

Aropä

- ▶ A software programme that allows student peer review of written work. (Nicol, 2010; Juwah *et al*, 2004).
- ▶ Level I Biology has approximately 600 students each year. It is not possible for staff to give formative feedback to each student on their written work in a timely way .
- ▶ In the present environment of the University with large class sizes and student to staff ratios the lack of time is not entirely surprising and has been highlighted by several individuals (Race, 2001, Harland, 2007, Glover and Brown, 2006).
- ▶ One way to improve student interaction with feedback is for feedback from the first assignment to 'feed-forward' to the next (Brown, 2007).
- ▶ Student scientific writing skills has been identified as an area that requires improvement within the School of Life Sciences

Nicol, D. 2010. 'The foundation for graduate attributes: developing self-regulation through self and peer-assessment' Quality Assurance Agency for Higher Education report.

Juwah, C., Macfarlane-Dick, D., Matthew, B., Nicol, D., Ross, D. and Smith, B. 2004. 'Enhancing Student Learning Through Effective Formative Feedback' HEA Resource Guide

Race, P. 2001. 'Using feedback to help students learn' [online] www.heacademy.ac.uk/resources/detail/resource_database/id432_us (accessed 12/2/10).

Harland, J. 2007. 'Feedback to large practical classes' The Higher Education Academy Centre for Bioscience Bioscience Bulletin No 22. Available at www.bioscience.heacademy.ac.uk

Glover, C and Brown, E. 2006. 'Written Feedback for Students: too much, too detailed or too incomprehensible to be effective?' Bioscience Educational journal [online] www.bioscience.heacademy.ac.uk/journal/vol7/beej-7-3.pdf. (accessed 14/4/10)

Brown, S. 2007. 'Feedback & Feed-forward' The Higher Education Academy Centre for Bioscience Bioscience Bulletin No 22. Available at www.bioscience.heacademy.ac.uk. Jones, H.L. 2008. Developing students' writing skills: the Science log. *Centre for Bioscience Bulletin* 25, 2. and Covington, R.N. 1963. *The development of the Vanderbilt legal writing programme*. *Journal of Legal Education*, 16, 342).



Aropä task for Level 1 Biology

- ▶ There were no marks associated with completion of the Aropä task.
- ▶ The task was to submit an introduction for the Human Energy Metabolism (HEM) lab report.
- ▶ The full lab report is worth 15% of the overall course Grade.



Aropä Level 1 Biology

The students were introduced to Aropä by Dr Amanda Sykes, the Effective Learning Adviser.

- ▶ How to log on to Aropä
 - Screenshots were shown and these were available on Moodle
- ▶ Advice on how to review work
 - Be constructive and suggest positive changes
- ▶ Self-reflection was also encouraged
 - Think about your own work in relation to the rubric
 - Think about your own work in relation to the work you mark
- ▶ Deadlines were given

A lecture titled 'Preparing a Lab Report' was also delivered. This detailed the Lab Report Marking Scheme and repeated the Aropä details and deadlines.



Aropä task for Level 1 Biology

- ▶ Two weeks after the HEM Lab practical students were asked to submit their introduction for their lab report onto Aropä (approximately 100 -200 words).
- ▶ After the submission deadline Aropä sent 3 anonymous student submissions to each student who had submitted their own introduction.
- ▶ A marking Rubric was included to direct students when they click to review an introduction.
- ▶ The rubric contained 3 click boxes asking specific questions. Each question also included a free response box for further, specific detail about the work.





Active

Click to de-activate

EDIT ASSIGNMENT

EDIT RUBRIC

LABEL RUBRIC

SPECIFY ALLOCATIONS

MANAGE EXTENSIONS

MONITOR SUBMISSIONS

MONITOR REVIEWING

VIEW ALL FEEDBACK

DOWNLOAD ALL SUBMISSIONS

CALCULATE GRADES

IMPERSONATE OTHER USER

Biology 1A HEM Lab Report Introduction (#254)

Submissions end on **5pm 4 Nov 2011**

Reviews end on **5pm 9 Nov 2011**

Submission requirements are:

- o a file of type PDF/Word

Authors **will not** review their own work

Author identity **will not** be revealed to reviewers

Authors should see **comments and marks** in the feedback from the reviewers

Reviewing will use the rubric **Biology 1A HEM Lab Report Introduction Bio1001, S1, 2011**

Allocations are **normal**

Authors are **everyone in the class**

Reviewers are **those who upload a submission**

Each reviewer should mark **3 reviews**

1404 allocation records were created on **5pm 4 Nov 2011**

[Return to the course page](#)

Marking rubric for Lab Report Introduction.

