Peer assessment of Group Work in a Large Level 1 Biology Class

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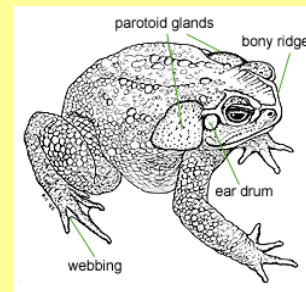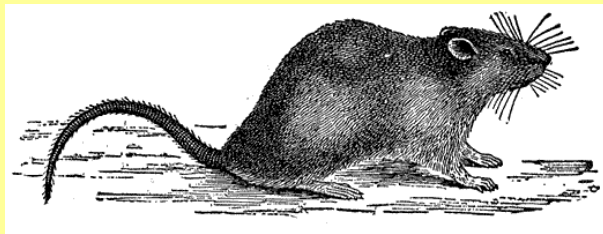
Level 1 Biology Class

- 600 - 700 students
- 14 laboratory classes
- approximately 48 students per lab
- each lab has 6 groups of 8 students
- total of 84 groups
- the students are assigned a lab position at the beginning of the year and this determines their group

Lifestyle Assignment

- AIM: To investigate and evaluate the lifestyles of
  (a) species other than humans and
  (b) humans in other parts of the planet

- GROUP WORK:
  (a) debate
  (b) poster

Debate

- based on Darwin's dilemma

- argue case for elimination of species of choice which is too damaging to planet

- argue case for preserving species chosen by another group

- EXAMPLES:

Poster - comparing lifestyle of people in Britain with that of another country

Previous experience of peer assessment in smaller class

- used paper forms for students to allocate peer marks out of 10 to all other members of the group

- very time consuming to enter marks into spreadsheets

First attempt

- debate & poster given mark (y) out of 100

- mark multiplied by number (n) in group to give total group marks (yn)

- students required to divide these marks communally between members of group

- STUDENTS DID NOT LIKE THIS

Pre-requisites of peer assessment scheme

- acceptable to staff
  - easy to administer
  - reliable

- acceptable to the students
  - confidential
  - fair

Operational rules

- compulsory to return form - no marks for project work if not returned

- groups elect leaders

- group leaders required to return attendance lists which can be used by staff if marks are disputed

Web forms

- Students e-mailed a unique URL code made from name and matric number

- This gives access to individual form with list of other group members and spaces for marks

- Students complete forms on-line

- Forms have built in validation so that all fields must be completed

- Marks processed using Excel

Calculation of peer assessed marks

- Group given mark (**y**) out of 100

- Multiplied by number of students (**n**) in group to give total group mark (**yn**)

- Students give each other a mark out of 10

- These averaged to give each student a peer mark (m_i)

- Obtain sum of peer marks $\sum_{i=1}^{n} m_i$

- Final mark for student (i) $= \dfrac{m_i}{\sum_{i=1}^{n} m_i}\, yn$

Example 1

- Group of 3 students is given 60% for their poster & debate

- All students in group give each other the same mark 7 say

- Each has average peer mark of 7

- Each gets a final mark of

$$\frac{7}{(7+7+7)} \ \textbf{x 3 x 60} = \textbf{60\%}$$

Example 2

- Group is given 60% for poster & debate
- James gets average peer mark of 5
  Laura gets 8
  Fiona gets 7
- Final mark for James is $\dfrac{5}{(5+8+7)}$ **x 3 x 60 = 45%**

- Laura $\quad \dfrac{8}{20}$ **x 180 = 72%**

- Fiona $\quad \dfrac{7}{20}$ **x 180 = 63%**

Concluding comments

- Scheme takes into account whether the students are harsh or lenient markers
- Students liked scheme
- Staff found scheme easy to operate
- Programming for web forms and Excel calculations not difficult but does require someone with suitable experience