

## **Issues in Identifying Student Perceptions of Teaching Quality**

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### **Abstract**

This paper reports on issues which cloud the validity and utility of quality of teaching information, and suggests a method to derive more information about aspects of teaching valued by students. A deconstructed form of a standardized rating questionnaire designed to measure student perceptions of teaching quality was responded to by students three times during a teaching semester. The results were compared with end of semester questionnaire responses, and these end of semester responses were also compared with those from previous cohorts of students. Quality of teaching feedback data indicated consistency of student attitudes across successive cohorts of students and throughout a semester's tuition, and revealed student interpretations of general satisfaction items on quality of teaching surveys. Discussion of the results includes the possibility of a Hawthorne effect accounting for quality of teaching evaluation outcomes which may blunt the potential to discriminate across different aspects of quality of teaching. It is suggested that the deconstruction of items designed to measure satisfaction with quality of teaching provides a potentially rich source of feedback for teachers about student learning.

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### **Introduction**

Choice of higher education institution by students is related to perceptions of their quality (James, Baldwin & McInnis, 1999) after primary considerations of course availability are met. There are three main sets of factors contributing to choice of tertiary institution; data-based, outcomes, and perceptual. Data-based factors include information about the quantity, types, and sources of research grants that institutions attract, gender balance of student population, domestic/external student balance, proportion of coursework versus research students, student to staff ratios, and staff qualifications. Outcomes' factors include proportions of graduates who are successful in getting a job or enrolling in further study, and graduate starting salaries. Perceptual factors include quality of experience in terms of the learning-teaching nexus, and student satisfaction. Each of these sets of factors contributes to student choice of institution, and there is obviously a strong interdependence between them.

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Tertiary institutions are also concerned about how their students evaluate their learning experiences in order to monitor the quality of the teaching delivery. Student evaluations are assumed to reflect stable views which have implications for how universities focus upon and reward the pedagogical practices of their teaching staff. One approach to quantifying student evaluations of the teaching environment is through the use of student satisfaction surveys. Use of this approach has increased markedly over the past decade (Griffin, Coates, McInnis & James, 2003). Primary among the surveys used in the Australian context is the Course Experience Questionnaire (CEQ; Ramsden, 1991) which bears strong similarities to measures used internationally (eg. Trigwell & Dunbar-Goddet, 2005). Student satisfaction surveys must constantly be reviewed to ensure that results and their interpretations are valid. This report focuses on the capacity of a specific quality of teaching survey to provide information that is both valid and useful.

Students at the University of Melbourne, Australia, are routinely asked to complete a generic quality of teaching survey (The Quality of Teaching Student Feedback Questionnaire; QOTSFQ) at the completion of each subject they take, in order for the University to assess student satisfaction. Upon graduation, the CEQ, referred to earlier, is also completed. This samples quality of teaching, acquisition of generic skills, clarity of goals and expectations, intellectual motivation, quality of the learning community and learning resources, and overall satisfaction. These measures are used by the University in order to evaluate its practice and to produce evidence of a high quality learning environment in addition to a high quality research environment.

The collection of student satisfaction data with the QOTSFQ at the end of each subject's tuition calls into question the relative merits of satisfaction as an indicator of good teaching versus more objective measures such as competencies, knowledge or skills. There are many views about student satisfaction in terms of identifying whether it is an educational outcome to be aspired to by educational institutions, what factors contribute to it, and how predictive it is in terms of determining student choice of institution, course, and subject. While some evaluation studies in the higher education sector focus directly on student satisfaction, others examine factors that presumably contribute to it, such as student expectations (Voss & Gruber, 2006), perceptions (Richardson, 2005) and ratings of effective teaching (Marsh & Roche, 1997). Different methods are used to measure satisfaction, to investigate its links to other constructs, and to examine its functionality. For example, Douglas, Douglas and Barnes (2006) examined the links between importance of various factors identified by students as relevant to their evaluation and perception of the teaching and learning environment, and satisfaction with these factors. One of the major conclusions made by these researchers was that although quality of teaching