Write at least one sentence in relation to each of the following three assessment criteria sections and assign a mark for each section according to the scales below.

Each section outlines a number of factors for you to consider in relation to grading and commenting on that section. These comments should highlight ways in which you believe the author could improve their introduction.

1. Does the writer clearly detail the aims of the HEM Laboratory?

- Poor: inadequate, shows a lack of understanding
- Just adequate: some gaps
- Good: covers most things
- Very good: covers every thing, comprehensive
- Outstanding

Explain your mark in the box below:

2. Is there clear evidence of external, relevant and up-to-date research?

- Yes
- No
- Unsure

Explain your mark in the box below:

3. Do you feel the introduction covers all the necessary detail? I.e. it gives the reader a good introduction to the whole topic.

- Yes, completely
- Mostly
- No
- Unsure

Explain your mark in the box below:

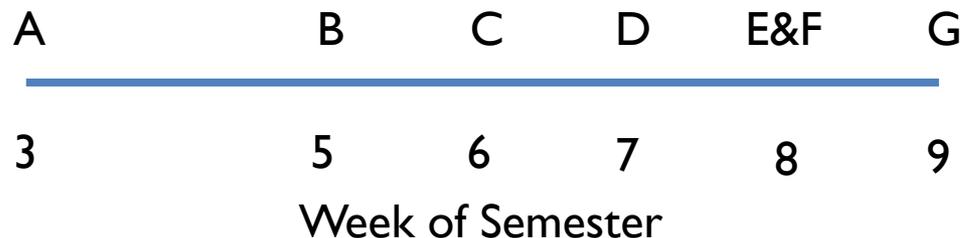
Save

Cancel



HEM lab report Timeline

- A. Aropä software intro to the students (4th October)
- B. HEM lab (18th -21st Oct)
- C. Aropä Reminder - Lecture on how to write a lab report (27th Oct)
- D. Aropä submission deadline (4th Nov)
- E. Feedback submission deadline (5pm, 9th Nov)
- F. Receive Peer Feedback (> 5pm, 9th Nov)
- G. Submit HEM lab report (18th Nov)



Aropä Level 1 Biology Class participation

- ▶ Number of Students in class – 560
- ▶ Number of students submitting an introduction - 468
- ▶ Number of reviews received by students – varied from 1 to 3
- ▶ Number of students changed their introduction after using Aropä, both in response to the peer feedback and and reviewing others' work – 173/345 or 50%



Aropä and Hem Moodle traffic

Discussions on the Biology IA Moodle site moodle forum.

- ▶ No of HEM lab discussions **37**
 - ▶ Student answered in all but 1 occasion.
- ▶ No of Aropä specific discussions **6**
 - ▶ Students answered in all but 1 occasion.
- ▶ 32% of all moodle discussions were related to the HEM lab report



Introduction of Aropä : Impact on BTC Staff Time

- ▶ Initial set-up of course
 - ▶ adding student email addresses
 - ▶ creating the marking rubric and feedback questions.
- ▶ During the activity
 - ▶ One minor change to the set-up
 - ▶ Monitoring Moodle traffic on the general forum.



