

Using a mid-course CEQ

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The Course Experience Questionnaire (CEQ) is becoming increasingly important in processes and systems assuring the quality of learning and teaching (L&T) outcomes. In addition to its use in monitoring, reviewing and evaluating course outcomes, CEQ data are now used in institutional and national funding models. At the institutional level, some universities use CEQ data as a proxy for quality in a performance-based budget pool to provide a financial reward to those schools identified for the quality of their L&T outcomes. At the national level, the DEST Learning and Teaching Performance Fund (LTPF) uses CEQ data as an indicator of the excellence of L&T outcomes when identifying and rewarding those institutions with higher levels of demonstrated excellence.

University staff are now under increasing pressure to improve their CEQ scores. The principle means of achieving this is for staff to systematically diagnose and rectify all issues concerning student perceptions of their course experiences, in time for changes to be made before course completion. Neither CEQ data nor internal unit and teaching evaluation data is adequate for this purpose.

In 2004 ECU developed and trialled a mid-course CEQ. Following the trial, the University endorsed the mid-course CEQ as an approved form of quality assurance for L&T across a course. In 2005, 22 mid-course CEQs were conducted by five schools in three faculties, generating 35 mid-course CEQ reports. The mid-course CEQ is now an important University tool for diagnosing and rectifying problems with course delivery.

Keywords: Course evaluation; CEQ; improving outcomes.

Introduction

This article describes the development, implementation and use of a mid-course CEQ at Edith Cowan University (ECU). ECU is a large multi-campus university providing courses for learners in the knowledge-based services and professions. The University now has more than 21 000 students undertaking study in more than 350 courses at both undergraduate and postgraduate levels, and more than 800 academic teaching staff. All ECU courses and units of study are offered through a functional unit called a school. Each University school operates within a larger functional unit called a faculty. Currently, there are 17 schools and four faculties within ECU.

Course Experience Questionnaire

The Course Experience Questionnaire (CEQ) is a national survey measuring the quality of students' experiences of their degree programs (Ramsden 1991; Wilson et al 1997). Ramsden (2003) claims that "It is the only properly validated instrument in the world that is derived from an articulated theory of the relations between student experiences of teaching and the quality of their learning outcomes" (p. 126). Each Australian University now tailors the CEQ to meet its own requirements by including the core *Generic Skills Scale (GSS)*, *Good Teaching Scale (GTS)* and *Overall Satisfaction Index (OSI)*, together with a selection from eight optional scales. Edith Cowan's 19-item CEQ comprises the core with the *Graduate Qualities Scale (GQS)*.

The CEQ is becoming increasingly important in processes and systems assuring the quality of learning and teaching (L&T) outcomes (McInnes et al 2001). In addition to its use in monitoring,

reviewing and evaluating course outcomes, CEQ data are now used in institutional and national funding models. At the institutional level, some universities use CEQ data as a proxy for quality in a performance-based budget pool to provide a financial reward to those schools identified for the quality of their L&T outcomes.

Edith Cowan's performance-based budget pool is now \$6m, administered through three funds, the Teaching and Learning Fund (\$2.6m), the Research Fund (\$1.7m) and the Enterprise Fund (\$1.7m). The Teaching and Learning Fund allocates money to schools using a numeric L&T quality index weighted by the overall teaching load. The quality index is based on three equally-weighted indicators of L&T quality, CEQ outcomes, institutional unit and teaching evaluations and progress/retention rates. For the CEQ component, school CEQ mean scores for GSS, GTS and OSI are each benchmarked against the same field of study nationally, and equally-weighted to form one-third of the L&T quality index. Benchmarking school CEQ scores avoids the hazards known to occur when comparing CEQ scores across different fields of study.

At the national level, the DEST Learning and Teaching Performance Fund (LTPF) uses CEQ data as an indicator of the excellence of L&T outcomes when identifying and rewarding those institutions with higher levels of demonstrated excellence. For the 2006 allocation, the student satisfaction indicators, weighted 55%, comprised the adjusted institutional CEQ GSS, GTS and OSI scores. The 2006 DEST LTPF allocation resulted in five institutions sharing \$30m and nine institutions sharing \$24m.

Improving CEQ Scores

Edith Cowan takes its CEQ scores seriously. The CEQ is the source for the set of key performance indicators (KPIs) *Generic Skills*, *Quality of Teaching* and *Course Satisfaction* within the Learning, Teaching and Student Satisfaction section of the University KPI Framework. Accordingly, CEQ scores are now monitored, reviewed and reported at the University, faculty, school and course levels. Academic staff are under increasing pressure to improve their CEQ scores.

