

This guide was developed for the University of Melbourne by Ryan Naylor, Chi Baik, Kim Watty and Christine Asmar.

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Introduction

Feedback is an essential part of learning in any context. Timely, detailed feedback, whether delivered formally or informally, helps people learn more effectively by providing a clear sense of where they are and what they have to do to improve. In the university context, feedback assists students in developing mastery of their disciplines and more general graduate attributes. It helps them understand what is expected of them and how to reach that standard. Providing high quality feedback is, quite simply, one of the most important things you can do to help your students learn.

There are many different ways to conceptualise feedback – the quotes in this guide from staff from a variety of disciplines at the University of Melbourne envision the process of feedback differently, yet all are underpinned by a student-centred conception of learning (that is, the focus is on what the student does and the outcomes they should achieve).

In his discussion of good teaching and Course Evaluation Questionnaire responses, Ramsden (2003) shows that the question that most clearly differentiates the best and worst courses is: "Teaching staff here normally give helpful feedback on how you are going." In other words, there is a correlation between students' perceptions of the amount of feedback they receive and how effective they think the course is overall. Providing helpful, timely feedback is therefore essential for increasing student satisfaction and the effectiveness of their learning (Ramsden 2003; Hattie and Timperley 2007; Shute 2008).

There is also a clear link between not providing feedback and student failure. Without any commentary on their progress, many students do not realise they are in danger of failing until after their examinations. Even then, they may not be given enough information to enable them to improve (Entwistle et al. 1989; Ramsden 2003). Indeed, fewer than one third of over two thousand Australian first year students surveyed in 2005 (Krause et al. 2005) indicated they received helpful feedback on a regular basis, showing that this issue is not peculiar to any particular discipline or university but is sector-wide. To some extent this perception may be the result of undergraduate students still adjusting to the more self-directed nature of university education; however, research – and subject survey results – indicates that it is also a matter of concern for postgraduates (Ferguson 2011).

The purpose of this guide is to offer advice and suggestions on providing effective feedback as well as examples of assessment systems teaching staff may be able to adopt in their own classes. It also contains a framework for reflecting on and evaluating existing feedback practice.

The first section of the guide discusses the nature of feedback with a focus on the two different forms: formative and summative. The second section addresses what makes good feedback and the third section looks at several different examples of assessment and feedback systems that you might find useful to adapt to your own classes. The final section contains a framework for the evaluation of teaching practice with particular emphasis on assessment and feedback opportunities.

It's like driving to Adelaide. You think you know what Adelaide 'might' look like, but until you read the map, follow the directions and actually get there, you are only guessing. Feedback is the map that helps students reach their destination. Some may be satisfied getting to the outskirts of Adelaide and others will want to get to the heart of the city. The map (feedback) if acted upon gets to the heart of the city. Individual learners will choose their level of engagement and action." (Commerce)

It's about finding a balance between sink or swim and spoon feeding. You have to be prepared to dialogue with students – but not give away too much." (Computer Science)

What is Feedback?

Feedback can potentially be found in every aspect of a well-designed curriculum: through self-reflection in lectures, group discussions in tutorials, guided readings, interaction with staff, and, of course, assessment. In fact, it is impossible to talk about feedback without talking about assessment. A fundamental aspect of well-designed assessment is the provision of appropriate, timely feedback to help the student reflect on their learning, identify areas in need of improvement, and begin to make that improvement. Students particularly tend to think of feedback as meaning only written comments on pieces of assessment, which may be why they often feel they don't receive enough feedback. An important step in addressing this is to make them aware that anything that a student can use to improve their learning is feedback. Creative approaches to ensuring that students receive prompt and detailed feedback on their learning—and are aware that what they are receiving is feedback—may be necessary (Krause et al 2005).

When talking about feedback, there is a useful distinction between *summative* and formative *feedback*.

Summative feedback and formative feedback

Formative feedback is what most people have in mind when they think of feedback. It is constructive and used to improve learning (and teaching). It occurs *during* learning so students are able to act on it and is not punitive. Students advance their understanding through making mistakes and then learning to correct or avoid them.

