

Engaging Students in Peer Review: Feedback
as Learning

Catherine Moore*

Susan Teather†

*Edith Cowan University, c.moore@ecu.edu.au

†Edith Cowan University

Copyright ©2012 by the authors. *eCULTURE* is produced by The Berkeley Electronic Press (bepress). <http://ro.ecu.edu.au/eculture>

Engaging Students in Peer Review: Feedback as Learning

Catherine Moore and Susan Teather

Abstract

There is a growing interest in developing the capabilities of learners to evaluate and improve their own work, as well as that of others (Boud & Falchikov, 2006; Oliver, 2011). At ECU our new undergraduate curriculum framework titled Curriculum 2012: Enabling the learning journey promotes the active engagement of students in assessment for learning. In order to successfully direct their own learning beyond university, students need to be able to identify the standard of performance to which they should aspire as a result of that learning, accurately locate where they are in relation to the standard, and then develop pathways to bridge the gap. Feedback is a mechanism that is designed to support that process. Feedback that does not suggest ways to improve and does not result in change is merely, as Sadler (1989, p. 121) so aptly describes it “dangling data”. In this paper the authors define feedback as a loop, meaning that feedback can only be said to have occurred when there is some identifiable influence on the recipient of the feedback (Boud & Molloy, 2012). If feedback results in improved performance we can say that learning has occurred. This paper describes how peer feedback was embedded in curriculum design in a third year social studies unit. Pre and post surveys of students reveal their response to the requirement that they actively engage in evaluation and feedback and suggest how academic work can be used to develop students’ capacity to direct their own learning in their lives and careers after graduation.

Engaging Students in Peer Review: Feedback as Learning

Catherine Moore
c.moore@ecu.edu.au
Susan Teather

Abstract: There is a growing interest in developing the capabilities of learners to evaluate and improve their own work, as well as that of others (Boud & Falchikov, 2006; Oliver, 2011). At ECU our new undergraduate curriculum framework titled Curriculum 2012: Enabling the learning journey promotes the active engagement of students in assessment for learning.

In order to successfully direct their own learning beyond university, students need to be able to identify the standard of performance to which they should aspire as a result of that learning, accurately locate where they are in relation to the standard, and then develop pathways to bridge the gap. Feedback is a mechanism that is designed to support that process.

Feedback that does not suggest ways to improve and does not result in change is merely, as Sadler (1989, p. 121) so aptly describes it “dangling data”. In this paper the authors define feedback as a loop, meaning that feedback can only be said to have occurred when there is some identifiable influence on the recipient of the feedback (Boud & Molloy, 2012). If feedback results in improved performance we can say that learning has occurred.

This paper describes how peer feedback was embedded in curriculum design in a third year social studies unit. Pre and post surveys of students reveal their response to the requirement that they actively engage in evaluation and feedback and suggest how academic work can be used to develop students’ capacity to direct their own learning in their lives and careers after graduation.

Introduction

Feedback is a high-profile issue in higher education. In Australia the Course Experience Questionnaire (Krause, Hartley, James & McInnis, 2009) indicates that graduates are more dissatisfied with feedback than any other feature of their course. A challenge for higher education is to reposition feedback as “a practice that has a positive and sustained influence on learning” (Boud & Molloy, 2012, p. 2).

It is essential for students to be provided with effective and appropriate feedback as this motivates and improves learning (Pearce, Mulder & Baik, 2009). Feedback that focuses on “growth rather than grading” (Sadler, 1983, p. 60) is far more likely to advance student learning than feedback that does not make sense to students (Gibbs & Simpson, 2004).

Rust, O’Donovan and Price (2006) showed that engagement in the process of formative assessment improves academic outcomes. In addition, Van Den Berg, Admiraal and Pilot (2006) observed that active engagement in peer assessment produced better structured interaction between students, as well as more organised written work. In particular, giving feedback has been shown to have considerable benefits for student learning (Li, Liu & Steckelberg, 2009). Nicol and MacFarlane-Dick (2006) noted that, providing feedback by commenting on the work of peers, enabled students to develop an understanding of standards which they then transferred to their own work.

Context

Designing Family Support Programmes (CHN3206_4115) is a final year unit within Edith Cowan University's School of Psychology and Social Science. Whilst the majority of students enrolled are within this School, others do choose this unit as an elective and therefore there is a diversity of students involved. The unit is offered in both online and face-to-face modes.

This unit seeks to develop the graduate attributes of effectively communicating with others, working in teams, generating ideas, considering cross-cultural and international perspectives; and critical reflection and appraisal skills. The development of these attributes is essential to these final year students who will in the near future graduate and embark upon their new career.