Australian institutions however, have found improving their CEQ scores to be a difficult task. Patrick (2003) found that, despite a sustained effort over a five-year period, there was only a marginal improvement in their institutional CEQ scores. As better CEQ results mean that students are learning more effectively, she concluded that improving CEQ scores requires improving students' learning experiences. Furthermore, such an improvement can only occur through detailed, reflective and interactive work by groups of staff at the course and school level.

Oliver and Yeo (2003) support Patrick's conclusions on what is needed to bring about an improvement in CEQ scores. Merely making CEQ scores readily available to schools and faculties is not sufficient. With only the data, teaching staff fail to make the connections between the CEQ data, the students' learning experiences and teaching behaviour, and so do not make any change. Their solution is to present school level CEQ data to staff in an easy to interpret format, together with constructive strategies for implementing change within the school and their teaching. Each strategy is designed to help staff reflect on their teaching and how they might adopt more effective teaching practices.

Ramsden (2003) offers five rules to follow when using CEQ scores to review L&T outcomes as follows.

1. Never consider CEQ and GDS results in isolation but always in association with other sources of information.
2. Make appropriate comparisons.

3. Report time series differences that are substantial and can be explained with reference to some specific interventions.
4. Focus more attention on the use of the results than on the results themselves.
5. Concentrate on one or two areas related to the core mission of the university. A leading edge report using CEQ data would be reflective and relational: not a list of CEQ strengths and weaknesses, but a reasoned case which identifies specific areas for improvement in relation to appropriate benchmark data (p. 132).

To summarise, the most satisfactory L&T reviews are evidence-based, making the best use of all relevant L&T data and information to improve students' learning experiences.

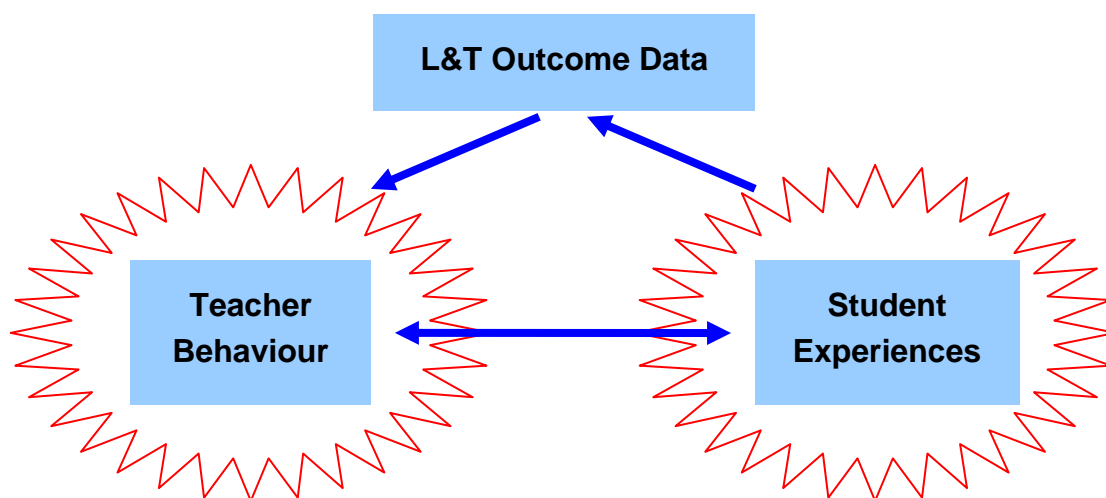
All review processes at ECU are now embedded in the continuous Plan-Do-Review-Improve (PDRI) improvement cycle within its quality system. Specifically, L&T reviews include:

- collecting and interpreting all relevant L&T data and information, including CEQ scores and comments;
- staff reflecting critically on this information to:
 - make explicit the links between teaching practices, the students' learning experiences, and the L&T outcomes including the CEQ scores and comments;
 - identify sources of strength, sources of weakness, and opportunities for improvement;
 - devise and implement strategies that improve teaching practices and learning experiences.

Note that the focus of the L&T review is the identification and implementation of improvement strategies, not merely a list of strengths and weaknesses.

The following conceptual model, highlighting the relationships between the students' learning experiences, the L&T data and the teachers' behaviour, summarises the L&T improvement cycle.

Figure 1. Conceptual model of the L&T improvement cycle



Improving CEQ scores thus requires staff to diagnose all issues concerning students' course experiences in time for them to be rectified before course completion. At Edith Cowan, Faculty Associate Deans have long expressed the view that neither CEQ data nor internal unit and teaching evaluation data are adequate for this purpose. The limitation with CEQ scores is that they are lagging indicators. The lag is the long time between the actual experience of graduates and the use of their CEQ results in a L&T review. For example, the latest CEQ data available in 2006 was collected in 2005 from graduates who completed their award in 2004. To paraphrase a forecasting analogy, using lagged CEQ data to review L&T practices is like driving a car forward while looking only in the rear view mirror.