Summative feedback is the final judgment on student achievement. At university, it is archetypally in the form of an end-of-semester exam or essay. It is a judgment and used to check learning at the end of a teaching episode. It is used to grade, accredit or rank students and is usually expressed as a mark or grade. It may or may not be accompanied by formative feedback.

In terms of benefits to learning, formative feedback is most important. Summative assessment delivered without any formative feedback can in fact be detrimental to student learning, as it can be demoralising and cause anxiety (Fritz et al. 2000; Poulos and Mahony 2008). This is not to say that summative assessment is not important and valuable; in a higher education context it is necessary for ensuring professional accreditation and the awarding of Honours placements and scholarships, for example. However, it should always be preceded and accompanied by sufficient formative feedback to ensure students can be appropriately prepared for their final assessment (Biggs and Tang 2011).

While this is so, the distinction between formative and summative feedback is often an artificial one: most pieces of assessment students undertake at university have formative and summative elements: for example, comments are offered alongside a final grade. However, different pieces of assessment at different times during semester can shift the balance further towards formative or summative purposes, so it is vital to keep in mind what your primary goal in setting a piece of assessment is. Is it primarily to help students develop their skills and learn, or to assess what they have learnt?

What is Good Feedback?

Lizzio and Wilson (2008) surveyed student perceptions of assessment and feedback, and concluded that students are readily able to describe qualities of assessment feedback that they do and do not value, and that their perceptions are not significantly influenced by a range of personal, academic or affective variables. That is, factors contributing to the perceived effectiveness of feedback were consistent regardless of variations in student background and attitudes.

The attributes of feedback that correlated most strongly with perceived overall effectiveness were that feedback was *developmental, encouraging* and *fair*. Others have echoed these sentiments. Biggs and Tang (2011) discuss an otherwise effective PBL program which was undermined by a tutor who provided neither developmental nor encouraging feedback:

“The aim in PBL is for students to pose questions and to follow through with plausible answers to a given problem... [by] testing possible answers in discussion. But in this particular case, the tutor replied to every question put to her with an all-knowing sneer: ‘That’s for me to know and for you to find out!’ So the students in this group gave up asking questions and problem-based learning acquired a bad name. So did the tutor.” (p. 65)

Error is inevitable; it is how students learn. The secret is to use that error constructively, to root out mistakes and misconceptions and correct them. To do this, students must feel comfortable (or as comfortable as possible) admitting their mistakes, rather than feeling defensive or as though they are being judged.

Gibbs and Simpson (2004) identify ten conditions necessary for assessment to support student learning, seven of which relate to feedback:

- Feedback must be given often enough, and in enough detail, to be truly formative
- Feedback should focus on students’ *performance*, not their characteristics
- Feedback must be timely enough for students to have time to use it to improve their learning
- Feedback should be appropriate in terms of what the assessment is actually designed to achieve
- Feedback should relate to students’ understanding of what they are supposed to be doing
- Feedback must actually be received by the student
- Feedback should be acted upon by the student.

While it is not always possible for academic staff to control the last (although it can certainly be encouraged by nested assessment and drafting), the others are applicable across both large and small-group teaching.

Providing feedback is an opportunity to have a conversation with students about their learning” (Commerce)

Students get lost deep in the maze. I help them backtrack a few steps – “See you made a choice here, you didn’t have to make that choice.” But I don’t show them the way.”

(Computer Science)

There is a tension between the requirements of providing formative feedback and the realities of student motivation. While it is important that students feel they are permitted to make mistakes and learn from them during the formative stages of a subject, it has been widely observed that students are motivated primarily by their final grades (Elton 1987; Ramsden 2003; Biggs and Tang 2011). Assessment determines how and what the students learn; students are strategic workers and if a piece of work is not assessed, students will be reluctant to do it.

For this reason, although subject coordinators should be cautious about over-representing formative results in the final grade, it may be necessary to attribute some proportion of marks (5 to 10%, for example) to the work to encourage students to do it. Hurdle requirements fulfill a similar role, but can be poorly regarded and therefore poorly handled by students.

