Student perceptions of inclusivity in lecturing at university

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***Abstract**: Since 1998 the University of Western Australia has gathered data on student perception of inclusivity in teaching through an item included in its Student Perceptions of Teaching system. This study analyses data on lecturing with respect to broad discipline categories, student and lecturer gender, and course year levels. The study is exploratory, no previous research into student perceptions of inclusivity in higher education having been identified. The findings are broadly consistent with outcomes of research into other aspects of student evaluations of teaching while suggesting closer attention should be given to some key aspects such as an apparent perception that female lecturers in science/maths are more inclusive in their lecturing than are their male counterparts. Inclusivity, it is argued, is an issue of growing importance given greater diversity in the student population of our universities and greater competition for students, both local and international.*

***Keywords**: student evaluation, inclusivity, lecturing*

Introduction

In contrast to the view expressed by Nunan, George and McCausland (2000) that 'joining the competition as an inclusive university is not a popular option' (p.69) the authors of this paper believe that 'inclusivity' is becoming the catchcry in many Australian universities seeking to more effectively market themselves to a wider cohort of prospective students, be they local or overseas students, full-fee paying or HECS-place students. Less cynically inclusivity is about giving those students we do have, leaving aside how they got to be there, the best learning opportunities possible through making them feel welcome and a part of the learning experiences provided. While some attention is being given to issues of equity and access with respect to the use of information technology in higher education, e.g. Barraket et al. (2000), inclusivity as demonstrated by the teacher is often ignored. This paper reports on feedback provided by students to a single item included in University of Western Australia (UWA) student evaluation of teaching surveys. Little if anything has been done to systematically gather and analyse data on student perceptions of inclusivity in teaching in universities. This research is a start. It is exploratory in nature and signals the need for further more focused measurement of the extent to which teachers recognise and respond to student diversity. Of interest to the researchers were the influences in lectures of gender (both of the students and the teachers), year level and broad discipline group.

Conceptualisation of inclusivity

It was not the intention of this paper to discuss at length the definition of 'inclusivity in teaching' or the propriety of using either the term 'teaching' or 'teaching and learning'. It should be taken as given that when the authors refer to teaching they are obviously concerned with the learning situations, and the actual learning by students, consequent upon the 'teaching' provided. We are in agreement with the approach taken by Nunan, George and McCausland (2000) who saw the term 'inclusive' applying where "participation and success are irrespective of 'race', gender, socio-economic status, ethnicity, age and disability so that disadvantage is not reproduced" (p. 64). We have not attempted to refine the definition of 'inclusivity' in the current context, preferring to take the wording of the item in the UWA student surveys (*the teaching catered for students' diversity (gender, race, disability, etc)*) as indicative of a notion that has some meaning in the minds of students, sufficient at least to enable them to make some judgement about the extent of its presence or absence in the teaching they received. Thus inclusivity in teaching was equated with student perceptions that diversity was being catered for in teaching.

The absence of inclusivity in many of our institutions is well captured by the following metaphor:

> I describe it as there's this really great house. It's really beautiful and it's really neat, and it's been built by people who are all 5'6" or under. They want you to come because they think it's great that you're a little different from them and they would really like you to come and be in their house, but you're six feet tall. … Sometimes they figure out that maybe you're not the right height so they build one room where you can go and stand up. You will still have to operate in the whole rest of the house bent over; it's not comfortable… (Bonilla & Palmerton, 2001, p. 61)

What we already know about factors influencing student rating of teaching

There is a significant number of studies that focus on various factors that have an impact on student ratings of teaching. A number of meta-analyses of relevant research have been conducted, perhaps most notably those of Feldman and Newcomb (1973), Braskamp, Brandenburg and Ory (1984) and Marsh (1987). Braskamp, Brandenburg and Ory (1984, p.44-45) identified twenty-three factors clustered by 'administration', 'nature of course', 'instructor rank', 'student' and 'instrument', and listed the effects of each. They made no mention of anything approaching inclusivity. The current authors recently published a study of disciplinary, gender and course year influences (Santhanam & Hicks, 2002). In a study of gender bias in student evaluations of teaching, Centra and Gaubatz (2000) concluded that some same gender preferences existed, particularly for female students, but the differences, though statistically significant, were relatively small. Further, they argued that these differences may be due more to differences in teaching style rather than gender per se. Research relating to broad discipline groups and year levels has shown that ratings by arts and humanities students tend to be higher than those by science students, and, with the exception of the 'sophomore slump' (Feldman & Newcomb, 1969, p. 92), higher year levels usually mean higher ratings (Braskamp & Ory, 1994; Cashin, 1990; Civian & Brennan, 1996; Husbands, 1996; Kwan, 1999; Santhanam & Hicks, 2002; Timson & Andrew, 1997).