Student feedback from internal unit and teaching evaluations are not adequate. With the focus on individual units, such evaluations fail to elicit information on students' perceptions with the whole

course. There are important course matters, such as the development of a broad overview of the particular field of knowledge, that are not addressed within individual units.

Since 2002 it has been Edith Cowan policy to collect and report student feedback data evaluating each unit and each staff member teaching it, irrespective of when, how or where the unit is taught. Furthermore, both the unit and teaching evaluation and CEQ scores are reported at the University, faculty and school levels. Heads of Schools have on occasion expressed concern when confronted with CEQ scores that seem to be inconsistent with their unit and teaching evaluation scores. With different foci, the association between school level CEQ scores and unit and teaching evaluation scores is a fairly weak one. For example, the correlation between the ECU 2005 school CEQ OSI mean score and the school unit *Overall Satisfaction* mean score is positive but weak ($n = 18$, $r = 0.26$, $p = 0.29$). Not surprisingly, there is a somewhat stronger correlation between the ECU school 2005 CEQ GTS mean score and the school teaching *Overall Satisfaction* mean score ($n = 18$, $r = 0.50$, $p = 0.03$). The weakness of these associations confirms the belief that internal unit and teaching evaluations are inadequate for diagnosing course issues.

Thus to diagnose and rectify course issues to improve CEQ scores requires an instrument with a course focus, aligned to the CEQ. Furthermore, it needs to capture students' current experiences in a timely manner for changes to be made before course completion. It was this thinking led ECU to develop and implement a mid-course CEQ.

The mid-course CEQ project

In 2004 ECU established a mid-course CEQ project with the broad aims:

- to conduct a pilot study, collecting mid-course student feedback data for analysis and improvement; and
- to raise student consciousness of the nature and importance to ECU of the CEQ.

The pilot study was coordinated by the Director of the ECU Learning and Development Services Centre. Its specific objectives were:

- to develop a mid-course CEQ aligned to the CEQ;
- to trial the mid-course CEQ in several large courses across the University; and
- to evaluate the usefulness of the instrument and the data generated for course improvement.

The ECU mid-course CEQ questionnaire is very similar to the end of course CEQ. It comprises an equivalent set of 19 items that use the same five-point Likert scale and two open-ended questions inviting written feedback. The only changes made were:

1. the removal of the space for a student to respond with respect to a second major;
2. the removal of all coding references 'Office use only';
3. numbering the items 1, 2, ... 19; and
4. minor changes to the wording of some items.

With respect to point 4, it is necessary to changing the wording of some CEQ items. For example, item 2: 'The teaching staff normally **gave** me helpful feedback ...' now becomes 'The teaching staff normally **give** me helpful feedback ...'. The change of tense, from past tense to the present, makes the items more meaningful for students providing feedback mid-course.

Upon the advice from Associate Deans, the mid-course CEQ was trialled in four large courses, one from each Perth-based faculty. The courses selected were:

- Bachelor of Business (Accounting majors);
- Bachelor of Communications;
- Bachelor of Education (K-P); and
- Bachelor of Nursing.

A coordinator, the Head of School or course coordinator, was appointed to manage each trial. The coordinator administered the mid-course CEQ early in 2004 semester two, the fourth semester of the three year course. Care was taken to select a suitable class time (start of class or during the break) of a core unit and to seek students' participation explaining the purpose of the survey and the course-based nature of the questionnaire.

The completed mid-course CEQ forms were then scanned centrally, and a numeric report generated summarising the set of student responses to each item and each scale. The report and the completed forms were then returned to the coordinator for the mid-course review. The information in the numeric report and the student comments provided the main evidence for the review. Staff teaching the course used this information to diagnose and rectify course issues. Finally, the coordinator reported all changes to the surveyed students.

All four coordinators involved in the trial were very positive concerning the benefits. They unanimously agreed that:

- the mid-course CEQ was valuable;
- the fact that the responses were a *course* evaluation was valuable; and
- the mid-course CEQ should be repeated;

while three of the four agreed that:

- the opportunity to provide feedback to the surveyed students was valuable.

Coordinator comments included specific reference to the importance of providing feedback to students, both as an aspect of the L&T process:

An obvious area of improvement in the course is the way in which feedback is provided to students. A more structured approach to provided feedback needs to be developed within the School.

and an aspect of the review itself:

I think the most beneficial aspect was going and meeting the students afterwards to discuss the results. This seemed to change the attitude among the students.

