

Case Study

15 days that changed the world: Getting students to appreciate feedback within tight marking deadlines

Jeremy Pritchard

School of Biosciences, University of Birmingham

Summary

'It is well known that the more rapidly feedback is provided to students the more useful it is to aiding their learning and the better appreciated it is. However a challenge is providing feedback to large cohorts on extended pieces of work in a timely manner so that it can be used to inform their learning. Here we report on an approach used within the School of Biosciences that uses a series of formative feedback exercises to develop understanding and skills as students approach the final summative assessment.'

Separating grading from feedback

As academics we spend a lot of time providing a summative grade along with feedback at the end of an assessment. Combining the summative (grade) and formative (feedback) components of the assessment does not maximise the impact of this information on the students' performance (Barton, Schofield, McAleer & Ajjawi, 2016). In programmes constructed from individual modules students do not see feedback as useful to improve their grades in the future (so-called feed forward). As academics we may ourselves be guilty of giving the impression that the grade is more important than the learning that preceded it (Morrell, 2014). Indeed it has been suggested that provision of summative grades may in fact reduce or dilute the perceived value of the associated formative feedback; for example, '*A grade therefore may actually be counter productive for formative processes*' (Sadler, 1989). Additionally, the process can be inefficient as feedback may only be read if the summative mark does not match the mark that was expected (Wojlas, 1998). Thus, in providing feedback that is not necessarily used to improve learning, we are potentially wasting time if that feedback is not used by students to '*monitor, evaluate and regulate their learning*' (Barton et al., 2016).

The more rapid the feedback the more useful it is to students and the better appreciated it is (Robinson, Pope & Holyoak, 2013). Partly as a result of this paradigm it is now a requirement at the University of Birmingham that marks and feedback are returned to students within 15 days from submission, including moderation and office time. While rapid feedback is a general aspiration there is a danger that to satisfy the requirement for speed, the provision of quality feedback could be challenging. There is a potential solution; school teachers do not provide summative and formative feedback together at the end of an assessment. Rather, a series of formative exercises develop understanding and the necessary skills prior to the final summative assessment. The final piece of work is graded and marks returned, often without any additional feedback.

This report describes a second-year plant biology module (designated Bio237) in Biosciences in which the in-course assessment consists of a formal scientific write up of a practical project. There are 80 students on this module; it was decided that it would not be possible to mark 80 scripts and return them with meaningful individual feedback within the 15 day requirement. A decision was made to separate the formative training from the final summative assessment.

There was a danger that students would negatively view the lack of feedback at the end of the assessment. However, in an alternative approach, formative feedback can be provided in advance to help students improve their performance as they approach the summative

assessment. Such advance 'training' allows students to reflect on the feedback they get as the module progresses. In the current Bio237 exercise the training for the summative assessment came from two sources: 1) experience in previous modules (for example, reflection on previous feedback) and: 2) direct training in the current module.

Formative training for the practical write up (see Appendix 1)

The first piece of feedback the students were expected to reflect on and use in the current assessment was the comments and experience they received in a first-year module that formed a prerequisite for the Bio237 module. This assessment consisted of a write up of experimental data in a shortened format with clear criteria that mirrored some of the components of the required full scientific write up.

A detailed set of criteria were presented to the students before the experimental work for the second-year module commenced. Thus the students were aware in advance of the purpose, direction and expected outcomes of the practical component of this module. Once practical work was complete, a series of face-to-face workshops and online sessions developed the skills the students would need in the final summative assessment. An exemplar paper on a different topic from the practical activities was provided to illustrate best practice. Students also looked at abstracts from real scientific papers and identified the components of these. They then wrote an abstract of the exemplar paper and received feedback on this through peer marking. Finally, an abstract of the exemplar paper was provided.

A marking session was held where students marked a set of anonymous exemplar write ups from previous years' modules. The exemplars were subsequently put on the VLE (Canvas) with an oral (audio) commentary, indicating the good points and where the work could have been improved. Students were then provided with a set of detailed marking codes that had been compiled from generic feedback on the same exercise over previous years. Students were encouraged to use these codes to critically mark drafts of their own work before final submission.

Before students were encouraged to begin the final write up, each practical group was required to submit a one-page proforma detailing the title, objectives, methods, results and the main conclusions. The objectives of this part of the exercise were twofold: firstly to ensure all the members of the group were aware of the data they had collected, and secondly to emphasise the formal structure of the paper before writing would begin in earnest. To highlight the marking criteria, rubrics for each sub-component of the paper (eg, title, abstract, introduction, graphs, etc.) were set up on Canvas SpeedGrader. These rubrics reinforced the criteria encapsulated in the previously circulated marking codes.