was identified by students as the most important factor in the learning and teaching environment, satisfaction with the factor varied over different aspects of teaching; this conclusion was based on the clustering of the teaching factors in quadrants characterised by high importance, but by differing levels of satisfaction. The factors included an extensive list of university services, and those identified as most important by students were related to the direct teaching and learning experience. Primary considerations were the teaching ability of staff, their subject expertise and quality of lectures, IT facilities and supplementary lecture materials. Least important factors included quality of pastoral support, on-campus catering facilities and layout of lecture facilities. Importance of factors varied across full-time and part-time students in logical ways; for example, the on-line learning system was identified as more important by part-time students. Analysis of factors based on nationality of students also generated differential results, with factors such as responsiveness of teaching staff and accessibility of texts being identified as more important by non-UK students. Another innovative methodological approach, although focussed on slightly different constructs, was undertaken by Narasimhan (2001) who identified gaps between teacher and student expectations and perceptions as useful data upon which to assess the teaching environment. It is clear from studies such as these that broad-reaching claims concerning student satisfaction cover huge variations in terms of the construct being measured. Links between what is being measured, and how this information is to be utilised, are not always made clear.

As Richardson (2005) points out, the specific student feedback sought must match the goals of the assessment. For assessment of courses, questionnaires typically cover infrastructure, administration, the student experience, facilities, employability outcomes, etc. For assessment of subjects, the identified factors are mainly about quality of learning and teaching.

Measurement of student perceptions of quality of teaching implies that these perceptions are presumed to vary. Measurement of variance can be used to identify a multitude of factors, including that variance attributable to teacher characteristics, method of teaching, teaching environment, and student cohort. Similarly, where variance is found, it is important to identify its source. For example, it is well established that student perceptions of quality of teaching vary consistently across different faculties or disciplines (Obenchain, Abernathy & Wiest, 2001; Patrick, 2003; Ramsden, 2003) across class size (Ramsden, 2003) and across vocational versus traditional academic courses (McGinty & McTaggart, 2000). Comparisons of perceptions of successive cohorts of students enrolled in the same subjects or courses are typically carried out in an effort to establish and quantify improvements in the teaching and learning environment (Wilson, Lizzio, & Ramsden, 1997) rather than to establish the reliability of the measures or

questionnaires used. However, relatively early work by Marsh (1987) investigating the CEQ, focussed on issues of construct and discriminant validity as well as reliability. This work was updated in 2001 (McInnis, Griffin, James & Coates). The studies which purport to investigate the issue of reliability of measurement and/or responses represent diverse approaches to the issue. For example, Obenchain et al. (2001) investigated reliability in terms of the match between rankings of subjects and ratings of attributes within subject in terms of individual student responses – essentially a comparison across subjects with students held constant; Marsh and Roche (1997) concluded that reliability of measurement is more about the instructor than the subject, basing the assertion on a test-retest model for the same instructor. They also comment that reliability is most appropriately determined from studies of inter-rater agreement from students within the same course. Hobson and Talbot (2001) identify three components of reliability—consistency (or inter-rater reliability) stability and generalisability. The identification of stability of responses where successive cohorts of students are presumed to be similar, and where teaching methods and teachers are constant, would confirm the reliability of the measurement tool, as well as the degree to which successive cohorts of students have similar attitudes to and motivations for, learning.

A criticism of quality of teaching student feedback procedures is that the information provided by the students is not used for the benefit of those particular students (Bastick, 2001, 2002; Narasimhan, 2001; Palermo, 2003). The information is typically used to inform the university, as part of quality control procedures, and to inform academic staff as part of monitoring their teaching success. Both these outcomes may serve to benefit prospective cohorts of students but not the current cohort. If student satisfaction levels are stable over a semester, and if we know that successive cohorts tend to experience similar levels of satisfaction, then this lack of information is not important. If, however, there are significant fluctuations in satisfaction, it would be helpful for academic teaching staff to be aware of this.