The University of Western Australia Context

The University of Western Australia uses a Student Perceptions of Teaching (SPOT) questionnaire loosely based on the 'cafeteria system' of Braskamp Brandenburg and Ory (1984). Use of the instrument is voluntary and confidential. It is used by a large number of academics each semester. Academics have the opportunity to select their questions from a

databank, create their own questions, or take a default set of questions relevant to the type of teaching for which they want feedback, e.g. lecturing. In 1998 the item '*the teaching catered for students' diversity (gender, race, disability, etc)*' was added to all default item sets. The item is referred to in this paper as 'the inclusivity item'.

Methodology

This study analysed student responses at the University of Western Australia to the inclusivity item in SPOT surveys over the period from 1998 to 2000 inclusive. For the purposes of the study, two very broad discipline areas were identified, i.e. the 'arts/humanities/social sciences' and the 'sciences/mathematics'. This avoided finer debates about how some disciplines should be categorised and removed the potential problem of too few data in a particular discipline. Four categories of year level were used, namely Year 1, Year 2, Year 3, and Year 4+ (including fourth and subsequent years). While some analysis of the impact of teaching type (lectures, laboratories and tutorials) is possible from the routinely collected data, inclusivity in lecturing was the focus of this study.

SPOT questionnaires ask students to rate each item on a five-point scale from 'strongly agree' to 'strongly disagree', with a midpoint of 'no opinion' and the option of selecting 'not relevant'. For the purposes of this study, the scale was collapsed into a simple ordinal scale with the following three categories: 'strongly agree/agree' (SA/A), 'no opinion' (NO) (assumed to indicate a perception between agreement and disagreement), and 'strongly disagree/disagree' (SD/D). Where reference is made to 'higher' ratings or scores this should be taken to mean a higher percentage of scores in the 'strongly agree/agree' category. A traditional testing of hypotheses approach was used to review the impact of a number of variables on the data. Assuming 'no difference', various cross-tabulations were generated and Chi-square tests used to identify statistically significant differences. The differences between observed and expected values were considered significant if the probability (P) was ≤ 0.001, recognising the large sample sizes and aiming to avoid Type 1 errors. Where a statistically significant difference was identified the cross-tabulations were subjected to a simple inspection to see if a noticeable direction of difference could be identified and to get a sense of the magnitude of the difference. While Chi-square tests were performed on the raw data, for ease of comparison percentages are shown in all the tables and the sample size given in each case. Sample size varied according to the availability of the data, i.e. where information such as student gender was not available for a particular case, that case was omitted from tabulations requiring that information.

Results

Statistically significant differences in the distribution of student ratings for inclusivity in lecturing were detected with respect to broad discipline and year level (Tables 1 and 2), however lecturer gender did not show significant differences (Table 3).

Table 1. Percentage of student rating scores for lecturing within broad discipline categories (n = 14609)

	Arts/Humanities/Social Sciences	Science/Mathematics
Strongly disagree/disagree	5.4	5.8
No opinion	40.7	50.2
Strongly agree/agree	53.8	44.0
Total	100.0	100.0

Table 1 shows a higher level of agreement from arts/humanities/social sciences students than science/mathematics students.

Table 2. Percentage of student rating scores for lecturing within year levels (n = 12470)

	Year 1	Year 2	Year 3	Year 4+
Strongly disagree/disagree	6.3	5.3	5.1	5.5
No opinion	47.5	48.0	46.3	34.5
Strongly agree/agree	46.1	46.7	48.6	60.0
Total	100.0	100.0	100.0	100.0

The greatest differences across year levels appear between Year 3 and Year 4+, with little indication of the 'sophomore slump' in a lecturing context.

