Student Feedback on Teaching: Online! On target?

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Evidence from a number of studies suggests that student feedback is one of the most reliable indicators of the quality of teaching. The use of questionnaires to collect student opinions on the quality of teaching in universities is now widespread in Australia and overseas. The results of these surveys are used for a variety of purposes including as evidence to assist staff to modify their course to better address student needs, as evidence of teaching quality in staff promotion portfolios, and in aggregated form as evidence for performance indicators for a particular faculty or the whole institution. Considerable resources go into this survey activity and promotions and funding rest to some extent on the results.

At Murdoch University, every unit is surveyed each time it is offered and this creates some 20,000 survey forms a year. As more and more units are offered online, the opportunity exists for conducting the student feedback surveys online as well. The Teaching and Learning Centre (TLC) at Murdoch has established a pilot study in using an online survey among the Engineering units offered at it's Rockingham Campus. All of these units require students to have access to the Internet, so the form was designed as an interactive web page. The goals of the pilot study are to increase the response rate, to reduce resource overheads, and to provide a basis for online access to results.

This paper will explore the use of student feedback surveys in universities and will discuss issues relevant to this method of feedback, using the experience at Murdoch University as an example. The pilot study of online surveys will be described and the results of the pilot study will be reported. Issues of verification, anonymity, confidentiality, response rate and quality of the responses will be explored.

1. Background

A greater focus on the quality of teaching in Australian universities over the last ten years has resulted in an increased use of student feedback on teaching and units and in increased uses to which the information collected is put. Whereas student evaluations of teaching in Australia have been in use only for the last twenty years or so, they have a much longer history elsewhere. For example, in Europe in the Middle Ages, students paid their lecturers according to what they considered them to be worth (Doyle, 1983; Travers, 1981). There was no problem in weeding out bad teachers, as they were not paid enough to live! Growth in the use of student surveys in this century has principally been in the United States, with Remmers at Purdue and Guthrie at the University of Washington being the principal initiators (Aleamoni, 1981; Centra, 1987; Cohen, 1990; Doyle, 1983; Remmers & Gage, 1955). By the mid nineteen-eighties student surveys were reported as being the principal source of information used in promotion and tenure decisions in universities in the US (Aleamoni, 1987).

The literature on student evaluations of teaching is immense - more than 2,100 articles were located recently (Cashin, 1999). The vast majority of these studies support the view that properly constructed, suitably administered and rigorously interpreted student surveys can be valid, reliable and free of bias to a high degree, and provide useful information on the quality of teaching (Braskamp & Ory, 1994; Cashin, 1999; Centra, 1993; Marsh, 1987). It is argued that only students are able to comment accurately on their experience of studying in a particular class. Furthermore, surveys of graduates show a high correlation between their ratings and those of students (Centra, 1974; Overall & Marsh, 1980). On the other hand, critics of student surveys have voiced a number of concerns, including that students are not good judges of teaching quality, that the surveys are popularity contests, and that good ratings can be 'bought' for easy grades. However, the research literature generally does not support these views. Instead, Marsh (1987) found that taken together a number of possible biasing factors, -

differences across disciplines, class size, prior interest in the subject, - account for only fifteen per cent of the variation in students ratings. Moreover, much of the current literature which informs the practice of good teaching in higher education considers the teacher-student relationship to be of paramount importance in the facilitation of learning. Good teachers need to listen to what students have to say, value their opinions and be open to suggestions they may make for change (Brookfield, 1990; Ramsden, 1992).

2. Murdoch student feedback system

In line with the trend outlined above, Murdoch University introduced in 1994 mandatory student surveys of units on a three year cycle to be administered by the Teaching and Learning Center (TLC). The original purpose of the surveys was to provide student feedback to teaching staff for academic staff development and curriculum improvement in individual units. However, in the past six years the uses to which the student feedback data are put have expanded to include the following; in aggregated form as one of the university's performance indicators, in the calculation of a Teaching Quantum to reward quality teaching, in the determination of Teaching Excellence Awards, for promotions and, of course, for the overall improvement of the unit. As has occurred in many universities, what was initially a formative tool for improvement at the level of the individual teacher and unit, is now also being used to collect summative information for personnel and management decisions. By 1998 these changes in the use of the information, together with the development of clearer standards for units and teaching by the university indicated the need to move to annual surveys using a standard questionnaire for all units. In 1998, the University changed its policy on the student feedback process to require all units to be surveyed each time they were offered rather than on a three cycle. In line with the increased workload this required, the flexible questionnaire form with space for optional questions was replaced by a standard questionnaire form. The TLC currently surveys over 900 units each year involving over 20,000 forms.