There is little information available about how student respondents interpret the substantive meaning of items in quality of teaching student feedback surveys. Some items are presented which are at a very specific level, and hence need little interpretation. Others, however, are presented at a more general level, and are subject to individual interpretation by the student respondent. An item such as “I had a clear idea of what was expected of me in this subject” could refer to behavioural or intellectual expectations at one level, or to specific activities at another. The item “I received helpful feedback on how I was going in this subject” is another that is the focus of much uncertainty, as attested to by several research reports (Brown, Gibbs & Glover, 2003; Mutch, 2003). These reports base their analysis on both qualitative (interview) and quantitative (survey) data. Responding to an item

at the general level can mean that a specific, although perhaps minor, uncertainty can cause one student to respond negatively, while the negative rating by another student may be a response to generalized uncertainty. It is therefore not clear what general items such as these are measuring. It would obviously be of interest to academic staff to understand the reasoning behind student perceptions of teaching effectiveness, where this is not self-evident. Deconstruction of such general items into more specific statements that sample sub-domains of the construct being measured could be a useful strategy to employ in order to explore student interpretation of item meaning.

This research was designed to address three issues; first, the degree to which satisfaction levels are similar year by year; second, the degree to which satisfaction levels are stable throughout a semester; and third, how students interpret generic level evaluation items.

## **Method**

The Quality of Teaching Student Feedback Questionnaire (QOTSFQ) was administered at the end of a subject in which educational psychology students were enrolled. Mini questionnaires modelled on the QOTSFQ were also administered throughout the semester in which the subject was offered, in order to identify the stability of student perceptions of satisfaction over the semester, and to identify how students interpret the meaning of generic items. An example of this approach is shown in Appendix A.

## **Procedure**

Postgraduate educational psychology students enrolled in a research methods subject were invited to participate in the research. The investigator, who was also the academic teaching the subject, explained the project in the first class of the semester; its aims, details of what students would be required to do if they participated, and arrangements for both privacy and confidentiality. After the investigator had absented herself from the room, a second academic who had previous involvement with these students distributed a written Plain Language Statement, which outlined details of the project, and a Consent Form. Students were invited to ask questions about the project and their participation. The following week, the second academic again came to class, and collected completed Consent Forms which were sealed in an envelope and given to administrative support staff to keep secure. Throughout the data collection phase of the project, the investigator had knowledge of how many, or which, students had volunteered to participate. For the administration and completion of the mini questionnaires, similar procedures were followed, in that on each of three occasions during the semester, the investigator absented herself from the

room, while questionnaires were distributed and then collected by an administrative support staff member, who then sealed forms in an envelope and kept them secure. Completion of the formal QOTSFQ was carried out at the end of semester according to normal university procedures; the investigator distributed the questionnaires, and students then placed completed forms in the departmental envelope provided, and sealed it. All forms were collated by the administrative support staff member, and the data entered into a spreadsheet. This was given to the investigator for analysis after final subject results had been entered in the university's records system.

## Materials

Materials included the Quality of Teaching Student Feedback Questionnaire (QOTSFQ; University of Melbourne); three Mini Questionnaires developed by the investigator; and QOTSFQ statistics from other years. The QOTSFQ includes nine common items, to which additional items can be added in order to elicit feedback from students on matters peculiar to certain subjects or faculties. Many items in the QOTSFQ are derived from the CEQ (Ramsden, 1991). Of the nine common items, four are used as primary indicators of quality of teaching by the University for discussion with staff and for the purposes of internal promotion. These were therefore targeted for investigation in this project. They were:

1. I had a clear idea of what was expected to me in this subject
2. This subject was well taught
3. This subject was intellectually stimulating
4. I received helpful feedback on how I was going in this subject

Students responded to these statements using a five point scale, ranging from Strongly Agree to Strongly Disagree.

The Mini Questionnaires targeted the same four items, but provided more detail to define them. Also, each Mini Questionnaire was to be read by the students in the context of the seminar class in which they participated on that day, rather than responding in the context of the subject over the full semester. Each of the four items was deconstructed in an effort to identify how students interpret their meaning. Deconstructions were taken to two levels. For example, the generic item "I had a clear idea of what was expected to me in this seminar" was deconstructed first into differentiating between behavioural and intellectual expectations. At the second level, within each of these expectation areas, students were asked to identify exactly what those behavioural and intellectual expectations were. Content for the deconstructions was developed prior to the formal data collection phase of the project, and was based on asking representative members of the student body and academic staff for their understandings of what the generic items meant. For example, behavioural expectations included general behaviours such as:

- respect the opinions of others

- participate/interact
- respond to invitations to participate/interact
- listen actively
- take notes
- ask for clarification if needed

Students were also asked to identify specific behavioural expectations such as the types of exercises or discussions in which they had been asked to engage during the three seminar classes in which data were collected.