Table 3. Percentage of student rating scores for lecturing by lecturer gender (n = 14051)

	Female lecturers	Male lecturers
Strongly disagree/disagree	5.2	5.5
No opinion	44.1	45.6
Strongly agree/agree	50.6	48.8
Total	100.0	100.0

While there is a suggestion from Table 3 that students found female lecturers marginally more inclusive, the distribution of scores in the table was not statistically significant (P= 0.130).When student gender was considered in relation to ratings given with respect to inclusivity in lecturing (Table 4), the percentages suggest that female students generally rate lecturers higher on this item than do male students. This result is consistent with previous research on SPOT data (Santhanam & Hicks, 2002).

Table 4. Percentage of student rating scores for lecturing by student gender (n = 12362)

	Female students	Male students
Strongly disagree/disagree	5.0	6.0
No opinion	42.5	48.9
Strongly agree/agree	52.4	45.1
Total	100.0	100.0

Tables 5 to 10 indicate student perceptions regarding inclusivity in lecturing, first for female students then male students, with respect to broad discipline, year level and lecturer gender. Statistically significant differences emerged with respect to discipline and year level, consistent with Tables 1 and 2, however lecturer gender showed no significant differences for both male and female students (Tables 7 and 10).

Table 5. Percentage of female student rating scores for lecturing within broad discipline categories (n = 6809)

	Arts/Humanities/Social Sciences	Science/Mathematics
Strongly disagree/disagree	5.3	4.6
No opinion	39.4	47.9
Strongly agree/agree	55.3	47.6
Total	100.0	100.0

From Table 5, female students do appear to rate arts/humanities/social sciences lecturing more positively with respect to inclusivity than they do science/mathematics lecturing.

Table 6. Percentage of female student rating scores for lecturing within year levels (n = 5709)

	Year 1	Year 2	Year 3	Year 4+
Strongly disagree/disagree	5.3	5.7	4.8	3.0
No opinion	45.3	45.7	44.4	28.5
Strongly agree/agree	49.3	48.7	50.8	68.5
Total	100.0	100.0	100.0	100.0

The sophomore slump re-appears in Table 6, with greater inclusivity being recognised in later years.

Table 7. Percentage of female student rating scores for lecturing by lecturer gender (n = 6552)

	Female lecturers	Male lecturers
Strongly disagree/disagree	5.2	4.9
No opinion	40.8	43.7
Strongly agree/agree	54.0	51.4
Total	100.0	100.0

While not statistically significant (P = 0.066), the figures in Table 7 show slightly higher ratings by female students for female lecturers compared with their ratings for male lecturers, consistent with the findings of Centra and Gaubatz (2000).

Table 8. Percentage of male student rating scores for lecturing within broad discipline categories (n = 5553)

	Arts/Humanities/Social Sciences	Science/Mathematics
Strongly disagree/disagree	5.6	6.4
No opinion	44.6	52.7
Strongly agree/agree	49.8	40.9
Total	100.0	100.0

Male students give even stronger recognition of inclusivity in lecturing to arts/humanities/social sciences lecturing compared to that in science/mathematics (Table 8) than do female students (Table 5).

Table 9. Percentage of male student rating scores for lecturing within year levels (n = 4878)

	Year 1	Year 2	Year 3	Year 4+
Strongly disagree/disagree	7.1	4.8	5.5	9.3
No opinion	50.7	52.0	49.5	38.0
Strongly agree/agree	42.1	43.2	45.0	52.7
Total	100.0	100.0	100.0	100.0

While the pattern of percentages for male students in Table 9 is similar to that for female students, there is no evidence of the 'sophomore slump' in Year 2.

Table 10. Percentage of male student rating scores for lecturing by lecturer gender (n = 5343)

	Female lecturers	Male lecturers
Strongly disagree/disagree	5.2	6.1
No opinion	50.0	48.8
Strongly agree/agree	44.8	45.2
Total	100.0	100.0

In contrast to female students (Table 7), male students (Table 10) showed slightly higher ratings for male lecturers than female lecturers. While the difference was not statistically significant (P = 0.413), it appears to be less than that for female students. Considering lecturer gender in a broad disciplinary context, arts/humanities/social science students rated male lecturers slightly higher than female lecturers (Table 11) however no statistically significant differences were observed (P = 0.037). Table 12, for science/mathematics students shows the converse situation, with female lecturers rated higher. In this instance the distribution of ratings was statistically significant.