Alternately (or additionally), nested assignments, where one assessment task reflects or builds on a previous one, may also be successful. Indeed, if the cycles of feedback are iterative and feed into each other, students will learn better (Biggs and Tang 2011). No teacher wants to engage in the time consuming task of providing written feedback on an assignment only to have students ignore those comments and focus on the mark alone. Not only is it frustrating for the teacher, it shortchanges the student's development as a learner. Nested assessment (and other forms of assessment where the skills developed in one piece are assessed again in a later assignment) are powerful tools for ensuring students engage with feedback provided.

Where Gibbs and Simpson's work looked at the assessment conditions necessary to support learning, Weaver (2006) identify four main themes of feedback that students find *unhelpful*:

- Too general or vague: "A sound answer generally" doesn't indicate where the student can improve, or even clearly identify that there are deficiencies in the answer. As students themselves identified, "two word notes at the side of the report didn't help much."
- Lacking guidance: Feedback is intended to help a student progress from where they are to where they should be at the end of a period of work. "I got told that a piece of work was more like an essay than a literature review. This is not helpful as it does not tell me what should be contained in a literature review or how it should be presented." Or "I not only want to know how my mark was derived, I want to know how to improve."
- Focused on the negative: Positive feedback should not only be provided, it should be as specific and clear as any negative feedback provided. "The slightest good comment made makes a student feel good and tutors need to remember this."
- Unrelated to assessment criteria: "Often grades just do not match the comments given." As a corollary of this, students should be provided with clear assessment criteria to guide their work (and therefore their learning). Assessment criteria should be carefully designed to guide student learning and ensure they are being assessed on how well they have mastered those learning outcomes.

Feedback is not just about assessment. Feedback occurs in lecturers and tutorials too. Asking questions in lectures (even if there is no expectation that students will know the answer immediately) provides an opportunity for feedback when discussing possible alternative solutions. Students learn while they are thinking about problems." (Engineering)

Finally, it is important that students are properly prepared to receive feedback – evidence suggests that students have difficulty interpreting feedback or interpret it differently to staff (Weaver 2006; Hendry et al. 2011). Approximately 50% of students surveyed in Weaver (2006) believed they had not received guidance on how to read and use feedback. However, how the student interprets and deals with feedback is critical to the success of formative assessment. This can be as simple as ensuring that student expectations are aligned to yours as regards the purpose of the feedback and the assignment (that is, the sorts of skills or knowledge you are assessing). Modelling the application of feedback using previously marked assignments, model answers and exemplars of good and bad work is also helpful, as students can see how the criteria was applied in the exemplars, as well as showing how feedback was used to improve the quality of later assignments (Huxham 2007; Hendry et al. 2011). Provision of model answers has been shown to significantly increase students' marks compared to personal feedback alone (Huxham 2007).

I think academics are so highly trained to be critical, it is hard for them to break that habit – but on the other hand, once you get into the habit of providing comments that are formative, it feels wrong to do it any other way.” (Education)

I often try to frame my feedback as questions. So if there is a tricky or controversial issue to deal with in class, putting it out as a question is less confronting for people. Then, once a few alternative views had been tossed around, my response could be given. It was less eyeball to eyeball that way.” (Politics)

Strategies and Examples of Good Feedback Practices

Feedback should show students where exactly they went wrong, which means it has to be specific and detailed enough for them to learn from. This doesn't, however, mean that feedback must always be individualized; in some case, it is more than suitable to identify and explain common mistakes on the LMS, or to provide model answers against which students can compare their own work (provided that more detailed, personalized feedback can be provided where necessary). It is vital that feedback is provided in a timely fashion, even in large classes, so providing examples of common error or model answers ensures students have feedback to work from while allowing staff the time to deal with the logistical challenges of marking.

It is also important the feedback is not purely negative; if a student performs well, they should be told. This can also make students more likely to accept negative feedback, and prevent them from being disheartened (Nicol and Macfarlane-Dick 2006, Poulos and Mahony 2008, Ferguson 2011). The “sandwich approach,” where negative feedback is sandwiched between pieces of positive feedback, is simple but effective.