For each of the four generic items therefore, students were invited to think deeply about their interpretations of the meanings of these, provide responses to general examples, and provide responses to criterion-based specific examples. These latter included technical content being learnt in the specific seminar. The rationale for development of the criterion-based items was to check whether students who indicated, for example (1) that they knew what the learning objectives for a particular seminar were, and (2) that they had achieved the learning objectives; did in fact know what those objectives were, and had achieved them. So the goal was to discover whether students' level of satisfaction was indeed based on logical reasoning about seminar content, or on non-content based attitudes.

Students responded to the Mini Questionnaires using a three point scale, ranging from Agree to Disagree. A three points, rather than five point scale, was used in response to two realities. First, the word 'agree', and its antonym, 'disagree' are by definition, absolutes; they do not require modification. Second, students enrolled in the educational psychology courses targeted in this study, have typically indicated preference for three point scales as adequate for the purpose, and the Mini Questionnaires were designed with this in view.

QOTSFQ means for Research Methods classes from other years were used in order to provide comparative information about the stability of student perceptions of this subject across the years. Although analytic techniques, readings, and assessment tasks vary slightly year by year, the subject had not varied greatly over this period. Similarly, although students in the cohort vary somewhat from one year to the next, their goals in enrolling in the degree programs, and their backgrounds in terms of tertiary education, are similar. To the degree that each individual cohort is representative of these cohorts in general, it was not expected that there would be a great deal of variance in their attitudes to the teaching and learning environment.

## **Participants**

The full cohort of students enrolled in Research Methods in 2005 (N=16) volunteered to participate in the project. Anonymised data from

students enrolled in the subject in 2002 (N = 23), 2004 (N = 18) and 2007 (N = 16) were used for QOTSFQ comparisons. All student participants were in the first year of their Master or Doctoral studies in educational psychology. The students had previously completed a four year major sequence in psychology. All subjects in these postgraduate degree programs are compulsory. Research Methods is a subject in which students study multivariate statistical analysis and are introduced to methods of critical analysis of research. A majority of assessment tasks are pair or small-group based. Seminar time is typically structured into short lecture segments, pair or small-group work sessions, whole group discussion, and individual or pair work using statistical software in a computer laboratory environment.

Students completed three assessment tasks as part of their Research Methods enrolment during the survey period; apart from these tasks fulfilling their major purpose (facilitating student learning). They also provided the vehicle for instructor-student and student-student feedback.

## Results

### Stability Over Cohorts

In order to evaluate the degree to which satisfaction levels were constant across successive cohorts, means of student responses to the four statements of interest were plotted over four enrolment years. Ratings can range from low of 1, to high of 5. The lowest ratings were found for 2002, in which year 23 students were enrolled. Notwithstanding the low enrolment numbers, the distributions within each cohort were relatively homogeneous. It is clear that the 2005 students indicate highest level of satisfaction, rating all statements higher than any preceding year. Question 3, concerning intellectual stimulation, received the lowest rating.