Table 11. Percentage of arts/humanities/social science student rating scores for lecturing by lecturer gender (n = 7973)

	Female lecturers	Male lecturers
Strongly disagree/disagree	6.1	5.1
No opinion	42.1	40.6
Strongly agree/agree	51.8	54.3
Total	100.0	100.0

Table 12. Percentage of science/mathematics student rating scores for lecturing by lecturer gender (n = 6078)

	Female lecturers	Male lecturers
Strongly disagree/disagree	3.6	6.0
No opinion	48.0	51.2
Strongly agree/agree	48.4	42.8
Total	100.0	100.0

Tables 13 to 16 give an indication of student perceptions of the degree to which male and female lecturers are inclusive in their lecturing, broken down by year level.

Table 13. Percentage of Year 1 student rating scores for lecturing by lecturer gender (n = 3536)

	Female lecturers	Male lecturers
Strongly disagree/disagree	6.3	6.3
No opinion	46.2	48.6
Strongly agree/agree	47.5	45.1
Total	100.0	100.0

Table 14. Percentage of Year 2 student rating scores for lecturing by lecturer gender (n = 4160)

	Female lecturers	Male lecturers
Strongly disagree/disagree	6.2	5.1
No opinion	43.5	49.5
Strongly agree/agree	50.3	45.4
Total	100.0	100.0

Table 15. Percentage of Year 3 student rating scores for lecturing by lecturer gender (n = 3405)

	Female lecturers	Male lecturers
Strongly disagree/disagree	5.2	5.2
No opinion	49.7	42.7
Strongly agree/agree	45.0	52.1
Total	100.0	100.0

Table 16. Percentage of Year 4+ student rating scores for lecturing by lecturer gender (n = 811)

	Female lecturers	Male lecturers
Strongly disagree/disagree	1.6	4.4
No opinion	33.4	37.1
Strongly agree/agree	65.0	58.5
Total	100.0	100.0

It is interesting to note that while the results for Years 1, 2 and 4+ were not statistically significant (P = 0.456, P = 0.003 and P = 0.024 respectively) inspection of each of the tables (Tables 13, 14 and 16) shows slightly higher agree scores for female lecturers. However, this difference is reversed for the only statistically significant distribution (Table 15). With the exception of the results for Year 3, these results are generally consistent with the overall results shown in Table 3.

Lecturer gender was also considered in the context of student gender within broad discipline group, however no statistically significant distributions occurred and the results have not been recorded in this paper. While a slight preference for same gender appeared in both broad discipline groups, female students seeing female lecturers as more inclusive and male students seeing male lecturers as more inclusive, there was no consistent pattern and the differences were small.

In summary, the results indicated greater perceptions of inclusivity in lecturing from arts/humanities/social sciences students than from science/mathematics students. This difference with respect to inclusivity in lecturing existed for both male and female students but was greater for males. Female students generally rated lecturers higher on the inclusivity item than did male students, however this tendency is common to rating of other items as well. Inclusivity in lecturing was typically seen to increase with year level. With respect to year level and lecturer gender, only in Year 3 was there a significant indication that male lecturers were more inclusive. In other years no significant difference was observed. However, while arts/humanities/social sciences students rated male and female lecturers similarly with respect to inclusivity in their teaching, science/maths students saw female lecturers as more inclusive.

Discussion

One question that needs to be asked early in this discussion is: Are inclusive lecturers perceived as inclusive by their students? In all the tables presented in the results, the negative ratings (strongly disagree/disagree) are extremely low. This appears to indicate that lecturers are inclusive in their teaching, however it may be a reflection on students' reluctance to reflect negatively on their lecturers with respect to this issue. The study analysed student ratings of the item *the teacher catered for students' diversity (gender, race, disability, etc)*. The item was worded with the assistance of expert advice from the University's equity advisers. One of the strengths of the item is that it is relatively value neutral. Students could, in fact, be unhappy with the extent to which the lecturer catered for diversity while still giving a 'strongly agree' rating to the item. It does, however, imply that students pass judgement, not just for themselves, but for the collective group. The validity of the data would thus rely on the extent to which students can exercise such a judgement. Their ability to pass judgement would be dependent on their awareness of both the diversity of the group and the impact of the lecturing on sectional interests within the group. On the other hand it is quite possible that if an individual student feels included by a teacher, that student will assume other students also feel included. This may well be the case unless there are particular events in the teaching situation where students are expressly excluded. Aggregated data of this sort would be likely to provide a valid measure of inclusivity in teaching. As a single item, however, it has obvious weaknesses as a measure. Unfortunately, it is not practical to regularly survey large numbers of students and include banks of items on inclusivity sufficient to generate scales on which to measure inclusivity in teaching. It must be recognised that specifically targeted studies of inclusivity are likely to give more valid and reliable results. One of the strengths of the current study was that data were available for a large number of students, across an entire institution, and covering a three-year period.

