Strengthening the nexus between teaching and learning through increased attention to feedback to students: a research-led teaching approach

M.J. Mahony & A. Poulos
Faculty of Health Sciences, University of Sydney

Abstract
Feedback to students is a crucial aspect of the teaching-learning experience (Rowntree 1987; Ramsden 1992). An on-going course evaluation program, the Student Course Evaluation Questionnaire (SCEQ), at the University of Sydney annually provides data on how students perceive their course experience. Reports from the SCEQ and other university quality assurance activities have prompted a Faculty-led action research approach to improvement of teaching-learning at the Faculty of Health Sciences. In this paper we report on the specific case of feedback to students and the Faculty’s approach within this framework, including consideration of relevant literature, focus groups with students and a workshop with experienced university teachers in the Faculty. Dimensions of feedback are considered, including preliminary results about what students say about the feedback they receive, what staff say about the feedback they provide, and how the two may be aligned. A specific strategy to achieve alignment, the use of grade descriptors, is discussed. The studies and practice here are positioned in the environment of the health professions’ expectation of evidence-based practice and the University of Sydney’s expectation of research-led teaching.

Introduction
For publicly funded universities, and regardless of the additional private goods which graduates may attain as an outcome of their university studies, graduates who have learned well are a public good. This public good goal must be addressed by institutional research and development activities. In this paper we first provide a rationale for our use of an action research framework to situate development and research activities aimed at improving aspects of Faculty practice. We then report on studies directed towards improving student learning in the health sciences, improving both students’ perceptions and students’ understanding of what constitutes their learning experience through focussed attention on one component: feedback to students.

An action research framework and the genesis of this project
Quality assurance processes in regard to teaching and learning are well established at the University of Sydney (2004) within a framework of continuous improvement. These processes integrate national, institutional and faculty data collection and response. At the Faculty of Health Sciences this has prompted an action research approach to the improvement of teaching and learning. This approach integrates the practical activities of problem identification and action with disciplined inquiry. Traditional academic outcomes are achieved but, as Zuber-Skeritt (1992) states: ‘…the ultimate aim should be to improve practice in a systematic way and, if warranted, to suggest and make changes to the environment, context or conditions in which that practice takes place, and which impede desirable improvement and effective future development’ (p.11). We claim an action research approach at the same time as acknowledging that while it is an application of the spirit and structure of action
research, this work is located in a nexus of organisational change, crosses several levels of university hierarchy, and combines institutional expectations and practitioner interests.

Two important elements of action research are particularly relevant to this work. Firstly, it is a cycle of planning, acting, observing and reflecting (Figure 1). Secondly, it is a series (or as more often said, a spiral) of these cycles (Zuber-Skerritt 1992). This fits well with both the intention that quality assurance should be a process and not a series of isolated interventions, and with a commitment to a research-led teaching improvement approach. In this paper we are reporting on outcomes from the first cycles of a larger project; these are outlined for the reader’s convenience in tabular rather than graphic form (Table 1).

**Figure 1 Action research cycle**

<table>
<thead>
<tr>
<th>Observe</th>
<th>First Cycle</th>
<th>Second Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCEQ results</td>
<td>2003 focus group results</td>
<td></td>
</tr>
<tr>
<td>Academic Board Review results</td>
<td>Literature review results</td>
<td></td>
</tr>
<tr>
<td>Preliminary identification of existing users of grade descriptors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reflect</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do they mean?</td>
<td>Four phase TIF project</td>
</tr>
<tr>
<td>Do we think they are telling us enough?</td>
<td></td>
</tr>
<tr>
<td>What can we do to address this situation?</td>
<td></td>
</tr>
<tr>
<td>What do our observational results mean?</td>
<td></td>
</tr>
<tr>
<td>What implications are there for our initial TIF project plan?</td>
<td></td>
</tr>
<tr>
<td>What changes should we make to the plan?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement first phases of TIF project</td>
</tr>
<tr>
<td>Conduct Workshop</td>
</tr>
</tbody>
</table>

The First Cycle

Keeping in mind that delineation of each cycle is a snapshot of a continuous, spiralling process, the first FHS action research cycle commenced with data provided through a series of institutional activities. Student perceptions of feedback on their learning were identified as a teaching and learning issue in the Faculty of Health Sciences through internal University of Sydney processes. These included the Student Course Experience Questionnaire (SCEQ) results for 2001 and the 2002 Academic Board Review of Faculty.