Following the trial, the University:

- endorsed the mid-course CEQ as an approved form of quality assurance for L&T across a course;
- approved future mid-course CEQ surveys, initiated at Faculty level, be administered with due attention to:
 - working with staff to ensure minimal disruption to classes;
 - informing students of the purpose of the survey and its focus on course experience;
 - providing feedback to surveyed students; and
 - the danger of over-surveying.

Thus the mid-course CEQ is now available diagnose and rectify course issues at ECU.

The ECU mid-course CEQ

In 2005, 22 mid-course CEQs were conducted by five schools in three faculties, generating 35 mid-course CEQ reports. The ECU mid-course CEQ process is now as follows.

1. Each mid-course CEQ is authorised by the Faculty Associate Dean, identifying the course, the coordinator and the number of participating students.
2. The coordinator requests the package of scannable mid-course CEQ forms.
3. The coordinator administers the mid-course CEQ and forwards the completed forms for scanning.
4. The forms are scanned centrally, and a report and the completed forms then returned to the coordinator.
5. The coordinator summarises the student comments and reviews the course, identifying strengths, weaknesses and opportunities for improvement.

6. The coordinator and teaching staff coordinator summarises the student comments and reviews the course that improve teaching practices and students' learning experiences.
7. The coordinator discusses the changes with the surveyed students.

Thus the process is controlled at the Faculty and Scholl levels. The ECU mid-course CEQ scores are not reported outside the school.

The mid-course CEQ report provides a numeric summary of each item and each scale, see Figure 2, together with an item plot, see Figure 3, showing relationships between both items and scales. For each item the report includes the number and distribution of applicable responses. Then for each item and scale, the report includes the mean, on the (-100, 100) scale, the percentage agreement and the percentage broad agreement. The item plot, a scatterplot of item means against item percentage agreements with item markers coded to indicate the corresponding scale, is useful in identifying strengths and weaknesses among both items and scales. In Figure 3, the four poorest scoring items, in the bottom left corner, are items 2, 11, 1 and 4, all *Good Teaching* items. Thus the coordinator is immediately alerted to the teaching as an opportunity for improvement when summarising and analysing the student comments.

The content of the student comments to the two open-ended questions identify specific concerns and thus opportunities for improvement. It is then the responsibility of the coordinator and teaching staff, reflecting critically on all this information, to devise and implement appropriate improvement strategies and report these changes to the students.

Concluding Remarks

The mid-course CEQ is now an important University tool for diagnosing and rectifying problems with course delivery. However, with less than two year's data, we cannot yet assess whether a mid-course CEQ is effective in improving end-of-course CEQ scores. Despite this, anecdotal evidence suggests that staff have a greater level of 'ownership' of a mid-course CEQ than with other L&T reviews and, as a result, are more highly motivated to implement change.

Figure 2. Mid-course CEQ numeric report

MID-COURSE CEQ REPORT



FACULTY: (Code) SCHOOL: (Code) Course: (Name) YEAR: SEMESTER:

Student Responses

1. The staff put a lot of time into commenting on my work.
2. The teaching staff normally give me helpful feedback on how I am going.
3. The course helps me develop my ability to work as a team member.
4. The teaching staff of this course motivate me to do my best work.
5. The course provides me with a broad overview of my field of knowledge.
6. The course sharpens my analytic skills.
7. My lecturers are extremely good at explaining things.
8. The teaching staff work hard to make their subjects interesting.
9. The course develops my confidence to investigate new ideas.
10. The course develops my problem-solving skills.
11. The staff make a real effort to understand difficulties I might be having with my work.
12. University stimulates my enthusiasm for further learning.
13. The course improves my skills in written communication.
14. I learn to apply principles from this course to new situations.
15. I consider what I learn valuable for my future.
16. As a result of my course, I feel confident about tackling unfamiliar problems.
17. My course helps me to develop the ability to plan my own work.
18. My university experience encourages me to value perspectives other than my own.
19. Overall, I am satisfied with the quality of this course.