It is recognised that student feedback provides only one source of information for evaluating teaching and units and that a questionnaire is only one method of collecting information from students. The TLC actively encourages academic staff to use other, more qualitative, methods of collecting student opinion to collect richer and more in-depth data specific to their units. However, questionnaires are by far the most widely used instrument and have the advantage of combining quantitative and qualitative data, while not requiring too much student time to complete and staff time to analyse. Furthermore, computer readable forms and statistical software packages allow for quick and cost effective data entry and analysis, even for very large classes. An online survey system extends these benefits even further by reducing associated administrative tasks, eg printing and distribution of paper questionnaires and the sorting and scanning of completed surveys.

3. Moving to Online Teaching and Learning

The introduction of the internet and the world wide web has encouraged universities, as well as other educational providers, to redesign their courses to include the use of online technology and materials. This has been driven by a number of factors including the rapidly increasing amount of information available on the web, the need to increase the flexibility of teaching and learning to meet the needs of a more diverse student population, the opportunity to improve the pedagogy of courses and the desire to ensure that students are exposed to information technology skills as part of their educational experience. At Murdoch University we have moved from offering no online units in 1996 to offering over 140 units online in 1999. It is our

aim to ensure that all students experience online teaching and learning at some point in their program of study by the year 2002. The shift to online teaching and learning has now moved beyond the experimental stage to becoming a core study activity at many universities.

The TLC at Murdoch University has been at the forefront promoting the use of online technology. We are responsible for managing the university's online teaching and learning system, Murdoch Online (see Murdoch Online web site at http://www.murdoch.edu.au/online), providing educational design and development expertise to the university, providing staff development in online course development and delivery, and ensuring all of our information and support material is available online. One of the TLC's key roles is in managing the University's system of student evaluation of courses. And like the other aspects of our services, we are interested in exploring the extent to which the student evaluation process can be moved online.

To explore the potential of an online system, the TLC established a pilot project with the School of Engineering on the Rockingham Campus of Murdoch University. The pilot was conducted in Semester 1, 1999[i].

4. Description of the pilot study

Murdoch University's School of Engineering was established in 1996 and is located wholly on the Rockingham Campus. Students undertake a four year bachelor's degree program in Software or Instrumentation and Control Engineering. The Engineering program has a strict linear structure, unusual for Murdoch, in which students have no opportunity to select units from other areas of the university. Similarly students from other courses are generally not enrolled in Engineering units.

The School of Engineering at Murdoch University is a leader in offering online units. It was one of the first schools at Murdoch to introduce online components in its units and at the time of the pilot project all eighteen Engineering units on offer had substantial online components. This commitment to online teaching, together with the 'closed' structure of the course, the high level of computer literacy that students in this course would be expected to have, and the strong support of the Dean of Engineering, provided an excellent environment in which to undertake the pilot study of the use of an online survey.

Online survey process

This form used in the online survey process was identical to the paper form used in student surveys of units throughout the university. The form comprises fourteen questions on a 'strongly agree' to 'strongly disagree' four point scale, two closed-ended questions relating to enrolment mode and unit resources and four open-ended questions seeking general commetnson the unit. A programmer was engaged to construct a web based survey form for use in the pilot. The data from the completed online questionnaire was downloaded into a delimited file, which was analysed using SPSS in the same way as the paper forms. As well as the information above, details of the date and time of completion by each student were collected.

In first semester 1999, there were eighteen units with a total of two hundred and eighty student enrolments to be surveyed in the School of Engineering. The process of conducting the surveys was set up in consultation with the Dean of the school. Student surveys at Murdoch University are normally undertaken during the last two weeks of the semester. In an attempt to maximise the response rate, Engineering students were allowed access to complete the online survey form over a three week period.

Initial access to the survey form was from the Engineering Online Units 'Frontpage' which is password protected, and a banner was inserted on this page, alerting students to the need to complete a survey form for each unit in which they were enrolled. In addition, students were notified of the need to complete the survey via the School email list, with two email reminders being sent ten days apart. Finally, teaching staff were given information on the online survey and asked to encourage the students to complete it, and to allow (if possible) class or lab time for completion.

In the third week of second semester an informal discussion with students was conducted to collect their views on the ease of use of the online survey and reasons for non-completion.

5. Results

This pilot project was designed to explore whether the student evaluation of units process could be successfully offered online with the aim of improving the efficiency of the process while maintaining or improving the quality of the responses.

Efficiency Issues

The efficiency of the online process was examined from the point of view of the teaching staff, the students and the survey staff in the TLC.

Views of Teaching Staff Teaching staff involved in the units included in the pilot study were generally pleased with the online process. They felt that it made good sense to offer the surveys online as this supported their efforts to encourage students to acquire online skills and to recognise the value of online technology. Several staff also felt it had made a small but useful contribution to reducing their workload and had removed the intrusion of the survey process from the contact time spent with students. Based on past experience, the paper surveys use approximately 20 minutes of class time per unit. Thus in the pilot project about six hours of contact time was saved over the 18 units. If this was extrapolated to the 900 units surveyed each year at Murdoch University, it would save about 300 hours of contact time. However, this effectively results in a transfer of the survey time to students' non-contact time. As will be seen, there is potentially a price to be paid for this.