**The Student Course Experience Questionnaire (SCEQ)**

The University’s Institute for Teaching and Learning (ITL) has collected data on students' perceptions of their teaching and learning experiences beginning in 1999 by survey of the whole of the undergraduate population, and since 2000 by survey of a stratified random sample of undergraduate and postgraduate students. The SCEQ provides the Faculty with one source of data to inform strategic academic development and curriculum review to further enhance the quality of teaching and student learning. Recently ‘helpful’ feedback has been identified by the SCEQ as a problem for the Faculty. For example the SCEQ currently asks:

\[ Q3: \text{the teaching staff normally give me helpful feedback on how I am going} \]
In 2003 only 47% of the sampled students were in agreement with this statement. This was ‘no change’ from the responses to the same question in 2002.

**The Academic Board Review Process**

As an important part of Quality Assurance Processes, each Faculty at the University of Sydney undergoes an Academic Board Review. During this Review Faculty procedures and processes are investigated relative to the University’s goals.

Phase 1 of the Academic Board Review for the Faculty of Health Sciences took place in August 2002. During this review students were asked to comment on teaching and learning practices in the Faculty and effective and timely feedback was identified as a problem. This resulted in the Review Report making feedback the focus of a recommendation:

‘The Review Team recommends that the Faculty consider developing a more consistent policy on feedback and communicate to students what is meant by feedback’ (Academic Board Faculty Review Team 2002, p.14)

**The importance of feedback**

Effective feedback is highly valued by students and plays a vital role in student progress (Ramsden 1992). Rowntree asserts that feedback ‘… or “knowledge of results”, is the life-blood of learning. … Effective feedback enables the student to identify his strengths and weaknesses and shows him how to improve where weak or build upon what he does best.’ (1987, p.24). Feedback is defined by Nightingale et al (1996) as ‘Information given to students on their progress in their course/unit. The information can be in the form of marks, grades, comments, model answers, suggestions for reading, etc.’ (p.269). Rowntree takes this further when he says:

> Most basically, assessment in education can be thought of as occurring whenever one person, in some kind of interaction, direct or indirect, with another, is conscious of obtaining and interpreting information about the knowledge and understanding, or abilities and attitudes of that other person. To some extent or other it is an attempt to know that person. In this light, assessment can be seen as human encounter. (1987, p.4)

thus placing assessment in the realm of person-to-person interaction.

**The Faculty response**

The focus of the larger project, and of the parts specifically reported here acknowledges the above views on feedback and aims to improve the quantity, quality, utility to students and timeliness of feedback as a communication from teacher to student and a resource for student learning. The Faculty specifically responded by developing strategies to increase consistency in delivery and timing of feedback which were incorporated into the Faculty Teaching and Learning Plan for 2003. One such strategy was to develop a more consistent policy on feedback by implementing and supporting the development of grade descriptors across the Faculty. This work is supported by a University Teaching Improvement Fund (TIF) grant and the first phases are reported here. These phases included dialogue with students about what they perceived feedback to be using a focus group methodology, an exploration of the literature on grade descriptors, and a workshop of experienced users in the Faculty.

**The Second Cycle**

**Exploring student perceptions of feedback (TIF Phase 1)**

An initial phase of the project was to explore the meanings which students assigned to feedback. This was necessary for clarification of student perceptions of feedback: What do students identify as feedback? How do they decide on the quality and utility of the feedback? What use do they make of feedback (whether so identified or not) to improve their learning outcomes? Some preliminary answers to these questions were essential to ensure that subsequent staff and policy development work
was framed and communicated in ways which address the student responses reported in the SCEQ and Academic Board Review institutional exercises.

**Method**

Students from the Faculty of Health Sciences were recruited to participate in focus groups during Semester 2, 2003. Two focus groups were constituted with a sample size of approximately 8-10 students in each. Purposeful sampling was applied to the selection of students for each focus group (Glaser & Strauss, 1967). The students were representative of all undergraduate stages and schools in the Faculty. Students were recruited by advertisement around the campus and selected for participation such that an appropriate mix of student stages and schools were represented in each focus group. Each student was given a participant information sheet and a consent form to sign. The focus groups took approximately one hour and were audiotaped and subsequently transcribed. The students’ understanding and use of feedback was explored using open-ended questions and prompts.