The planned learning activities in this unit are based around authentic assessment tasks in a situated learning context, thus encouraging active and deep learning (Wiggins, 1990; Lave & Wenger, 1991; Bonwell & Eison, 1991). The assessment consists of two linked assignments which culminate in the design of a full family support programme for a real population. Students are given agency in selecting the population for which they will design the programme, in selecting learning activities relevant to them and their area of interest, whilst enhancing independent learning (Candy, 1991).

In order to ensure deep learning leading to higher levels of cognitive performance, teaching strategies that promote active learning were embedded even more extensively throughout the unit. These included common elements cited by Bonwell and Eison (1991) such as student involvement in discussing and writing rather than just listening, emphasis on skill development rather than content transmission, and frequent use of higher order thinking skills such as synthesis and evaluation rather than those of explanation and application.

This was achieved through the introduction of a peer review process which was embedded into the curriculum and assessment tasks. This offered students with many opportunities to enhance the development of graduate attributes, a range of employability skills whilst engaging in a depth of learning that was meaningful.

With high numbers of students, the workload for the lecturer of providing extensive feedback for each student was extremely high and not sustainable. Responsibility for directing the learning required to close the gap between current and desired performance also fell to the lecturer rather than the students. Although marking guides were supplied with tasks, the interpretation of these guides was done by the lecturer while students passively awaited feedback. Therefore, students never really developed an understanding of what the various levels of performance actually looked like.

The complexity of the innovation and implementing changes produced a number of challenges for the lecturer. Within any University, students often have reservations about being involved in group work, frequently grounded in competitiveness and a perception of lack of equity. Perceived demands that students compete with each other for marks can also create resistance to sharing their work with their peers. Showing their work to their peers creates fear that their work is not good enough and that the student will be criticised. Yet for graduates of this course, working collaboratively with peers in the workplace is essential. Therefore, the lecturer needed to be aware of the challenges that students may encounter and their perceptions and then had to ensure that she introduced strategies to address the hesitation and resistance of the students. Clear and open communication of the process and the reasons for, and benefits of for the students, as well as ongoing support and encouragement by the lecturer, were utilised to ensure students understood the importance of being involved in the peer reviewing process.

Engaging students in reviewing their peers work required considerable contemplation, particularly around the actual feedback. The lecturer provided instructions detailing the process and how to provide the feedback. On-campus students were given both verbal and

ECULTURE

written instructions of the process and time was spent, from the beginning of semester, explaining the process and the expectations of the students. Off-campus students were encouraged through Discussion Board and email contact to gain a clear understanding of the processes. All students were provided with guidelines of what was expected of them in the peer review process.

Time and timing were critical to success. Therefore, a timeline (see Appendix 1) was set for the semester to ensure that students had sufficient time to learn about and to reflect on the peer reviewing process.

Methodology

Students were surveyed at two points during the peer review process. The first survey (see Appendix 2) was completed immediately after students had completed an activity involving peer review of work samples. The second survey (see Appendix 3) took place after students had provided feedback to a peer and had responded to feedback provided by a peer.

Both on and off campus students completed the first survey. There were 15 on campus and three off campus surveys completed. The first survey canvassed students' prior experiences of peer review and elicited responses regarding the perceived usefulness of various aspects of the practice peer review process (which used work samples). It also asked students how they felt about reviewing another student's work and how they felt about having another student review their work.

Again the second survey was distributed to by both on and off campus students. This time 12 on campus completed the survey. Unfortunately, to date no off campus students have responded to the second survey. Students were asked about their experience of peer reviewing and what they learnt. In particular they were asked about the experience of providing feedback and receiving feedback.

The data gathered from these pre and post surveys were collected, collated and analysed.

Findings

First Survey Results

The first question on the survey was about students' prior experience of peer review. One third of students reported that they had never experienced peer review – an interesting statistic of itself as this unit is generally taken in the final semester of a three year degree. Of those who had previously experienced peer review, 60% found it to be fairly useful, 20% very useful and 20% slightly useful.

Students liked the opportunity to

- work collaboratively with others;
- obtain different perspectives on their work;
- get new ideas from others;
- receive constructive feedback; and
- work with people in a similar position to them – people who could empathise with them.

Students did not like it when

- peers marked their work and the marks given were included in their final mark, and
- when it was just used for marking.