Views of Student Most students felt the online forms were an improvement over the paper based forms. Specifically, they felt the online form was easier to complete, required less time and provided greater anonymity than paper based surveys. Several students commented that they completed the questionnaires for all of their units in one sitting and this was very convenient. There is of course a danger in this practice if students don’t clearly distinguish between units. However, there was no evidence of identical forms from these students. Although information on the time spent in completing the online forms was not collected, it would appear from student comments that the online forms took less time to complete than the paper forms.

Views of TLC Survey Staff From the perspective of the survey staff in the Teaching and Learning Centre, the process enabled some 280 students to be surveyed in 18 units without the production of paper copies of the survey forms. The major benefit for TLC staff is the savings in administration time in preparing and delivering the correct number of survey forms for each unit, scanning the completed forms for each unit and preparing the student comments for return to the lecturer. It is estimated that this saves about 30 minutes of handling time per unit. For the Engineering pilot project this equates to about 9 hours of time saved and for the whole university about 450 hours per year, or 12 weeks of staff time.

Quality Issues

Response Rates Murdoch University policy is to achieve response rates of over 50 per cent in the student survey for each unit. The mean response rate for units using the paper based survey process is 64 per cent and historically has been 65 per cent for units in the School of Engineering. For the units in the online pilot, the response rates were generally very low, with a mean of 31 per cent and only four of the eighteen units achieving a response of 50 per cent or higher. The response rate for individual units varied from 3 per cent to 100 per cent. The unit with a 100 per cent response rate conducted the survey in a lab setting in which students were given time to complete the survey online.

Discussions were held with both staff and students about why the response rates were low. Staff indicated that they were expecting the paper forms and had probably not fully prepared the students for the online process. Some of the students who did not complete a survey form commented that because there was no pressure to complete the survey, they didn't do it. Reminders sent out to all students by email did result in a temporary boost in responses, but not sufficient to raise the overall response rate to acceptable levels.

Quality of Responses There is no easy way to measure the quality of the students responses. However, an analysis of the overall ratings given to the units offered in semester 1 1998 by paper and semester 1 1999 by online surveys shows no obvious pattern of bias. One measure of quality is the extent to which students take the opportunity to provide comments on the unit. Many lecturers find these comments the most useful part of the surveys. Both the paper and online survey forms seek students' comments on what they thought were the best aspects of the unit, what should be changed, how they would suggest changing these aspects and any other comments. In the paper based surveys, about two-thirds of students generally provided comments in one or more of these areas. In the online surveys, a very similar proportion, 60 per cent, of students provided comments on the units they had studied. This would suggest that one aspect of quality, students provided comments, was maintained in the online survey process.

Several other areas of quality improvement which resulted from the online survey were the reduced number of unusable forms due to unreadable and/or double responses. The electronic form does not allow forms with double responses to be submitted. Thus there was virtually no time required to clean the data set produced for each unit. In addition, as the students type in their comments and these are stored as a cells in a spreadsheet, they can be easily listed for lecturers with no fear of identifying the student who provided them. The existing process of checking the comments for racist, sexist or defamatory comments is still required. Where these are found, they are deleted.

6. *Conclusions and Future Directions*

The pilot study of the online student survey process served its purpose very well. It highlighted the attractiveness of the online process to both students and staff and showed that there were benefits in efficiency and quality of responses. However, the pilot study also identified low response rates as a major issue for online surveys.

An examination of the very limited literature on online surveys indicated that low response rate is a common problem. Furthermore, low response rate had been identified as a common problem in comments provided in response to a question posed by the authors on an internet discussion list. A number of possible strategies have been suggested to encourage more students to respond. These include:

1. Require students to complete the survey to successfully complete the unit or as a prerequisite to getting their grade. This is currently used at some universities in the US but seems too authoritative in the Australian higher education environment.
2. Build the survey into the unit materials, with automatic reminders as is done for assignments. This is done at Macquarie University in NSW, and they report relatively high response rates.
3. Set aside time in the unit for the whole class to complete the survey. This requires a computer lab situation but where this is available it is successful and was recommended by students.
4. Staff to provide strong encouragement to student to complete the surveys. This was probably lacking in the pilot project but is essential. Where the survey is embedded in the unit structure, staff encouragement is implicit thus reducing the need for explicit support.
5. Staff to use and be seen to use the results in improving units. Research conducted at the TLC (Ballantyne, 1999) shows that this is a very important factor for students, particularly where they have to complete a number of surveys each semester.
6. The university to be seen to be using the results to recognise good and bad teachers, and as feedback to students. This, like #5, affects students propensity to complete surveys in general.

The TLC has been encouraged by the pilot project and has commenced development of a full online survey system. It is intended to embed the surveys in the unit structure and to provide for online analysis of the results. Systems to do this already exist at some other universities.

[1] The authors would like to thank the staff and students of the School of Engineering, particularly the Dean, Professor Peter Lee, for their participation and assistance in the pilot study.

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