**Analysis**

Thematic analysis was applied to the responses.

**Results**

Following thematic analysis of these 2003 focus groups, five themes were identified relating to student perceptions of feedback. They were: importance, timing, modes, verbal v written and the first year experience.

**Importance**

Students indicated that feedback directed their learning and allowed them to make necessary changes for example:

‘*It helps me understand what it is that I need to know*’

One student felt that staff did not appreciate the importance of feedback to students:

‘*…they (staff) don’t really know how much we appreciate the feedback*’

**Timing**

Students felt that feedback should be immediate, early and ongoing through the semester.

**Modes**

Assessment criteria, especially clearly presented criteria, were viewed positively.

**Verbal v written**

A preference for written feedback was expressed since

‘*it was really hard to talk to some professors*’.

**First year experience**

Interestingly feedback was perceived as a form of support and ‘connection’ for first year students. They felt distanced, alienated and unsure and feedback provided a link between them and the staff. These perceptions support the role of assessment as being a ‘human encounter’ as expressed by Rowntree (1987 p.4).

**Discussion**

These preliminary results (more focus groups were scheduled for 2004 and a final report will be published elsewhere) have increased our understanding of the perspective of students on feedback in the Faculty of Health Sciences and provide relevant information to inform the process and outcome of the TIF Project. The TIF Project focuses on improving the quantity, quality, utility to students and timeliness of feedback as a communication from teacher to student, primarily through documentation and communication of good practice in the use of grade descriptors as an essential element in these feedback strategies. Information on how students experience feedback, how they use feedback and the
barriers experienced in using feedback will be used to inform the remaining phases of the project. Students’ perspectives on feedback are essential to ensure that subsequent development work is framed and communicated in ways which address student responses.

**Examining the literature (TIF Phase 2)**

What we name ‘grade descriptors’ is an approach to criterion-based assessment which makes use of holistic statements describing levels of attainment. Application of this approach in higher education is most often reported as drawing on the SOLO [Structure of the Observed Learning Outcome] Taxonomy originally developed by Biggs and Collis (1982) and subsequently applied widely (see, for example, discussion by Hattie & Purdie 1998). Grade descriptors can enhance consistency both within and between assessment tasks and improve student understanding of assessment expectations and feedback.

While our project uses the term ‘grade descriptors’ as a generic phrase to describe an holistic criteria-referenced approach to assessment, our search of the literature used a wide range of terms. Whatever it was called, we looked for examples of practice where ‘… categories are defined by a particular quality of learning and understanding that suits the unit in question, not by the accumulation of marks or percentages’ (Biggs 1999, p.66). The use of grade descriptors in assessment follows from work by various theorists to develop useful categories to describe learning outcomes. Bloom’s Taxonomy and the SOLO Taxonomy appear to be the most widely known although Kember’s Reflective Model was included with them in a comparison study by Chan et al (2002). Reports on the use of a grade descriptor approach in universities are not numerous and may be classified as either efforts by individuals to improve their teaching (examples are provided by Boulton-Lewis 1998, Hattie & Purdie 1998), or groups (course teams, departments) to make and understand a unified change, e.g. from norm-referenced assessment to criterion-referenced assessment (Carlson et al 2000 for a department implementing an Academic Board mandate) and as large research project on criteria-referenced assessment (O’Donovan et al 2001). Table 3 below incorporates observations on the use of grade descriptors drawn from this literature.

**Investigating Faculty experience (TIF Phase 2)**

The next phase was concerned with identifying and exploring local good practice in the use of grade descriptors for assessment and feedback to students. Work of this nature had already occurred at postgraduate level as grade descriptors for Master’s research theses and Master’s coursework honours dissertations (Faculty of Health Sciences 2001, 2002), drawing on the work of Biggs (1999).

**Identifying Users of Grade Descriptors**

This earlier policy work indicated a Faculty recognition of the utility of a grade descriptor approach. Implementation of grade descriptors in any form of teaching and learning activity remained invisible. Various methods were used to identify FHS users. These included scanning background documents setting out the developmental history of the master’s thesis and dissertation guidelines and inviting self- and peer-nomination of individuals using grade descriptors. The latter was implemented using all-staff emails, an open project briefing meeting at the project’s commencement, and a request to members of the FHS Teaching and Learning Committee. In oral and written communications we used variations on the following as a description of the activity:

> The phrase ‘Grade Descriptors’ refers to a criterion-referenced assessment approach which provides explicit description of the expected student achievement for each grade level (e.g. HD, D, C, P, F).