Marking on SpeedGrader

The grading was the key aspect of this approach with the rationale being that solely grading a submission would be rapid, in contrast to having to also provide individual feedback. Once underway it was clear that grading was indeed fast, taking about ten minutes per paper. Grading 80 scripts took a total of just over 13 hours, whereas if also providing detailed individual feedback this would have been over 45 hours.

Marks analysis and feedback to students

A Microsoft Excel file of student marks, broken down into the individual rubrics, was downloaded and used as the basis of a mail merge (Pritchard, 2014). Each student was emailed their scores breakdown and class ranking along with some generic feedback compiled while marking. Tweets using the module hashtag #Bio237 were also used when the marks had been released and emphasised how quickly after the submission deadline this was:

'#bio237 @UoBbiosciences practical write up marked & moderated. Check email for mark break down. Hand in was 14th Jan, marks back in 7 days...'

Student reception of the marks and feedback

Less than 30 minutes after the email went out a student emailed back asking for a personal meeting to get more personal feedback. The student was responded to positively but there was a concern that this may be the beginning of a larger response from students that would completely undermine the approach: if students had not recognised the formative feedback during the module then the approach would not have been successful. Two more emails came in, both with specific questions about a sub-component of the marks. Replies were sent including examples of best practice that addressed their specific questions.

It is difficult to get any feedback from students on this assessment strategy since Module Evaluation Questionnaires (MEQs) are completed before module assessment has taken place. However it was encouraging to receive communication via Twitter that came following the release of the marks in from students who had taken the module, for example:

'@DrJPritchard @UoBbiosciences unbelievably quick turnaround with mark break down and detailed feedback, how did you do it?'

To evaluate student perceptions of the feedforward process in more detail a retrospective quiz was undertaken which shadowed questions from the MEQs, asking the students for their view on the process now they had received the marks. The numerical scores were good, with high positive scores which were generally higher than the scores for the equivalent questions in the whole module evaluation undertaken before students had submitted the assignment (Appendix 2). Indeed the question 'I had access to materials (eg, online material criteria, exemplars etc.) that helped me prepare for the write up' had a score of 4.9 (where 5 is 'Strongly agree'). The question 'I received marks and feedback in time to help me improve subsequent assessments' received a score of 4.7.

The free text comments showed a divergence of opinion, with some students clearly understanding the point of the process:

- *'The sessions we had on the write up allowed me to consolidate the learning in the labs and understand what I needed to write.'*
- *'Knowing the assessed criteria was extremely helpful in producing the write up as it gave me more confidence in the standard of the work I submitted.'*
- *'Rapid feedback also very good as the sooner you can identify areas to improve when doing scientific writing the better!'*
- *'... guidance and information given prior to the write up submission was very helpful... a great opportunity to practice and gain feedback before writing our specific experimental versions.'*
- *'Marks were returned to us extremely quickly which was much appreciated as this work provided a good guide on progress in scientific writing and could be used to benefit other assignments and modules.'*

- *'Abstract session and practice abstract was brill – I had never written an abstract before so the feedback received and the chance to read others abstracts was very helpful.'*

However some were less positive, not recognising the value of the feedback provided in the advance workshops:

- *'To me, getting at least some personalised feedback on the final submission is significantly more important than receiving my mark within the week.'*
- *'Being given the various feedback codes and then them not being used at all was a bit weird.'*

Clearly these students had not been convinced by the rationale of the process. These latter comments suggest that some students are relatively passive and are not able to reflect, despite the clear training and criteria provided in this module. However, the generally positive scores and comments indicated that the approach had been successful in providing a rapid return of marks and useful feedback/feedforward.

Conversations with students also identified an unintended consequence: a breakdown of marks had been provided for each of the individual rubrics rather than a single overall mark (Appendix 2). From individual questions received from students after release of the marks it was clear that they saw these rubric marks as feedback. Reflective students were able to identify where they were not performing and use the formative material and generic feedback to identify where they could improve next time. A couple of students asked for clarification, but this was not about why their overall mark was low but focussed on a specific part of the assessment where the component mark was poor. Thus even these students were developing reflective skills within the feedback framework. This process could be taken further in subsequent iterations by including an additional requirement for a post-mark reflective piece by each student.