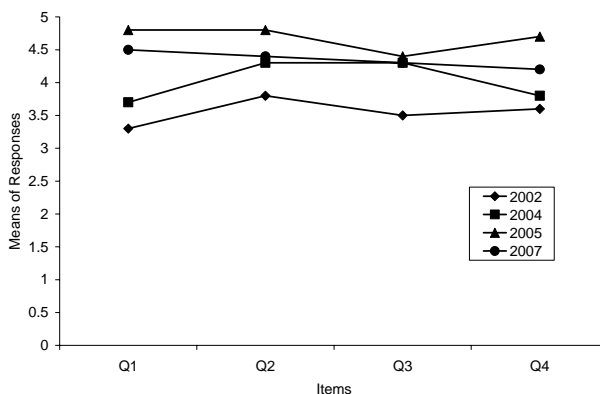


Figure 1: Means of Questions 1 to 4 over four years



## Stability Over a Semester

In order to evaluate the degree to which satisfaction levels were constant throughout a semester, student responses to the generic four items from the three Mini Questionnaires and the QOTSFQ were compared. To ensure that the difference in scale of measurement between the Mini Questionnaires and the QOTSFQ did not contaminate the results, the five point scale scores were converted to a three point range by amalgamating the two agree responses and the two disagree responses. In fact there were original endorsements of either of the disagree responses, so amalgamation of these had effect; although there was distribution across the two agree responses, their amalgamation implies a more conservative statistical outcome than would otherwise be the case. Repeated measures analysis of variance was used to investigate the four items over time. Due to violation of the assumption of sphericity, the Huynh-Feldt test of significance was used.

There were significant differences at a probability of 0.01 for any of the four generic items (Item #1:  $F(3) = 0.948$ ,  $p = 0.404$ ; Item #2:  $F(3) = 1.000$ ,  $p = 0.363$ ; Item No. 3:  $F(3) = 8.000$ ,  $p = 0.022$ ; Item #4:  $F(3) = 0.887$ ,  $p = 0.434$ ). Manual checking of the means and standard deviations confirm little variation in student responses to the generic items over time.

## Interpretation of items at generic and deconstructed levels

In order to identify how students interpret generic items, variation across the second-level deconstruction items was analysed and compared with the relevant generic statement.

### *Expectations*

Under Q1 I had a clear idea of what was expected of me in this seminar, behavioural expectations was deconstructed into: respect the opinions of others, participate/interact, respond to invitations to participate/interact, listen actively, take notes, ask for clarification if needed. All students on all occasions agreed with each of these expectations, apart from those related to taking notes, where three students recorded a neutral response at Time 1, two at Time 2, and three at Time 3. Intellectual expectations was deconstructed into: understand the main points, think critically, engage with the information/task and apply general concepts to specific examples. The majority of students agreed with each of these expectations. At Time 1, two students disagreed at the generic intellectual level, and two recorded a neutral response to understanding the main points; at Time 2, one or two students recorded neutral responses to most items; and at Time 3, all students agreed with each item.

In terms of the accuracy of student perceptions about specific learning expectations in the seminar, all students at Time 1 responded correctly, seven students at Time 2, and 13 students at Time 3.

### *Well Taught*

Under Q2 “This seminar was well taught”, the generic topic was deconstructed into knowing what the learning objectives were, whether these could be summarized, and whether they were covered; student belief that the objectives had been achieved, and whether their knowledge and understanding had been increased; and whether the teaching method facilitated learning in terms of structure, presentation, and communication. At Time 1, one or two students reported neutral responses to most items, with five students reporting a neutral response to believing that they had achieved the learning objectives, notwithstanding that all but one reported leaving the seminar with their knowledge or understanding increased. At Times 2 and 3, all students but one agreed with all items.

### *Intellectual Stimulation*

Under Q3, “this seminar was intellectually stimulating”, the generic item was deconstructed into being engaged by the subject matter, and specifically wanting to find out more, wanting to explore associated areas, and stimulating thought. Notwithstanding 12 students at Time 1 reporting agreement with the seminar being intellectually stimulating, only six and ten students respectively reported a similar degree of wanting to find out more, or wanting to explore associated areas, with all students agreeing with the remaining items. At Times 2 and 3, a similar pattern of responses was found.

### *Helpful Feedback*

Under Q4 “I received helpful feedback on how I was going in this seminar”, the generic item was deconstructed into identifying whether the students knew they were proceeding well, and whether their concerns had been answered, their understandings confirmed, their contributions recognized, and their participation used to facilitate further discussion. At Time 1, six students were neutral in their responses concerning knowing that they were proceeding well; by Time 2, this decreased to four students, and by Time 3, to three students. The more specific items received between one and three students responding neutrally at Times 1 and 2, and one or two students at Time 3.