Evaluation of Aropä in Level 1 Biology

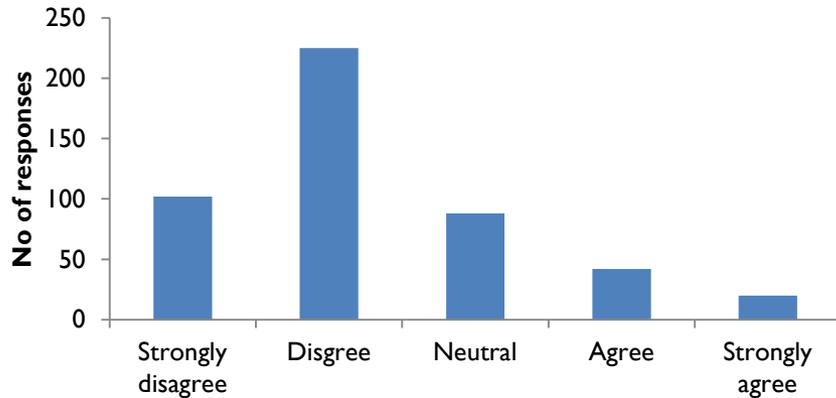
End of course questionnaire ask for student responses on the following questions:

1. Aropä was complex to use
2. The Aropä exercise did not help me improve my scientific writing
3. I agreed with the feedback I received
4. Peer feedback is a good way to learn
5. The feedback I received was
 - a) Helpful
 - b) Negative
 - c) Varied between markers
6. I ignored the feedback I received on Aropä

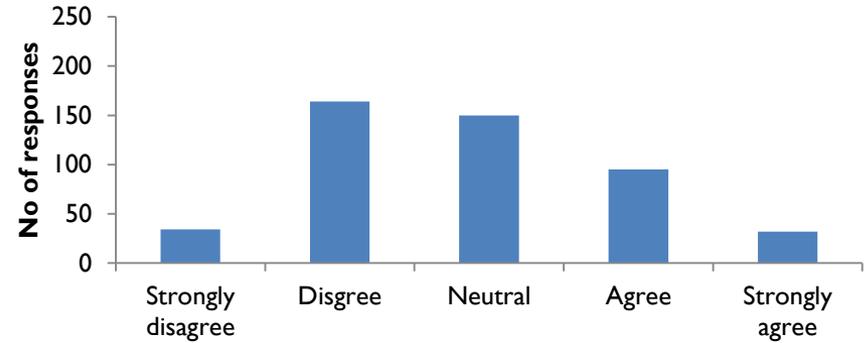


Evaluation of Aropä Level 1 Biology

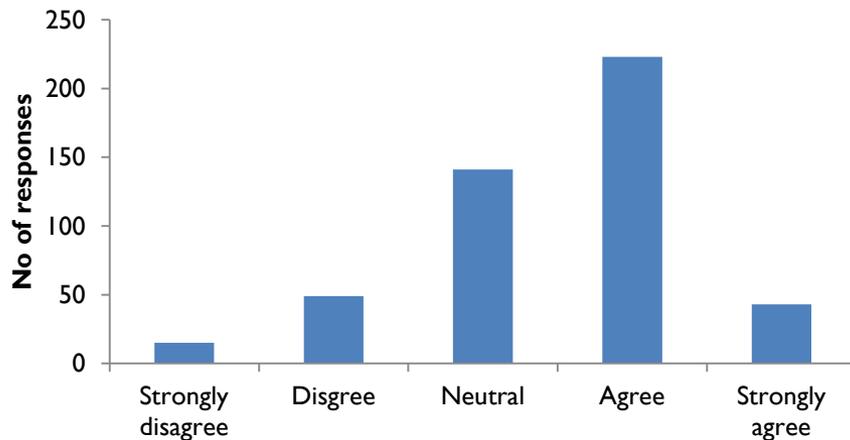
Aropa was complex to use



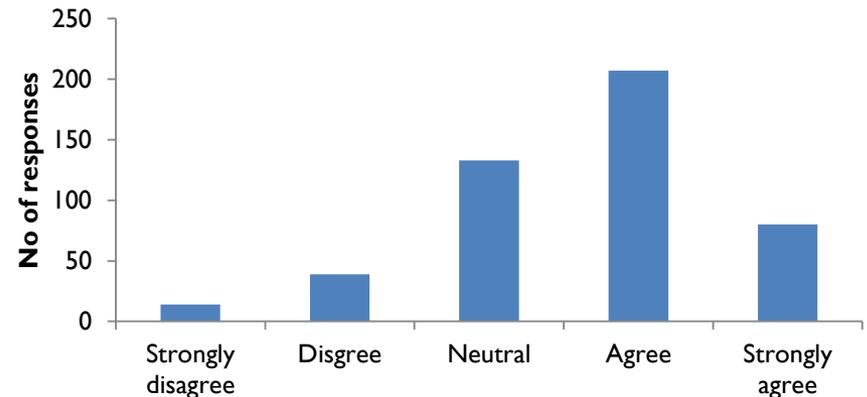
The Aropa exercise did not help me improve my scientific writing