Questions 2, 3 and 4 related to a classroom activity where students were given work samples from a previous year, along with the marking criteria, and asked to provide feedback on the work samples using the marking criteria as a guide for constructing feedback.

Evaluating work samples

Question 2 asked students how useful they found the experience of evaluating the work samples. All students appeared to find the experience useful, with five rating it as fairly useful, seven as very useful and 3 as incredibly useful.

Students who found it incredibly useful and liked

- learning to read critically,
- learning what to do or not to do,
- seeing what was done well and what could have been done better, and
- the insight they gained into how to do their own assignment better.

Students also found that evaluating work samples

- helped them recognise strengths in others' work and gaps in their own,
- clarified what could be included in a peer review,
- clarified expectations for the assignment, and
- clarified the marking guide.

Providing constructive feedback

Question 3 was about the experience of providing constructive feedback on the work samples. During the activity students wrote feedback on the work samples and then discussed the feedback with each other in small groups. Two thirds of students found that to be a very useful experience and one third thought it was fairly useful.

Students commented that the experience:

- would assist them to provide better feedback to their peers,
- assisted them to reflect more critically on their own work,
- helped them with language and how to write,
- helped them to identify common mistakes and

ECULTURE

- helped them understand expectations and the marking guide.

The Most Challenging Aspect of the Review Activity

Question 4 asked student to identify the most challenging aspect of reviewing work samples for them:

- evaluating the work sample
- identifying areas for improvement
- writing feedback, or
- other.

Identifying areas for improvement was the top challenge for nine students, eight thought writing feedback was the most challenging and five found evaluating the work sample to be the most challenging. Some students chose more than one aspect.

Students' lack of confidence in their ability to identify areas for improvement was accompanied by comments that

- their knowledge of the area was limited,
- it was hard to know if they'd missed areas for improvement, and
- being only half way through their own assignment, everyone else's seemed brilliant.

Most of the students commented about the challenge of writing constructive feedback. They felt that it was difficult to

- write constructively rather than negatively,
- word the feedback correctly without being biased, and
- know how to be professional and helpful.

Comments like "I would not want to offend anyone", "I didn't want to be too negative" and "I didn't want people to feel like I was criticising" point to students' awareness of the need to provide feedback sensitively.

Feelings About the Forthcoming Review of Their Own Work

Questions 5 and 6 related to the peer review activity which was to be undertaken in week 6, where students would review the work of a peer from their class rather than a work sample.

Question 5 asked: *How do you feel about reviewing another student's work?*

Most students expressed some apprehension, with responses like:

- a bit concerned
- hesitant
- it's a big responsibility
- I hope I can give constructive information
- I may not have a full understanding of the work I'm reviewing
- I don't feel I know enough
- I'm worried I'll give the wrong advice
- Nervous that I won't be able to provide constructive feedback.

Question 6 asked: *How do you feel about another student reviewing your work?*

Comments revealed some concerns about peer review being a judgemental process, even though this review did not involve the allocation of any marks. For example:

- Nervous because it may reflect on my personal ability negatively
- I'm not sure I would want a peer reviewing my work unless I was happy with the work I had completed
- It makes me quite anxious overall

However, most student comments indicated some appreciation of the value of the process:

ECULTURE

- I can be blind to errors in my own work
- It's great to receive feedback
- Others will be able to spot gaps and let me know where I can improve
- A peer's input will make my direction clear
- I find students' comments valuable
- I appreciate comments on things I can improve for future work
- It would enrich my assignment

There were also some concerns about the lack of expertise of the reviewer:

- I would prefer a lecturer to provide feedback
- I do worry that they may provide a review that is not right

Second survey results

The first question on the second survey explored students' experience of peer review in this unit. They were asked about the usefulness of engaging in this process. All students who completed the second survey reported that they found the experience to be useful, with over half (58.3%) of these responses indicating that the experiences was incredibly useful or very useful. Comments from students linked the experience to learning with one student commenting that "Peer reviewing another person's assignment challenged me and encouraged me to think deeply about the assignment."

Learning From the Experience

Determining the usefulness and the degree of learning students gained from the process was explored in Questions 2 – 7. Students were asked what aspect of the peer reviewing they learnt the most from. A total of 83.3% of students indicated that the process of both giving and receiving feedback provided the most learning. Comments from student were insightful and positive. For example one student commented that:-

"My way of giving feedback was a learning experience as I hadn't formally done anything before. I also learnt how to receive feedback without being closed minded."

Further comments from students were that they learnt from the process, the areas that they needed to focus upon to improve their assignments.