## **Discussion**

The three research questions relied on gathering formal quality of teaching student feedback data over several years, and collecting quality of teaching data from a postgraduate student cohort. In terms of the cohort which participated in the more intensive collection of data, a primary factor inhibiting the exploration of the research questions was the lack of variance in the data. Why this occurred is a question, answered in part through the exploration of reliability of measurement. Furthermore, the small number of

16 or so students typically enrolled in this subject reduces the possibility of drawing strong conclusions from the data, although the findings may usefully inform the design of a larger study.

The similarity of quality of teaching feedback for the Research Methods subject over the years can be assumed to confirm the reliability of the measurement tool, the Quality of Teaching Student Feedback Questionnaire. In the year in which the feedback ratings were lowest, 2002, there were 23 students enrolled in the subject. Notwithstanding slight variations over the years, 2005 stands out in that the highest ratings for all items were measured. Why?

The relative lack of variation across the years supports the assumption that the questionnaire is a reliable measure. Presumably therefore, the higher ratings for 2005 cannot be attributed to measurement error. Similarly, given that the cohort itself appears on the basis of background and motivation to be representative of these cohorts in general, the change cannot be attributed to specific a priori differences. The investigator taught the same subject in a similar manner across the years, so the difference cannot be attributed to change in instructor. It is suggested that the difference in student response in 2005 lies in the self-conscious interest demonstrated by both investigator and students in the students' learning experience. That all enrolled students participated in the research project demonstrates their awareness of the project and their enthusiasm for the stated aims of the research. A distortion of intervention or research effects caused by participant response due to the special attention they receive from researchers is a well-documented occurrence (Mayo, 1933; Draper, 2005) commonly referred to as the Hawthorne effect. These students were participating at the request of the investigator, also their teacher. Procedures were set in place to ensure that the student-teacher dependency would not influence the decision of the students to participate. However, beyond this ethical issue, is the motivation that the students ascribe to the investigator in carrying out the research, and their own personal goals and understandings of the implications of the research for their behaviours and attitudes. By drawing attention to the learning-teaching process, the investigator may have caused the students to feel more important and valued, to reflect more themselves on their learning, and hence be more sensitive to classroom processes and dynamics. An additional possibility is that the combination of investigator-teacher roles brought about subtle changes in teaching method, such that the investigator in fact became more effective in identifying expectations and providing feedback to students. These possibilities are not unique to this study, but help to highlight the problems which beset the gathering of useful attitudinal data. The finding that the satisfaction levels regressed in a year following the 2005 data collection provides additional support for this hypothesis. Shirbagi's (2007) findings concerning halo effects of students' perceptions of lecturers

provides a complementary perspective on student satisfaction. Although focusing on charisma, Shirbagi shows that lecturer characteristics appear to have stronger impact on student perception of teaching effectiveness than do actual course attributes. That the comparatively large number study of 250 participants conducted by Shirbagi identifies the sensitivity of student perceptions to lecturer characteristics, similarly to this study which is characterised by a small number of participants and a deconstructed approach, provides a cautionary message. If students are influenced in their ratings of teacher effectiveness by their perceptions of the charisma or motivations of their lecturers, there is potential for bias of student evaluations.

Students reported experiencing stable levels of satisfaction throughout the semester. These satisfaction levels were confirmed by the final QOTSFQ results. It is tempting to assume that such stability is typical, and hence that end of semester feedback about quality of teaching represents generalized perceptions rather than situation-specific perceptions. However, given the lack of variability in the perceptions of these students, there is evidence for this conclusion. Data analysed at the deconstructed level indicated sensitivity of the Mini Questionnaire to seminar-specific levels of satisfaction. For example, a relatively large number of students were not fully aware of specific learning expectations at Time 2, although this lack of certainty was not reflected at the generic level.

The potential richness of data contributing to the issue of interpretation of satisfaction statements was also minimized by its lack of variability, at both generic and specific levels on the Mini Questionnaires. The results indicate strong congruence between endorsement of items at generic and specific levels for all four areas of evaluation; expectations, good teaching, intellectual stimulation, and helpful feedback. Inclusion of the specific items identified particular areas of confusion. However, some students were evidently unsure about whether the taking of notes was an expected activity in these seminars or not. This confusion was merited in that the investigator did not have clear expectations in terms of this activity; evidently some students were sensitive to this. In terms of overall responses to expectation items, it was clear that students became more clear about what was expected as the semester progressed.