I agreed with the feedback I received

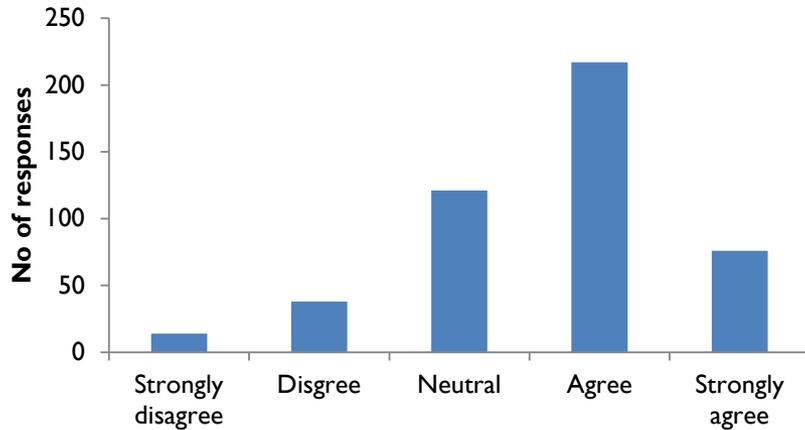


Peer feedback from Aropa is a good way to learn

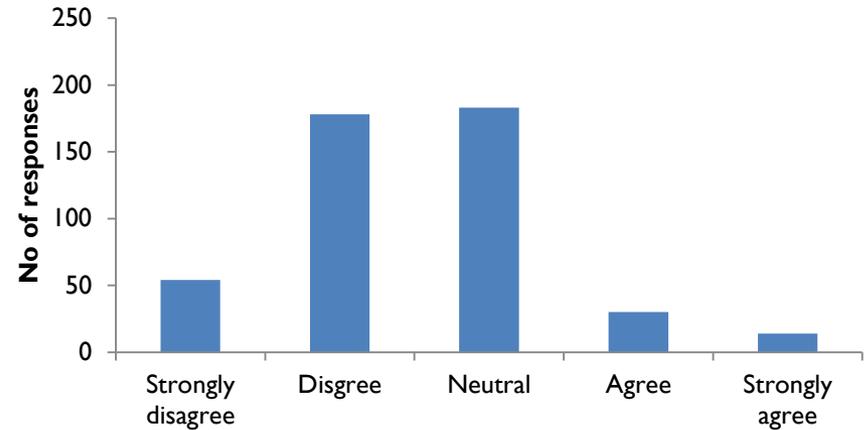


Evaluation of Aropä Level 1 Biology

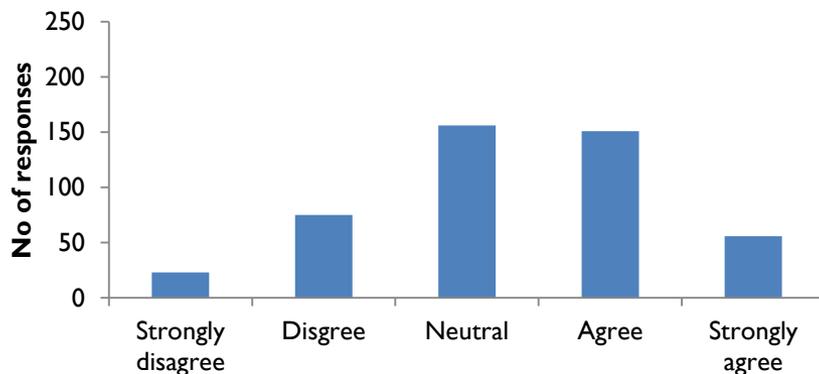
The feedback I received was helpful



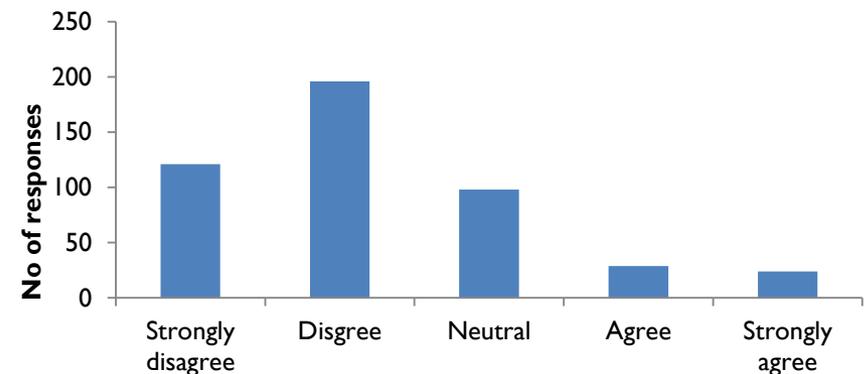
The feedback I received was negative



The feedback I received varied between markers



I ignored the feedback I received on Aropa



Student Comments (n=43).

- Aropä was useful for my scientific writing (10 Responses)
- Contradictory feedback received (10 responses)
- Did not receive 3 pieces of feedback (8 responses)
- Aims of the report were not clear (4 responses)
- ▶ Not confident about peer review (3 responses)

“Unfortunately I only received one feedback form instead of the expected 3. Not too sure why and it struck me as a little unfair that other students received more. This may have meant that my experience with Aropä like my feedback received, was limited. However, overall, Aropä proved useful and it a great way to visualise how your work can be seen & marked by others.”

“My experience of Aropä was mixed. As a tool I think it could be extremely useful, but due to the mass confusion of how best to write the first lab report its perhaps not the best time to use it. The feedback I received was extremely positive.”