Grade descriptors take a holistic approach (e.g. one grade for a piece of work) rather than a distribution approach (e.g. not 5 marks for this aspect of the assessed work, 10 marks for that, with the final grade based on addition of the partial marks).

These descriptors enable both teacher and student to distinguish between the grade levels. They support a process of meaningful engagement between the teacher and the student, between what is taught and what is learnt, so as to facilitate an understanding and application of the learning process in a particular environment.
Through this process a small number of academic staff were identified; all but one were academic staff with a long career in higher education. (The exception was a postgraduate student who had used grade descriptors provided to her to mark an honour’s thesis.) We believe these individuals do not represent the complete population of users but do generally represent both the most experienced and those whose professional development in education has provided them with the vocabulary and concepts to understand the question. Concurrent with this search was a preliminary search within our own University and elsewhere in large universities for organisational unit level policy and practice in the use of grade descriptors, which proved generally unsuccessful.

The Workshop

The next action was to convene a Workshop of invitees from the list of Faculty users identified above. Table 2 lists the discussion framing questions (provided to participants prior to the Workshop) using a Strengths-Weaknesses-Opportunities-Strengths (SWOT) framework (Bryson 1988).

<table>
<thead>
<tr>
<th>Table 2 Reflection on Use of Grade Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What were the strengths of my grade descriptor approach – for my students, for me?</td>
</tr>
<tr>
<td>• What were the weaknesses of my grade descriptor approach – for my students, for me?</td>
</tr>
<tr>
<td>• What opportunities does my/the grade descriptor approach offer to the unit of study, course, faculty?</td>
</tr>
<tr>
<td>• What threats does my/the grade descriptor approach offer to the unit of study, course, faculty?</td>
</tr>
<tr>
<td>• What might I do differently next time?</td>
</tr>
</tbody>
</table>

What Grade Descriptors Offer

We have used the SWOT framework to consolidate observations drawn from the literature, the workshop and the 2003 student focus groups (Table 3). Reporting a detailed analysis of the three sources is not in the scope of this paper. Each provided a different source of light and shade in describing what we now acknowledge is a complex teaching and learning strategy. Our focus groups with students addressed their perceptions of feedback generally, rather than focussing only on the use of grade descriptors. Students consistently ask for personal, individualised, timely, detailed, relevant (as perceived by them) feedback, with a consistent approach across subjects (S2, S4, S9). This resonates with reported research that includes students’ views (Carlson et al 2000; O’Donavan et al 2001) although achieving these outcomes is not without dilemmas as perceived by students (W3). Naturally enough, in the workshop with invited staff members there was a greater focus on teachers’ points of view. A range of applications were identified (S1). Most elements in Table 3 emerged. While individual participants highlighted different aspects drawn from their own experience, the group as a whole tended to support the points raised as they were expressed. This personal experience drew particular attention to the increased accountability and defensibility which a grade descriptor approach could provide (S6, O2). It was suggested that some colleagues held the view that a norm referenced approach (T3) continued to be needed even when grade descriptors were used. This view, possibly associated with T4, was not noted in the literature and appeared to emerge where ‘service’ teaching of large, multi-disciplinary, multi-professional groups occurred. It was also indicated that colleagues perceived a norm-referenced system as working well (T1) so why change. Most points included in Table 3 also appeared from time to time in the literature reviewed.
### Table 3 SWOT Description of Grade Descriptor Use