N	Responses (%)					Mean	%Agree	%Br Ag
	SD	D	N	A	SA			
55	0	5	31	53	11	35	64	95
55	2	9	35	49	5	24	55	89
55	2	0	5	38	55	72	93	98
55	2	4	24	55	16	40	71	95
55	2	2	15	42	40	58	82	96
55	0	4	16	58	22	49	80	96
55	0	5	20	45	29	49	75	95
55	0	2	18	40	40	59	80	98
55	0	5	16	49	29	51	78	95
55	0	5	16	60	18	45	78	95
53	4	11	30	42	13	25	55	85
55	2	13	9	45	31	45	76	85
55	2	2	9	55	33	57	87	96
55	0	0	16	58	25	55	84	100
55	0	2	2	47	49	72	96	98
55	0	4	16	58	22	49	80	96
55	0	4	16	55	25	51	80	96
55	2	0	9	44	45	65	89	98
55	0	2	9	49	40	64	89	98

Scale Values

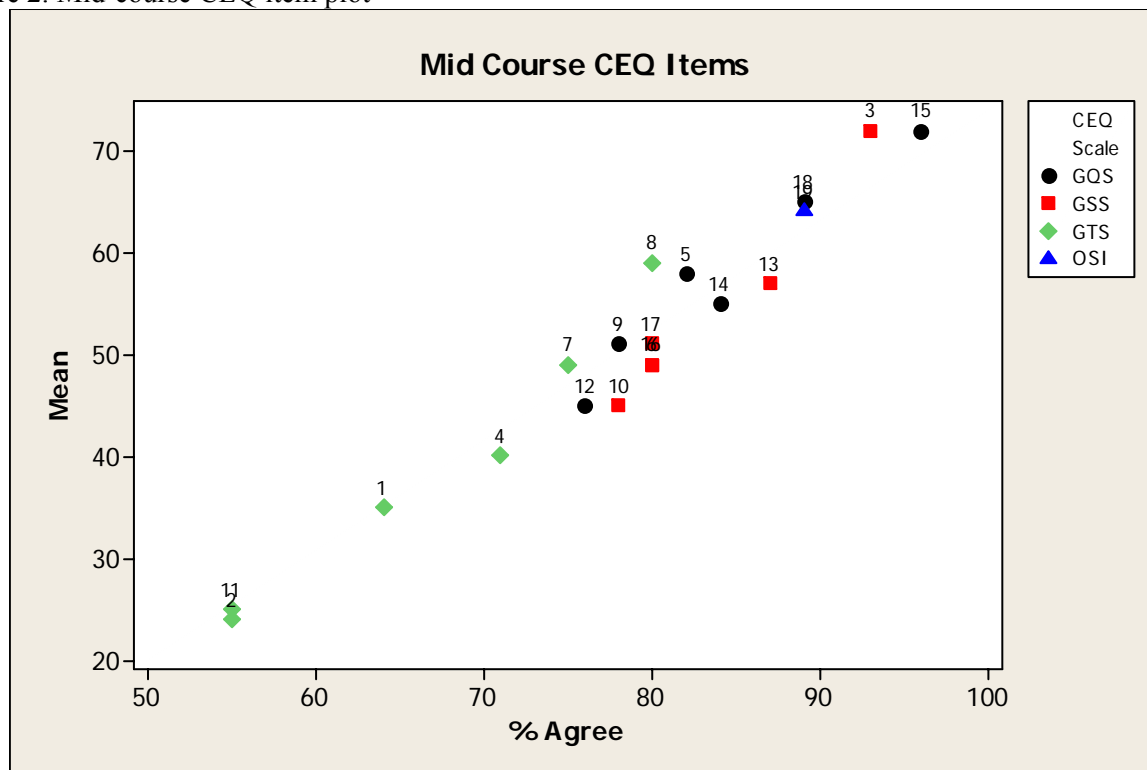
- Graduate Qualities Scale GQS; items 5, 9, 12, 14, 15, 18.
 Generic Skills Scale GSS; items 3, 6, 10, 13, 16, 17.
 Good Teaching Scale GTS; items 1, 2, 4, 7, 8, 11.
 Overall Satisfaction Index OSI; item 19.

Mean	%Agree	%Br Ag
58	84	95
54	83	96
39	66	93
64	89	98

Note:

- **N** is the number of applicable responses.
- **Means** are calculated after recoding the responses 1 (*SD*), 2 (*D*), 3 (*N*), 4 (*A*) and 5 (*SA*) to -100, -50, 0, 50, and 100 respectively.
- **% Agreement** is defined as the percentage of responses that are either 3 (*N*), 4 (*A*) or 5 (*SA*).
- **% Broad Agreement** is defined as the percentage of responses that are either 3 (*N*), 4 (*A*) or 5 (*SA*).

Figure 2. Mid-course CEQ item plot



Notes on Contributor

Dr Pender Pedler has been the Manager Quality Assurance (T&L Quality) at Edith Cowan University since May 2000. He fosters all aspects of quality assurance in teaching and learning for the University, is Survey Manager for the GCA Australian Graduate Survey (GDS, CEQ & PREQ) and coordinator of the University unit and teaching evaluation (UTEI) system.

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