In the analysis of any of the results the vexed question of the relationship between perceptions and actuality must at least be considered. If, for example, female students rate lecturers as more inclusive in their teaching than do male students, what could this actually mean? It could mean the lecturer is more inclusive towards female students. It could mean that female students are more sensitive to the issue and better able to make a critical judgement. It could mean that female students rate all items more favourably that do male students and that

gender differences in actual perception are not different. While there is some research, noted earlier in the paper, indicating female students do give higher ratings than male students, why this is so remains a question for further enquiry. The tentative link between perception and reality should serve as something of a qualification of comments that follow.

Discipline differences were explored by Cashin and Clegg (1987). They concluded that there were differences in student ratings in different academic fields. The results of the current study are broadly consistent with theirs. Lecturing in arts/humanities/social sciences would appear to be more inclusive than lecturing in science/mathematics. Cashin and Clegg proposed two possible hypotheses for why differences might occur. First they suggested that the quantitative nature of disciplines might result in lower ratings. Alternatively they suggest sequential courses, where satisfactory progress is essential to success at higher levels, may result in lower ratings. With respect to inclusivity it could be argued that the nature of the subject matter in science/mathematics is more quantitative, sequential and inflexible and therefore is less amenable to inclusive teaching practices than the subject matter of the arts/humanities/social sciences. However, it could be equally argued that arts/humanities/ social sciences content was so culturally bound as to render it less inclusive in a teaching context. If broad disciplinary differences do exist, is this appropriate? If not, what should be done about it? The results suggest that it may be harder for students at risk of being marginalised to feel included in science/mathematics disciplines. A 'safer' learning environment may exist in art/humanities/social sciences. Research into the extent of diversity present in the broad discipline categories could reveal a covert process of selection where the extent of diversity among students was less in some disciplines in others.

Why should perceptions of inclusivity increase with year level? This may be the result of a 'culling process', whereby students who do not feel included in the teaching/learning process do not continue in subsequent years. Change of enrolments between years may be the result of students seeking inclusion. Students who don't change their direction could also be subject to a process of adjustment, an acculturation, so that they both feel and perceive greater inclusivity in subsequent years. It may also be that the size of lecture classes decreases as students progress to later years.

The findings with respect to lecturer gender appear consistent with other research into student rating of teaching, e.g. Centra and Gaubatz (2000), and studies reported by Marsh (1987). Lecturer gender was generally not found to be significant but some interesting findings did emerge. The anomaly of male Year 3 lecturers being perceived as more inclusive than female Year 3 lecturers requires some explanation. This could be found in the work of Miller and Chamberlin (2000). From their study of students' perceptions of their instructors' educational attainment levels, they concluded that a pattern of gender bias existed favouring male staff. It could be that the halo effect of the male lecturer, perceived as both expert and 'inclusive teacher', may be greatest as students approach the completion of their undergraduate degree, usually in Year 3.

The other significant gender related finding was that science/mathematics students appear to see female lecturers as more inclusive than male lecturers. One would have to explore this situation in greater detail to confirm the fact and to look for explanation. It could be that a gender bias in the seniority of academic staff in science/mathematics sees more female staff in lower level appointments being more in touch with, and more attentive to the needs of, their students. It may be that in science the opportunities for career advancement for women are more related to teaching than research and so they take greater care with their teaching. It may be that science students see their lecturers more as researchers and less as teachers than do arts/humanities/social sciences students. In such a situation there could be a gender bias where

male lecturers are perceived more as researchers, content focussed and less inclusive, than female teachers. However, without further enquiry these conclusions remain speculation.

This study has only begun to explore the issue of inclusivity in teaching in universities. As massification of the higher education sector brings with it more diverse student populations, as internationalisation adds to this diversity, as competition for students increases, and as diversity and inclusivity receive more recognition in society generally, the issue of inclusivity and its significance for student learning become a more pressing field of enquiry. We can't continue to have a 'really great house' and alienate those we invite in.

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