The following pages detail five case studies of good feedback practice. Although these cases have been de-identified, they are based on real examples that have been shown to be effective. To demonstrate that no one method will suit every situation, they are intentionally varied in context and approach, and incorporate broader considerations such as curriculum design.

Nested Assessment

In a first year Arts subject, the major piece of assessment is a final essay worth 60%. The subject coordinator has previously noticed that her students do not show appropriate diligence in accessing resources, referencing, or determining which sources are appropriate for an academic context.

To try to instill these skills, and to increase the quality of the final essay, the subject coordinator sets an annotated bibliography as an initial assessment task, due at the start of the mid-semester break and worth 15% of the subject total. This bibliography will provide the framework for the final essay. The assessment criteria are based on addressing the deficiencies she has noticed: appropriate reference selection, appropriate formatting, and an ability to clearly summarise the relevance of a resource to the main essay topic.

By nesting the assessment in this way, the subject coordinator hopes to achieve several goals: to start her students early on the final assessment; to teach important academic literacy and communication skills; to provide feedback on their mastery of these skills and their understanding of the subject material.

The annotated bibliography is marked by the subject tutors, who note common problems to pass on to the subject coordinator and follow up in their own tutorials. The annotated bibliography will be marked over the mid-semester break and returned to students in the first week back, giving them over a month to respond to the feedback.

The subject coordinator also asks tutors to identify students who do not appear to possess an appropriate level of communication skills. She meets with or emails these students privately to discuss how important written communication is for graduates and encourages them to make contact with the Academic Skills Unit to improve their expression.

Peer Review

In a third year Science subject, a major piece of assessment is a critical review of a scientific paper (worth 30% and due in week 10 of the subject). Science students have been noted to lack confidence in their written communication skills, so the subject coordinator wants to provide feedback and support for developing these skills. He also wants to give students more practice in their critical analysis skills, and maximise their depth of engagement with the subject material

Students are given the opportunity to submit drafts of their critical review for peer review through PRAZE, a web-based system that automates and manages the peer review process. These drafts are not assessed. However, the students' peer reviews are, at 5% of the subject total. Each student receives 3 essays to review, and will receive 3 reviews of their own work. These reviews are anonymous. The subject coordinator devotes a tutorial to discussing how to perform a peer review, and provides a framework for structuring the review. This framework includes accuracy and clarity of the writing, accuracy and depth of understanding of the journal article, and appropriateness and depth of the critique. Thus, the student performing the review will have to engage appropriately with both the journal article and the critique to review it properly, increasing their mastery of the subject material and providing further practice for their critical analysis and writing skills.

Students are required to identify what is good about the critical review as well as what needs improvement, and to be as specific as possible. The students receiving the reviews then rate the quality of the review on a five-point scale. This rating is made available to the student who wrote the review (again, anonymously), and mediates (but does not entirely determine) their final mark for this component.

Students submit their draft immediately before the mid-semester break, electronically receive the drafts to review the following day and submit their reviews two weeks after returning, giving approximately 3 weeks to act on the feedback they receive.

To prevent concerns about plagiarism and to increase overall mastery of subject content, the subject coordinator could also divide the class into four groups, and ensure that each student receives a peer review from one person from each of the other three groups. Therefore, students must engage with four journal articles rather than just one, and although they can learn from the structure and presentation of their fellows' reports, they can't copy directly. However, it does make the exercise much more time

I like doing staged projects – e.g. you are building a very complex piece of software but it can be modularized. So when students hand in the first 1/3 of their solution – and they can get feedback on what they need to do to go back and improve it – they are much more interested in the feedback then. You would be more interested while you are working on a task – it's obvious really.” (Computer Science)

I use PeerWise from Auckland University. Students have to come up with a good tutorial question that we can all learn from. Students have to pose at least 1 question – with a model answer – and say why it was right (even though it could be wrong). Students also have to answer 5 questions and rate them by difficulty and usefulness. Then there is a discussion. I couldn't build up so many questions by myself. These online tools have tremendous potential.” (Computer Science)

consuming for the students, and reduce their confidence about the value of the critiques they give and receive.