In terms of student perceptions of good teaching, it appeared that student recognition of their own increase in knowledge did not necessarily generalize to belief in their having achieved the learning objectives. One explanation for this inconsistency might be that use of the word achieved is a problem for students who may be intrinsically less confident about their abilities.

Deconstructions of intellectual stimulation as a domain, indicated that positive endorsement at the generic level obscures further information which teachers would find of interest. Although students typically responded

that they found the seminars intellectually stimulating, deconstructions which focussed on students actively seeking more information received less positive endorsement. It appears that although the students were interested, they were not sufficiently engaged to make efforts above and beyond the necessary. It is precisely these latter expressions of interest which would provide positive reinforcement for the academic teaching community; and it is probable that endorsement of intellectual stimulation at the generic level by the student cohort would be interpreted by the academic teaching community as implying motivation to explore beyond subject requirements.

Students indicated that they received helpful feedback about their progress, and that this increased over the semester. This can be understood by virtue of the real amount of task/assessment feedback they in fact received, both in hard copy and verbally as the semester progressed. It may well be that greater familiarity with the investigator and her methods of providing feedback as the semester proceeded, also influenced this student perception. Notwithstanding the fact that the majority of students responded positively to specific level propositions such as their particular concerns being answered and contributions being recognized, these perceptions did not generalize for all students to their feeling confident in how they were progressing overall.

The slight inconsistencies found between positive evaluations of intellectual stimulation and receiving feedback on the one hand, and lack of students engaging beyond the task as well as some lack of confidence, provide indications that the deconstruction approach piloted here might have very useful capacity to inform our understanding of the student view of their teaching-learning environments.

## **Summary**

The small sample sizes and the lack of variability within the quality of teaching student feedback constitute a major obstacle to drawing strong conclusions from the results. Notwithstanding, there is sufficient basis from this study upon which to base further investigation. It is suggested that the high evaluations by students in 2005 may be due to the effect of the research project implementation itself on both students and teacher. It is also suggested that use of deconstructed items can contribute additional information about student perceptions of quality of teaching; and that these could be of particular benefit to both students and teachers during the semester of implementation, as well as providing valuable information to teachers for implementation with future cohorts.

The search for understanding of the meaning of student feedback is becoming increasingly focussed on specific rather than general information. Voss and Gruber's (2006) analytic approach is characteristic of this move; they adopted a laddering technique which called for students to focus on their expectations of lecturers. This focus on desirable characteristics of

lecturers is part of a research stream which has demonstrated that students' recommendations of subjects and courses is to a large extent determined by their views of lectures and lecturers (Douglas et al., 2006; Hill, Lomas & MacGregor, 2003). One interpretation of this study's results concerns the possibility that teacher characteristics (in this case, the teacher's self-conscious interest in the student learning) may play a greater role in overall student satisfaction than does student awareness of their learning. Regardless of whether a teacher-directed or student-focussed teaching-learning environment provides the framework for investigation of satisfaction outcomes, there is a major need to understand what lies behind general statements of satisfaction, if these are to provide useful information for educational institutions

## **Conclusion**

One implication of this research for academics and their teaching departments concerns a self-conscious approach to teaching effectiveness. Although dual roles of investigator and teacher in principle present possibilities of conflict of interests, dependency risks, and contamination of research results, the benefits of this duality must also be taken into consideration. It appears probable that students who are aware of their teacher's overt interest in their learning, become more engaged in the learning process, and more aware of factors within that process that contribute to their evaluation of it. In parallel, the teacher's awareness of factors relevant to student learning promotes greater engagement with those factors. The degree to which discussion between students within specific cohorts or enrolled in specific subjects, about their teaching-learning environment, might influence the group evaluation of that environment is another unknown factor, which further investigation could usefully target.