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S1</strong> Provides a framework for using sample assessments to demonstrate successful and unsuccessful student work for each level. This can be applied to a range of assessment methods ranging from multiple choice questions to essays and reports.</td>
<td><strong>W1</strong> Requires investment of time and willingness to change by university teachers</td>
</tr>
<tr>
<td><strong>S2</strong> Provides consistency in approach for students (across units of study, across tutor/markers)</td>
<td><strong>W2</strong> For best results requires university teachers to commit to working together at a detailed level in regard to assessment (as teaching teams, course teams and/or departments)</td>
</tr>
<tr>
<td><strong>S3</strong> Prompts/requires discussion and agreement among tutor/markers using them to ensure common understanding and consistent application</td>
<td><strong>W3</strong> Potential for marker subjectivity and multiple interpretations of descriptors</td>
</tr>
<tr>
<td><strong>S4</strong> Assists students who desire to target a level of achievement</td>
<td><strong>W4</strong> Perceived by staff who have not attempted it or who are in the early stages as increased workload</td>
</tr>
<tr>
<td><strong>S5</strong> Provides clear method of feedback to students</td>
<td><strong>W5</strong> Expectation of transference of the meta-learning process inherent in a grade descriptor approach remains to be confirmed</td>
</tr>
<tr>
<td><strong>S6</strong> Where a student disputes a grade, provides a framework for requiring the student to make the case for a grade change</td>
<td></td>
</tr>
<tr>
<td><strong>S7</strong> Supports staff workload control when teaching across a number of units (number of students in a unit may be less of an issue)</td>
<td></td>
</tr>
<tr>
<td><strong>S8</strong> Fosters cooperation, rather than competition in learning, among students</td>
<td></td>
</tr>
<tr>
<td><strong>S9</strong> Supports communication with students</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>O1</strong> Provides motivation for teaching teams/department members to talk in more depth about their teaching</td>
<td><strong>T1</strong> Why change? Reluctance of some staff to move to criteria-referenced assessment when norm-referencing ‘works’</td>
</tr>
<tr>
<td><strong>O2</strong> Establishes an assessment approach which is both internally and externally defensible</td>
<td><strong>T2</strong> Why work together? Extra consultation/agreement needed in team teaching situations (to achieve consistency, etc) takes time, energy and willingness to expose one teaching practices to colleagues</td>
</tr>
<tr>
<td></td>
<td><strong>T3</strong> Doubles the work? Perception that norm/structured mark distribution is still required even when a holistic grade-descriptor based approach is used</td>
</tr>
<tr>
<td></td>
<td><strong>T4</strong> How to defend ‘high’ rates of failure or success? What to do when the number of fails looks high: raises many difficult issues including defence of teaching approach, marking approach, role of student responsibility, etc.</td>
</tr>
<tr>
<td></td>
<td><strong>T5</strong> Why add more work to the overcrowded curriculum? Students need to be taught how to use this approach for their own learning, and this may not work in large groups as it is perceived that, initially at least, individual contact or small groups are needed to make the use of grade descriptors a successful</td>
</tr>
</tbody>
</table>

**Australian Association for Research in Education Conference 2004 Melbourne, Vic, Australia**
Results of our work to date have confirmed feedback to students is multidimensional, comprising both staff and student perceptions on what feedback is, how it is communicated and how it is used. Consequently, a multi-faceted approach is essential to ensure optimal production of feedback by staff to students and optional use of feedback by students to facilitate their learning and improve the outcomes and outputs of that learning.

Implications for teaching and learning practice

Triangulating the results of the SCEQ, what students said in focus groups, observations from the literature, workshop discussion and anecdotal observations by colleagues on how they observe students using (or not using) feedback leads us to recommend that students need to be explicitly taught how to recognise and how to use feedback. This might most usefully become part of a first year experience program facilitating the transition to university studies, but should continue to be addressed throughout a program (at both undergraduate and postgraduate level). Strategies might include not only didactic approaches but also learning activities such as reflective reporting on how they used feedback provided on prior work to improve current work.

Conclusion

In this paper we have reported on the first cycles of a larger action research project which is a work in progress. It is an organisational project in an action inquiry framework aimed to achieve faculty-wide improvement in teaching-learning through a focus on the critical aspect of feedback to students. Given the well-recognised and essential role which feedback to students plays in student learning, the outcomes of this project to date highlight light the need for sustained and iterative focus on a defined aspect of teaching in learning to ensure organisational understanding and implementation of new/refined approaches to teaching and learning – for both teacher and student.

References


**Acknowledgement**

The contribution of participants at the Experience with Grade Descriptors Workshop (31 March 2004): L. Batmanian, I. Cathers, F. Everingham, I. Hughes, V. Neville, B. Reid and G. Vella, is acknowledged.

**Contact Author:**
Dr Mary Jane Mahony
University of Sydney
Faculty of Health Sciences
PO Box 170
Lidcombe, NSW 1825
Tel (02) 9351 9754
Fax (02) 9351 9863
Email MJ.Mahony@fhs.usyd.edu.au