Returning Mid-Semester Test Results

In a first year Commerce subject, students are required to perform two mid-semester tests, in week 4 and week 11. The tests are multiple choice question-based, to allow quick turn around, particularly for the later test which the subject coordinator wants to return before the end of semester to correct any student misconceptions before the exam. Due to the difficulty of devising good multiple choice questions, she does not want to make questions from previous years available as a study aid. She decides to make the tests worth 5% of the total subject mark each to encourage students to take them seriously, but not be too punitive with mistakes.

In previous years, the subject coordinator has returned only the mark for the test. Following complaints about the lack of useful feedback provided by the mark alone, she decides to return the marks quickly and devote the tutorial following the test to discussing the correct answers. In this tutorial, she identifies which questions had the highest failure rates as problem areas for students to focus on. The slides from this discussion are not made available to students, again to prevent her having to rewrite the questions, although they are free to take notes. In later semesters, she uses this information to clearly identify the problem areas in lectures, to highlight to students that these areas requires more effort to master.

Following further reflection and student feedback, the subject coordinator decides it would be more useful still to allow students to identify exactly which questions they got wrong. Before the tutorial, she publishes a list of which questions each student got correct (identified by student number only) alongside their marks on LMS. She also provides a histogram of scores to allow students to benchmark themselves against the rest of the cohort.

Feedback Frameworks

In a second year Science subject, students write weekly lab reports, which they submit to their demonstrators for marking. Although each lab report is worth little individually, in total they account for 50% of the mark for that subject. The subject has a large number of students, and a correspondingly large number of demonstrators doing the marking, and the subject coordinator is concerned about the level of variation between demonstrators in how much feedback they are providing. He is also mindful of the amount of time demonstrators spend each week doing the marking (for budgetary reasons, as well as trying to reduce the burden on sessional staff, many of whom are PhD students).

Drawing on his experience of common problems in student lab reports at this level, and in consultation with his demonstrators, the subject coordinator prepares a list of these problems. Each item on the list is reasonably detailed, and has space for the demonstrator to add comments and direct the student

After I give them quite detailed feedback (for every criterion) in their first assignment, I make it a requirement of their next assignment that they have to say what they did or learnt in response to the first lot of feedback.” (Education)

to specific parts of the report. There is also a section at the bottom for further comments. When they mark the books, demonstrators circle any items that might appear, provide a sentence directing the student to the mistake and how it should be addressed, and can make general comments, or identify additional specific problems at the end. Positive indicators are included as well as negative ones.

The subject coordinator discusses the new marking scheme carefully with the demonstrators before the start of semester to ensure they understand how to use it effectively and his expectations about how much feedback to provide, to ensure consistency between prac groups and a fair amount of feedback for all students.

When using this method of feedback, it is important to ensure that the framework is still detailed and specific enough to allow the student to improve (through annotations to indicate where in the text mistakes are made, for example). An example is shown in Appendix A. An important feature is that each major section of the marks sheet allows tutors to provide further individualized feedback. While feedback sheets or model answers may be quick and go some way towards ensuring consistency between demonstrators, students value personal feedback (Huxham 2007).

Lecture-based Self Assessment

The subject coordinator of a second year Biomedicine subject has to deal with extremely large lectures, a very full curriculum, and little flexibility in changing assessment tasks because of the interdisciplinary nature of the subject, the number of different staff teaching into the subject, and various other course- and faculty-based obligations and restrictions. The complexity of the subject material requires that students stay on top of the material, which is made difficult by the large class sizes.