The second area for further investigation involves the need for attention to be focussed on the semantics of quality of teaching surveys, in terms of their items. To investigate this method, larger studies need to be implemented where there is potential for contamination of results due to the dual roles of investigator-teacher. The deconstruction of items in satisfaction and quality of teaching surveys might provide a potentially more useful form of feedback for teachers in higher education than do more general information satisfaction items. The latter may well be useful at the institutional level, but does not necessarily inform, nor therefore have the potential to improve, actual delivery.

Development of alternative approaches to obtaining information, as exemplified in this study, and combined with different approaches to analysis of information, as exemplified by Douglas et al. (2006) and Naransimhan (2001) have the potential to enhance our understanding of student perceptions of and satisfaction with the learning-teaching environment.

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**Appendix A**

Example of Mini Student Feedback Questionnaire (#2)

STUDENT ID:	<i>Agree</i>	<i>Neither Agree nor Disagree</i>	<i>Disagree</i>
<b>I had a clear idea of what was expected of me in this seminar</b>	A	N	D
I know what the behavioural expectations of me were	A	N	D
I was expected to: <ul style="list-style-type: none"> <li>respect the opinions of others</li> <li>participate/interact</li> <li>respond to invitations to participate/interact</li> <li>listen actively</li> <li>take notes</li> <li>ask for clarification if needed</li> <li><i>specify any other</i> .....</li> <li><i>specify any other</i> .....</li> </ul>	A	N	D
	A	N	D
	A	N	D
	A	N	D
	A	N	D
	A	N	D
	A	N	D
Formally, I was expected to: <ul style="list-style-type: none"> <li>complete an individual exercise</li> <li>participate in one or two group exercises</li> <li>participate in a group discussion</li> <li>all the above</li> </ul>	<i>Circle one correct</i>		
I know what the intellectual expectations of me were	A	N	D
I was expected to: <ul style="list-style-type: none"> <li>understand the main points</li> <li>think critically</li> <li>engage with the information/task</li> <li>apply general concepts to specific examples</li> <li><i>specify any other</i> .....</li> <li><i>specify any other</i> .....</li> </ul>	A	N	D
	A	N	D
	A	N	D
	A	N	D
	A	N	D
	A	N	D
I was expected to acquire: <ul style="list-style-type: none"> <li>technical understanding of PCA and PAF</li> <li>values systems</li> <li>conceptual understanding of factoring</li> <li>a deep interest in statistical methods</li> </ul>	<i>Circle one correct</i>		
The main difference between principal components and factors is: <ul style="list-style-type: none"> <li>a purely technical issue</li> <li>the analysis of variance versus analysis of covariance</li> <li>that components are used in factories</li> <li>that one is much easier to interpret than the other</li> </ul>	<i>Circle one correct</i>		
	A	N	D
	A	N	D
	A	N	D

	Agree	Neither Agree nor Disagree	Disagree
<b>This seminar was well taught</b>	A	N	D
I know what the learning objectives were	A	N	D
I can summarise the learning objectives for this seminar	A	N	D
The learning objectives were covered in the seminar	A	N	D
The learning objectives for this seminar were : <i>(insert)</i>	<i>Achieved?</i>		
a)	A	N	D
b)	A	N	D
c)	A	N	D
I believe I achieved the learning objectives	A	N	D
I left the seminar with my knowledge or understanding increased	A	N	D
The teaching method facilitated my learning	A	N	D
The content was structured in a way that made sense to me	A	N	D
The methods of presentation were appropriate for the content	A	N	D
Communication was clear	A	N	D
<b>This seminar was intellectually stimulating</b>	A	N	D
I was engaged by the content (subject matter) of this seminar	A	N	D
I would like to find out more about the subject matter	A	N	D
I would like to explore some areas related to the subject matter	A	N	D
This seminar made me think	A	N	D
<b>I received helpful feedback on how I was going in this seminar</b>	A	N	D
I know that I am proceeding well in my understanding of the content of this seminar	A	N	D
Any concerns I raised, were answered	A	N	D
I received confirmation of my understandings	A	N	D
My contributions were recognised	A	N	D
My comments or participation were used to facilitate further comment or discussion	A	N	D
<i>specify any other</i> .....	A	N	D
<i>specify any other</i> .....	A	N	D