“It's nice to take a peek on what others write, but I found this exercise to be only one more useless deadline.”



Further Evaluation to be done:

- ▶ Compare the introductions submitted by students to Aropä to the final introduction as part of the lab report:

Criteria to be examined

- Content: Aims
 Relevant Research
 Word Limit
- Grammar
- References

The marking criteria for students and staff.



Aropä in a Level 3 course

A new assessment was designed for L3 students with a focus on developing writing skills and confidence.

Aropä was employed as a system for students to 'build' towards their final submission and receive peer feedback on their preparatory work.

Task 1: **Aropä task.** Describe what you know about S phase of the cell cycle (300-500 words).

Task 2: **Aropä task.** Describe what you know about tumour formation (300-500 words).

**Assessed:
Work** Describe in detail the various phases of the cell cycle, highlighting where errors can lead to tumour formation (Up to 1,500 words). **Submitted through Turnitin.**



When Marking

...think about:

1. Writing feedback you would find useful
2. Making your comments **CONSTRUCTIVE**
3. Making suggestions for positive changes
4. Your own work in relation to the rubric
5. Your own work in relation to those you mark

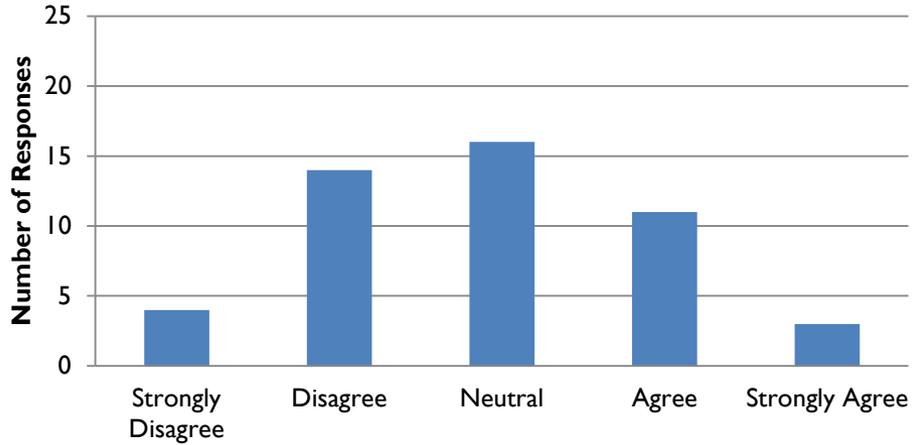
Remember Aropä is anonymous but your contributions can be monitored.