The subject coordinator decides to begin and end her lectures with a question (often multiple choice) based on the main point she wants students to learn from that lecture, or as revision of the major point from the last lecture. She provides enough time (in silence) for students to consider the question, and assess their own knowledge. She then asks them to put their hand up to indicate which option they think is correct, or to quickly discuss with the person next to them what they think the answer is. She includes a bar on the lecture slide which counts down from 2 minutes to ensure that she can easily and quickly re-obtain everyone's attention at the end. She then reveals the correct answer or overtly returns to it later in the lecture (displaying the question slide again, to draw everyone's attention to the point). She also decides to include a final slide in the lecture handouts with a list of quick questions addressing the main points of the lecture for students to self-assess or revise later. The questions focus exclusively on the most important parts of the lecture, rather than distracting students with less important or more technical details.

I don't talk to students individually about assignments – it's done in class or in LMS – so everyone hears the answer and I don't have to answer the same questions every time. It takes lecture time but more is learnt." (Computer Science)

I use MapleTA, an off the shelf software package for marking students' work and providing feedback. The software supports randomized problems and datasets, so each student gets a unique set of questions to answer each week. Students have 3 attempts at each question, are provided with constructive feedback and each 'test' is worth 1% (10% over the semester)." (Engineering)

Because these are the major themes of the course, these revision questions are repeated in whole or in part on the final exam, a fact which the subject coordinator stresses to the students. Similar tactics have also been performed using "clickers" or web-based programs such as Votapedia, although this basic method doesn't require the purchase of clickers or the use of mobile phones, and can also function well with short answer questions.

Good Feedback Practices: Self-assessment Guide

The following pages contain a self-assessment framework for you to evaluate, review and reflect upon feedback mechanisms used in existing courses or in units within subjects, or to ensure effective assessment and feedback practice in new subjects.

What are the subject and course objectives? What are the major skills and areas of content, including generic skills, you want students to learn?

In answering this question, reviewing departmental and faculty course planning documents may be helpful.

How will these skills be assessed summatively? What assessment tasks will you use to determine whether students have reached the appropriate levels in these areas?

What opportunities or activities are provided to allow students to develop these skills before final summative assessment?

Which of these formative activities will be formally assessed? Which won't be?

How are students informed about the purpose, requirements and expectations of the learning activities? Are the reasons behind the choice of activity and the criteria for assessment clear and explicit? Do students know where or who to go to for assistance (including the relevant Student Centre and the Academic Skills Unit)?

How is feedback for formative activities generated?

Potential examples include through self-assessment, peer review, ICT, answers to questions in textbooks, or through oral or written comments from teaching staff. Even activities that do not form part of the formal assessment of a unit should have some ability to inform students of how they stand in relation to the intended learning outcomes of the subject, in order to be valuable as formative feedback.

Is this feedback sufficiently detailed to allow students to achieve the intended learning outcomes of the subject? Is the feedback clear, directional and supportive?

How is student diversity considered and fairness ensured (especially where multiple assessors are used)?

Does the arrangement of activities provide sufficient time for students to consolidate the learning or act on the feedback they receive?

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Useful Websites

- MapleTA: <http://www.maplesoft.com/products/mapleta/>
- PeerWise: <http://peerwise.cs.auckland.ac.nz/>
- PRAZE: <http://www.lms.unimelb.edu.au/teaching/assessment/praze/>
- VotApedia: <http://www.urvoting.com/>

Appendix A: Sample Feedback Framework

Name: _____ Date Submitted: _____
Practical: _____ Mark: _____
Demonstrator: _____

TITLE

Missing Correct Incorrect Vague Too short Too long
Comments:

INTRODUCTION

Section missing Heading missing
 Too short Right length Too long
 Follows prac manual too closely
 Needs focus
 Does not incorporate statement of hypothesis
 Rationale/background for study missing
 Some material here belongs elsewhere e.g.: _____
 Inappropriate use of referencing
 Well argued
 Shows set reading has been done
 Shows additional reading has been done
Comments:

METHOD

Section missing Materials used noted Procedure used noted
Comments:

RESULTS

Tables

Missing Summary table needed Sample calculations shown
 Heading numbered Heading has appropriate detail
 Heading above table

Figures

Missing Axes labeled Bands of interest identified
 Legend numbered Legend has appropriate detail
 Legend below figure

Written Description

Missing Too short Good length
 Some material here belongs elsewhere e.g.: _____
Comments:

