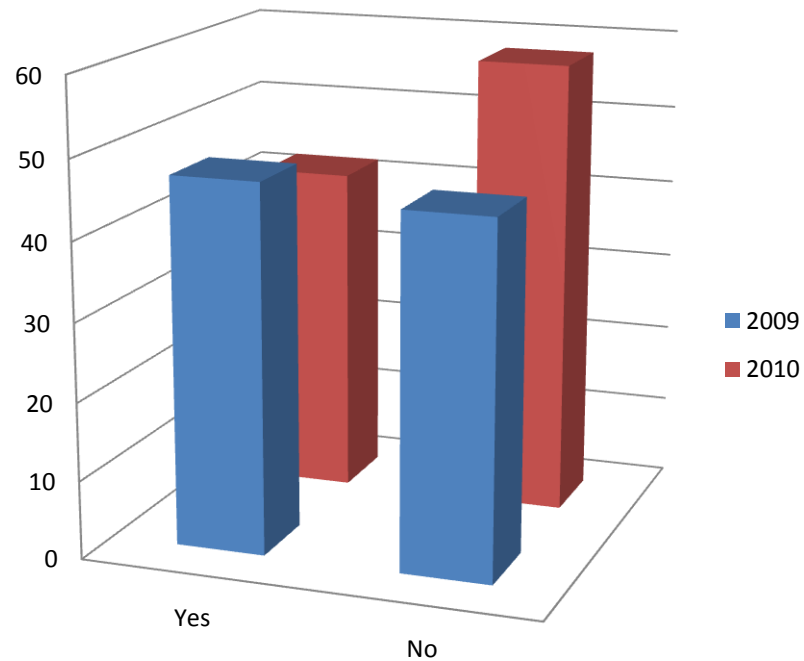




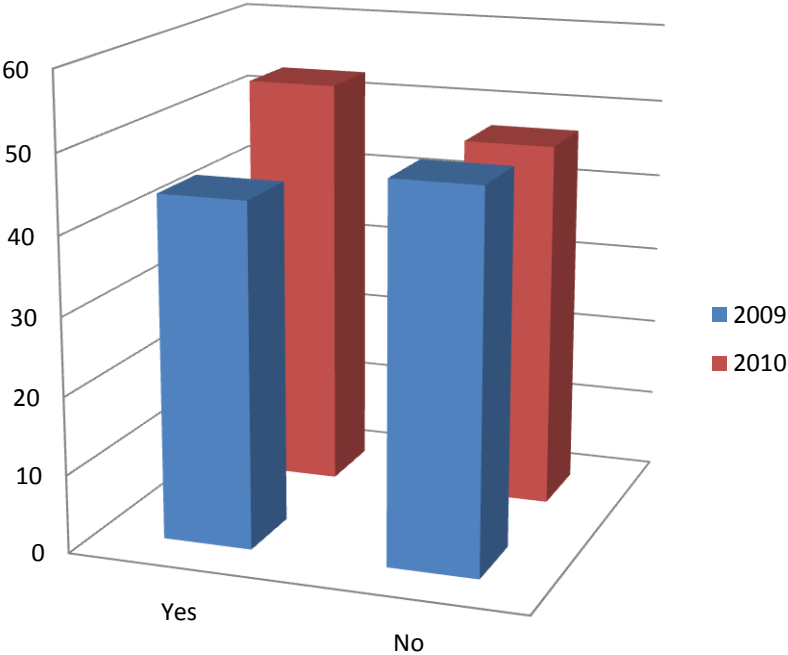
Would a practical based entirely on microscopic animals have been helpful to you?



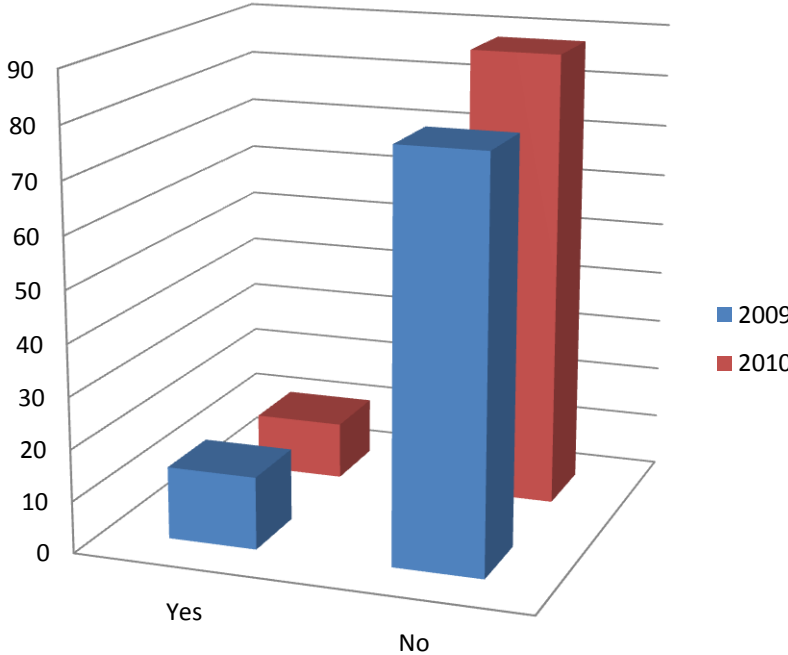
Would a practical based entirely on museum specimens be helpful to you?



Did you expect to be using museum specimens when you came to university?

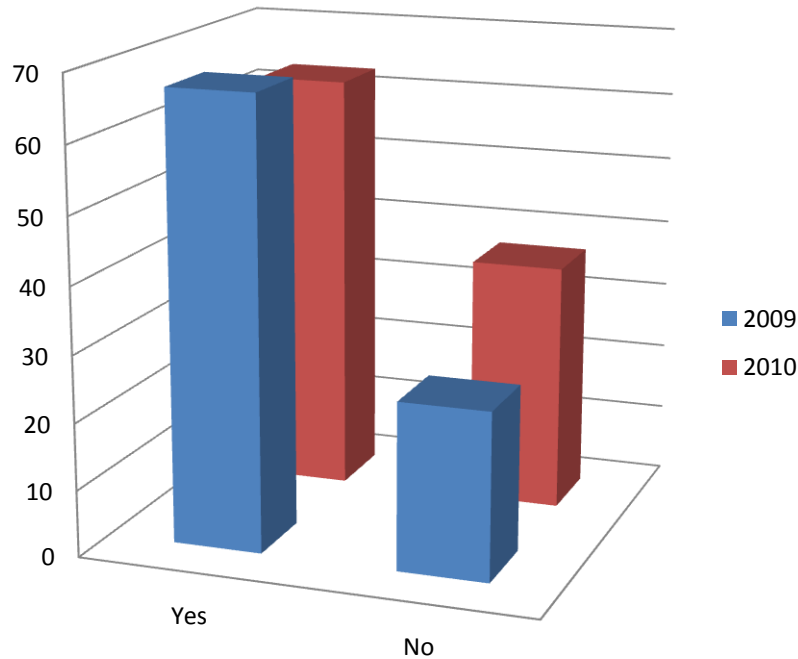


Did you expect more computer-based learning when you came to university?

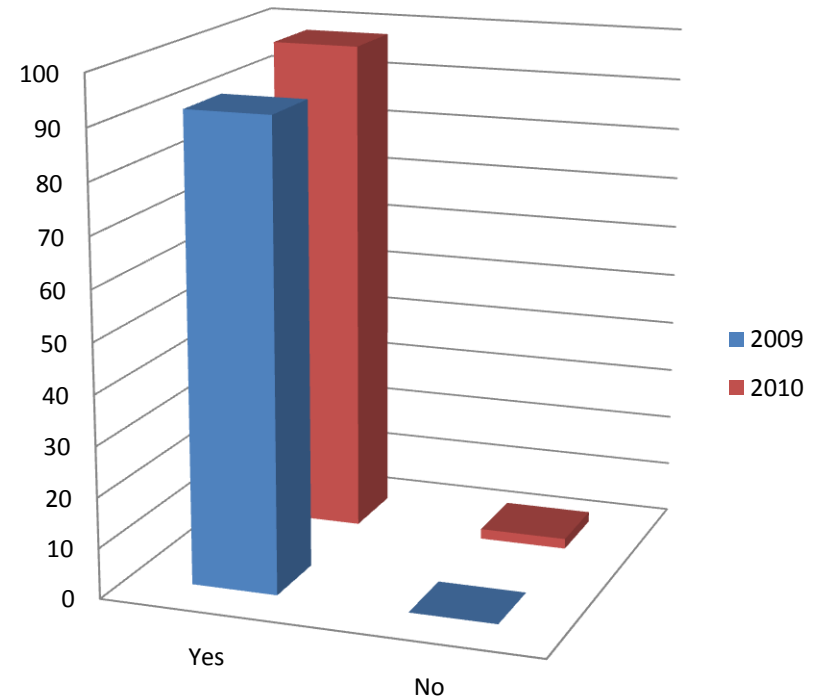


Yes/no questions

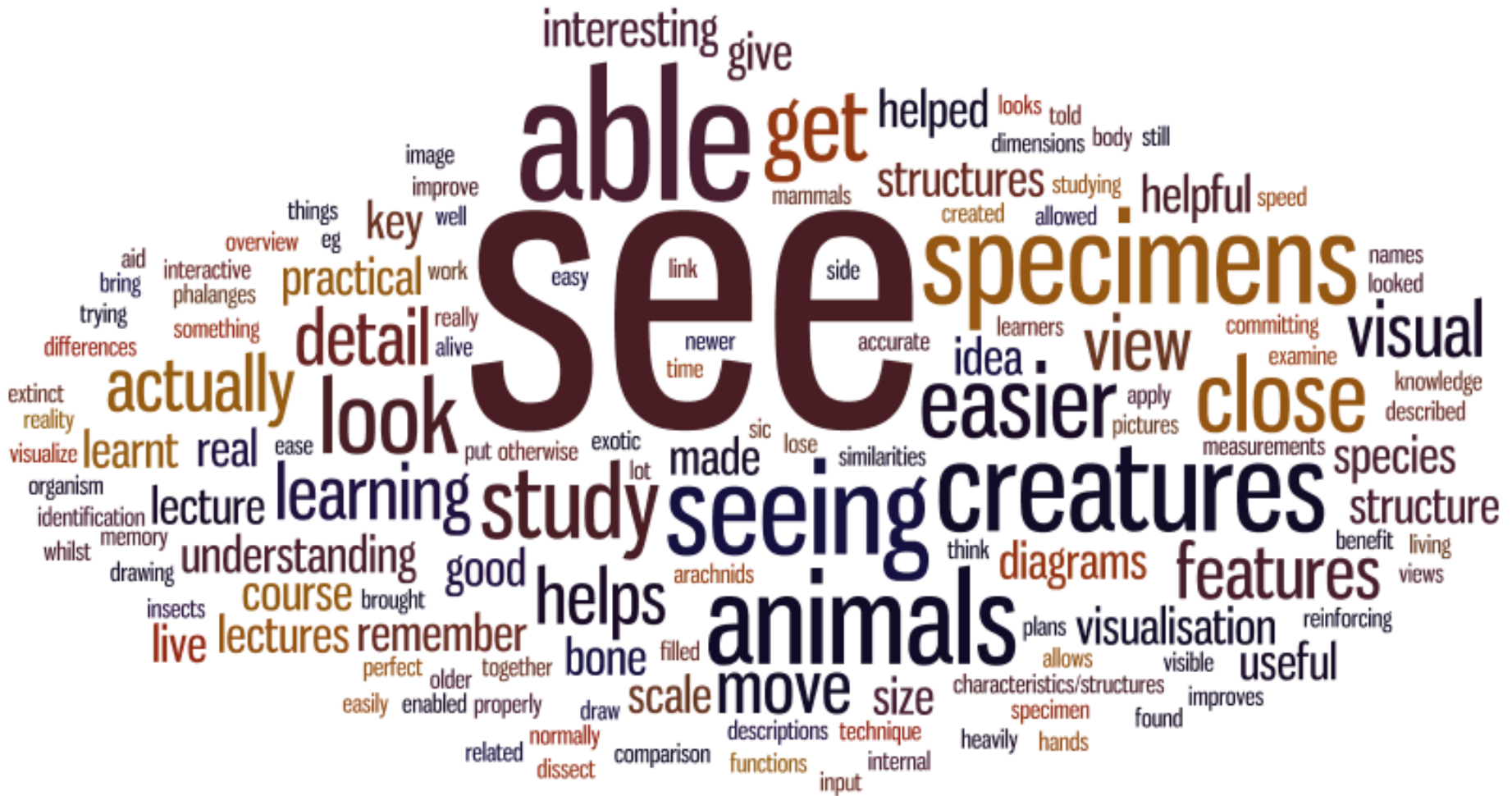
Would it be helpful to you to have more time to study the specimens?



Did you find the museum specimens to be well presented?

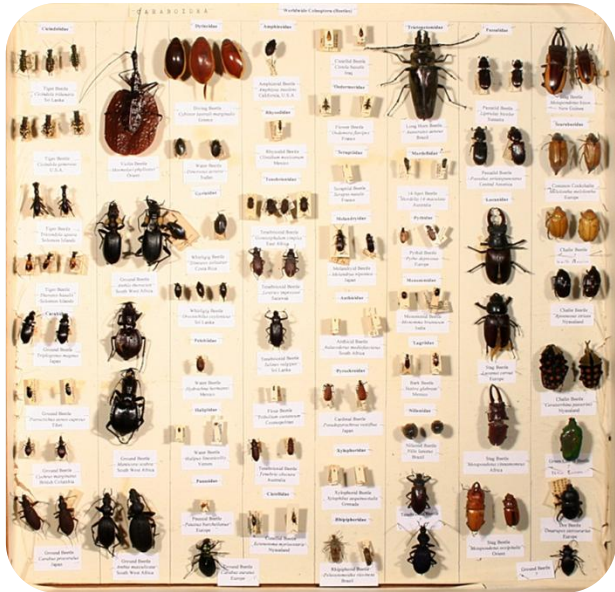


Benefits 43 responses 73%
(Wordle)



Improvements 28 responses 48%





DeBeer, G. R. (1928) Vertebrate Zoology. Sidgwick and Jackson, London.

“There are two methods of teaching zoology. One method is to deal with a limited number of selected types one by one, and the other is to compare corresponding parts of a number of different animals.”

He later adds:

“It cannot be emphasised too much that zoology is the study of animals and not the study of books written about them.”

Volunteering (Advantage award accredited)



Outreach



Acknowledgements

- Jane Falk-Whynes, Maggie Ambrose & Phil Kinsman
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