Final reflections

The strategy to separate grading from feedback seems to have been successful. Marking and the return of marks was well within the 15 days deadline. Student reaction was positive and the overall quality of their work was good. There was no significant reduction in the overall mark for this practical write up in comparison to previous years: in this session the average mark was 71.6 ± 5.7 which was not significantly different ($P > 0.05$) from the same assessment in 2014/15 where the average mark was 73.4 ± 9.4 . While some students have been in touch to question their mark, and required more individualised feedback, there have not been many instances of this and the questions have been directed and indicate reflective use of the mark breakdown. This approach was more efficient than written feedback that would have been repetitive and largely unread and is consistent with the view that formative feedback allows students to engage with material without the fear of the summative grade (Elawar & Corno, 1985).

Despite the apparent success a final student comment is slightly exasperating(!):

- *'Impressed with the fast turn around of marks, however as they were returned in one week, why not utilise the other two weeks available to provide some personal feedback/comments as well?'*

References

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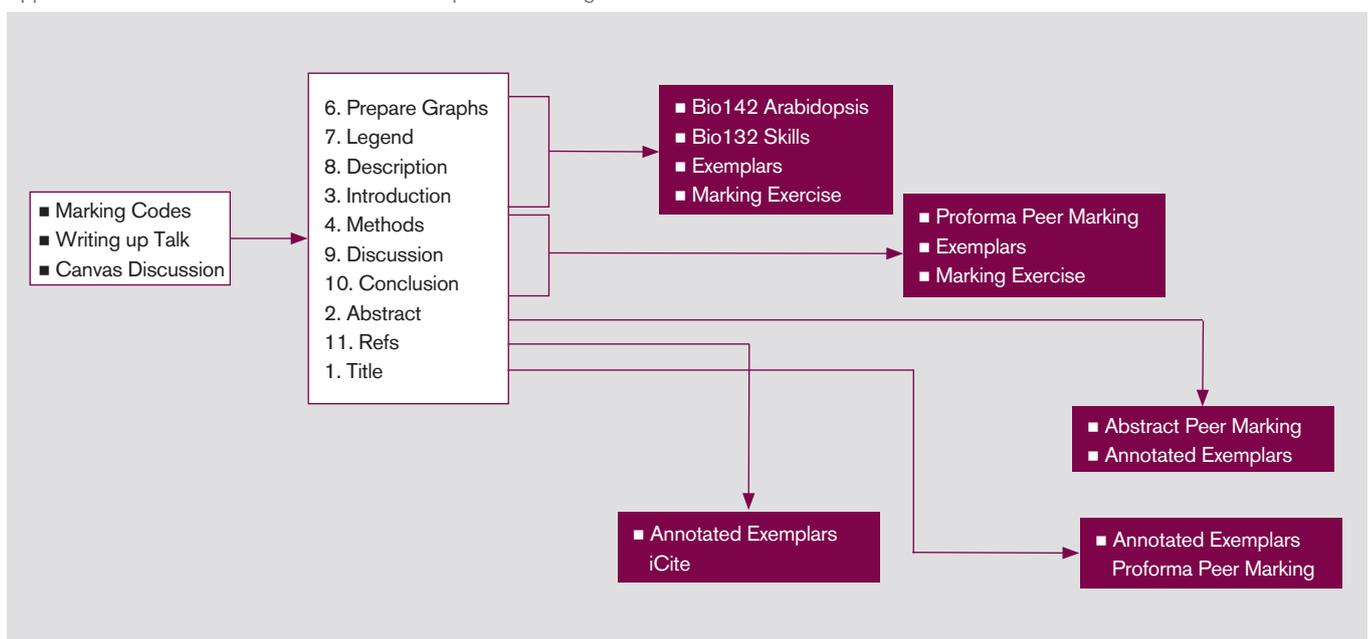
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Appendix 1 – Sources of feedback/feed forward provided during and after the Bio237 module.



Appendix 2: Post-assessment quiz

This quiz was posted a week after the assessment had been returned to the students. The figures in brackets are the average score for the related questions in the MEQ that was completed before the practical write-up, hand-in and return of marks. Students would have undertaken the training workshops at this point but not yet started the writing up.

Question	Mean Score 5 = strongly agree 1 = strongly disagree
I found the teaching methods used in the practicals were effective in helping me learn	4.3 (4.1)
I had access to materials (eg, online material criteria, exemplars etc.) that helped me prepare for the write up	4.9 (4.6)
Assessment requirements/criteria for the practical write up were made clear to me	4.9 (4.4)
I received advice and feedback that helped me to understand how to write a practical report	4.7 (4.5)
The practical and associated write up helped develop key skills I will need in the future (eg, data analysis, practical skills, numeracy, scientific writing, presentation, group work)	4.5 (4.5)
I received marks and feedback in time to help me improve subsequent assessments	4.6 (NA)
The marks breakdown and generic feedback have helped me identify where I can improve in subsequent assessments	4.3 (NA)