"I learnt from the strengths in my peers' assignment, and realised how important it was that all parts of the programme were linked"

Also one student noted that peer reviewing:-

"Was useful to see where improvements can be made on my own assignment and was good to learn about another issue/programme."

A number of students (75%) commented that they appreciated the suggestions they received from their peers. Students were then asked if they would modify their assignment as a result of the peer review activity and there was a response of 91.6% saying that they would do this.

Giving and Receiving Feedback

A range of questions (Questions 8 – 12) were presented to the students about giving and receiving feedback. Students were asked about the quality of the feedback that they received from their peer. A total of 83.2% of the students indicated that the quality was excellent (41.6%) or good (41.6%). The remaining 16.8% indicated that the feedback was fair. Feedback provided by the students was also surveyed and 91.6% indicated that they thought their feedback was excellent (25%) and good (66.6%). One student (8.4%) indicated

ECULTURE

that they thought their feedback was poor.

Students were also asked to indicate if they thought they were prepared for the task, and 91.6% indicated that they considered they were. Only one student said that she wasn't prepared for the task and it is worth noting that this student was the same student who indicated that her feedback to her peer was poor.

How students felt about reviewing and about having another student review their work was explored. Some student comments from students indicated that they were apprehensive about the task prior to engaging in the process, but they did realise that the task was useful:-

- I thought it was a good experience.
- I was a little nervous.
- It was awkward at the beginning however it proved very beneficial.
- I was anxious to being, but I really enjoyed doing it

Student comments about having another student review their work include"-

- Initially it was intimidating, but it was VERY beneficial.
- Nervous to have a peer read my work, but glad and appreciative of the helpful feedback that was provided.
- Felt a bit uncomfortable at the start but ultimately found it helpful to have someone critically reviewing my programme.

Beyond Peer Reviewing

Students were also encouraged to consider any other benefits that emerged from the peer reviewing experience. The responses were mixed with 41.6% indicating that they did not learn anything additional. A question about willingness to engage in peer reviewing in the future showed that 66.7% of the students would be interested in doing this.

Discussion

By conducting pre and post surveys, rich information has been gathered that highlights the benefits and potential challenges of engaging University students in peer reviewing. Of particular note for the students, was the positive change that occurred between the two surveys. Students began the process with feelings of anxiety and hesitation yet when the second survey was administered students indicated that they learnt a lot from the experience and could see the benefits of engaging in this experience. Students were concerned with their performance as a reviewing as much as being concerned about receiving the feedback. At the conclusion of this experience the majority of the students were positive about their experiences.

Peer reviewing provides students with the opportunity to encounter greater diversity of perspectives. As indicated by Pearce, Mulder and Baik (2009, p. 3) this is an important benefit of peer reviewing. Through engaging in this experience students received feedback from two people instead of the just the lecturer. Whilst the task of marking and assigning a grade to the assignment remained with the lecturer, the two perspectives offer diversity which is very useful for the students.

An additional benefit relates to providing feedback. As students engaged in this process they were required to analyse, review, clarify and then verbally provide respectful and meaningful feedback to their peer. The benefits of involvement in the process of reviewing and providing feedback have been acknowledged by many (see for example, Lundstrom & Baker, 2009; van den Berg, Admiraal & Pilot, 2006). It is not just receiving feedback that is beneficial; it is the giving of feedback that provided clarity for some students.

ECULTURE

Students reported that they benefitted from engaging in this process as it enabled them to interact with their peers, to discuss their reviewing and provide a different perspective. This different perspective further assisted some students view their assignment differently. Comments indicated that students appreciated the feedback they received and were going to utilise this information to adapt and improve their second assignment. Providing and receiving feedback had been repositioned as an effective learning tool.

Additional benefits emerge from engaging in peer reviewing, that is the development or expansion of a range of skills. Diverse skills such as problem solving, reflection, increased sense of responsibility, the promotion of independent learning, the reduction in dependence on the lecture and, very importantly, preparation for the professional workplace are developed through engaging in the peer reviewing experience (Pearce, Mulder & Biak, 2009). With a clear focus upon graduate attributes and employability skills of ECU graduates, this experience provides a comprehensive opportunity for students to enhance these. The lecturer aimed for students to be exposed to a collaborative learning environment that provided authenticity and where students learnt skills to assist them as they entered their profession. Peer reviewing provided the ideal opportunity to expand these skills and enhance attributes.