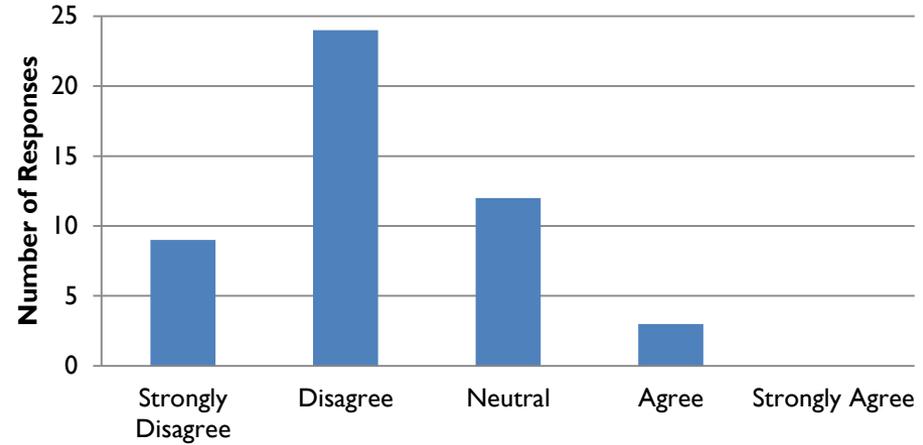
Evaluation of Aropä - Level 3

Unfortunately only four students participated in the pre-submission tasks.

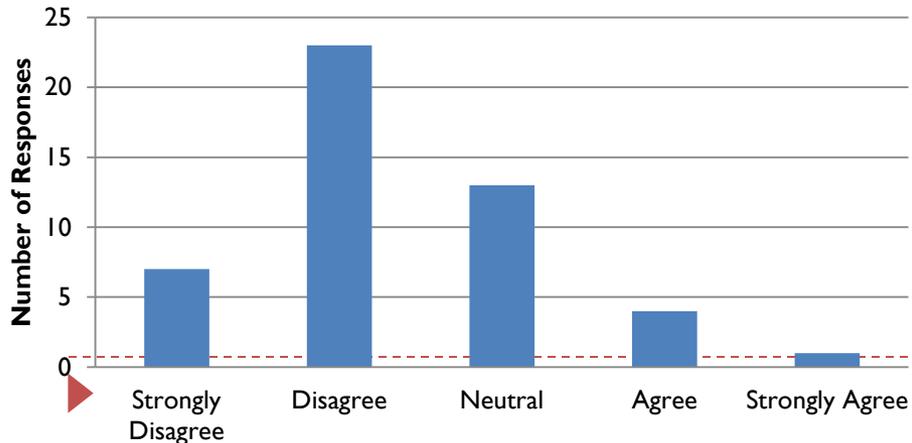
Q1. I am unsure what is required to create a 'good' piece of scientific writing. (n=48)



Q2. There is little/no benefit to me in receiving peer feedback on my written work. (n=48)



Q3. There is little/no benefit to me giving peer feedback on another student's written work.



Responses for not participating in Aropä exercise.

- Too close to deadlines for graded work. As Aropä was ungraded other work took priority. (37 Responses)
- Not aware of Aropä deadlines in time. (6 responses)
- Do not see the benefit of peer review. (4 responses)
- No-one else in the class was doing it. (2 responses)
- Did not want other students seeing my work. (2 responses)
- Too time consuming. (1 response)

“peer-review: I would have participated if staff were also involved. If staff appear disinterested would you expect the students to behave any differently?”



Responses from students who did engage with Aropä

Three of the four students responded. Their responses indicate that:

- They all found Aropä simple to use.
- They all believe the exercise improved their scientific writing.
- They all agreed with the peer feedback they received on their work.
- They used the feedback to improve their work.

“Aropä is actually a good material to use, because its another way of practising what you need to do before your full/real assignment begins. However, i think there was an issue of when should these mini assignments be handed in, as the timing was too early for some of us....and sometimes peer reviews can appear to be positive but not honest.”