The benefit of engaging students in peer reviewing extends beyond the students. Lecturers require considerable time to provide appropriate and meaningful feedback that is essential for students learning (Boud & Molloy, 2012). Through the use of peer reviewing and the comprehensive making guide created for this task, the allocation of time required by the lecturer was reduced. Whilst this was not the primary aim of the introduction of peer reviewing, it was a positive consequence. This outcome together with the outcomes for the students further emphasises the overall benefits of peer reviewing. And as Pearce, Mulder and Bik (2009) have suggested, peer reviewing is multidimensional, providing diversity in students learning and various benefits.

There were some limitations in gathering the data which needs to be considered in relation to these results and in the future. Firstly, whilst the survey was distributed to both on and off campus students the return of the survey from off campus students was far less than on campus students. Consequently there is an impact on the data collected. Further consideration needs to be given to engaging the off campus students in the data collection process. It would be beneficial to gain more information from the students undertaking this mode of study as the experience of these students needs to be explored as this may be different to the on campus students.

The survey data collected to date draws attention to the need for careful preparation of students for both giving and receiving feedback. While the importance of respectful and constructive feedback was emphasised before and during the work sample activity, there was no real focus on how students should receive feedback. This is an area which the researchers would like to refine for future activities.

Conclusion

Engaging in the peer reviewing process proved to be beneficial to the students. It provided dual benefits through positioning feedback as an effectively learning tool for the completion of the student's assessment and also for the enhancement of diverse skills that would assist in their future career.

This process of peer reviewing gave students the opportunity to engage in deep learning within an environment that emulated the workplace. This is particularly important to these final year students who are about to enter their chosen profession. They have, within this unit, had the opportunity to develop a range of attributes and skills that are essential for this next step of their learning journey.

References

- Bonwell, C.C. & Eison, J.A. (1991). Active learning; Creating excitement in the classroom. *ERIC Digest*.
- Boud, D. J. & Molloy, E. (2012). Rethinking models of feedback for learning: The challenge of design. *Assessment and Evaluation in Higher Education*. DOI: 10.1080/02602938.2012.691462
- Boud, D. J. & Falchikov, N. (2006). Aligning assessment with long-term learning. *Assessment and Evaluation in Higher Education*, 31(4), 399-413.
- Candy, P.C. (1991). *Self-direction for lifelong learning*. Jossey-Bass Higher and Adult Education Series San Francisco, California.
- Krause, K. R., Hartley, R. J, & McInnis, C. (2009). The first year experience in Australian universities: Findings from a decade of national studies. http://www.cshe.unimelb.edu.au/research/experience/docs/FYE_Report_1994_to_2009.pdf
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Li, L., Liu, X. & Steckelberg, A.L. (2009). Assessor or assessee: How student learning improves by giving and receiving peer feedback. *British Journal of Educational Technology*, 41(3), 525–536.
- Lundstrom, K. & Baker, W. (2009). To give is better than to receive: The benefits of peer review to the reviewer's own writing. *Journal of Second language Writing*, 18,1–43.
- Nicol, D. & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199-218.
- Oliver, B. (2011). *Assuring graduate outcomes*. Support for the original work was provided by the Australian Learning and Teaching Council Ltd, an initiative of the Australian Government.
- Pearce, J., Mulder, R. & Baik, C. (2009). *Involving students in peer review: Case studies and practical strategies for university teaching*. University of Melbourne: Victoria.
- Rust, C., O'Donovan, B. & Price, M. (2006). A social constructivist assessment process model: how the research literature shows us this could be best practice. *Assessment and Evaluation in Higher Education*, 30(3), 233-241.
- Van Den Berg, B.A.M., Admiraal, W.F. & Pilot, A. (2006). Design principles and outcomes of peer assessment in higher education. *Studies in Higher Education*, 31(3), 341-356.
- Wiggins, G., (1990). The case for authentic assessment. *Practical Assessment, Research & Evaluation*, 2(2).

Appendix 1

Week 1	Details of peer reviewing provided to students.
Week 2	Students engaged to look at the guidelines to be used in the peer reviewing process.
Week 3	Lecturer considers feedback from previous week and if there is any, adjustments are made to peer reviewing document.
Week 4	Students provided with sample assignments and Peer Reviewing Key. On-campus students undertake a review of these assignments in class. Off-campus students engage in the same process through using Blackboard.
Week 6	Students engage in the peer reviewing process in class and on-line
Week 8	Students are provided with a copy of the review of their work when marked assignments returned.
Week 12	Students submit their final assessment in this week. Students are required to consider the feedback provided by their peer. Whilst they do not have to use this feedback the student must consider it and reflect on the feedback, explaining why used or why they didn't use the feedback.