



**AUSTRALIAN  
LEARNING  
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COUNCIL**

Promoting excellence in higher education

**Measuring Student Experience:  
Relationships between Teaching  
Quality Instruments (TQI) and  
Course Experience  
Questionnaire (CEQ)**

**Evaluation Report**

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## 1. Executive summary

This evaluation is largely summative in its focus and provides comment on the overall implementation and findings of the study. The data used for the project were generated from existing responses to the Course Experience Questionnaires (CEQ) by graduates and the Teaching Quality Indicators (TQIs) implemented at subject level completed by current enrollees. Additional data were also generated in the course of the project in order to reduce, to some degree, the diversity of TQI items in the many subject-specific TQIs used. This required the development of a new 'generic' TQI for testing with current students whose demographic and academic achievement could also be accessed.

The project subsequently investigated those factors which influence students both in whether they respond to the above surveys, and in what way. As such the project provides valuable information for universities to adjust their TQIs to capture more extensive and more valid responses, and as a result to target more successfully the improvement of teaching and learning. A further aim of the project was to identify the relationship between TQIs and responses to the CEQ.

Deliverables from the project include a secure database providing an Australia-wide repository of TQI survey data and institutional practices for the implementation of these surveys. The data base currently provides fields for the receipt of institutional survey practices, institutional questions/statements, and contact person details.

Limitations were caused by the diversity of internal evaluation processes across institutions which meant that only a small portion of the CEQ responses could be predicted using the TQI.

Overall findings of the project included the following:

- The point in one's studies at which a TQI is completed shows some relationship with the CEQ response.
- Faculties or departments wherein a course was taken, and the description of the course, were factors impacting on responses to the CEQ.
- The type of employment found by students upon graduation was found to affect responses to the CEQ.

Further findings from a more in-depth study of students at The University of Melbourne showed that:

- Students were most responsive to CEQ questions which enabled them to report that their expectations were not met.
- More mature students and those able to study full-time in their final year were also likely to rate a course more highly on the CEQ.
- Students who were enrolled in subjects with large enrolment numbers and lower TQI ratings were less likely to rate their overall course highly.

The project team must be congratulated on their constant dissemination of the findings of the project at appropriate forums throughout the project's duration. The extensive list of presentations

and publications including one of the top 10 downloads from the Social Sciences Research Network (SSRN) database.

The overall findings of this evaluation show that a worthwhile study has been conducted providing valuable empirical data to support concerns about current quality assurance measures in higher education. It also alerts readers to numerous opportunities for further research. The evaluation also suggests a need for greater communication and documentation of the ongoing processes and developments involved over the course of the project.

## **2. Context of the project's operation**

The Course Experience Questionnaire (CEQ) has been implemented for a number of years at Australian tertiary institutions and has provided these institutions with information as to students' perceptions of their courses, generating a considerable body of data of which the value has been questioned. The key problem articulated is that the data is 'after the fact' and, if acted upon, can only improve course experience for future students. As a result, the use of more immediate and sensitive internal evaluations of units/subjects (TQIs) has expanded and these data play an ever important role in academic promotion and advancement. Consequently, these measures are taken seriously by both individual academics and university policy makers.

A closer alignment of the CEQ and TQIs is an important move towards acquiring more valid and sensitive data on the quality of Australian university education and towards the standardisation of the teaching measurement and subsequent enhanced tertiary teaching performance nationally.

## **3. Project description**

The project was designed to investigate the relationship between the Teaching Quality Indicators (TQIs) and the Course Evaluation Questionnaire (CEQ) at business faculties in four Australian universities: The University of Melbourne (lead university), Flinders University, the University of Tasmania, and the University of Wollongong.

The broad research questions of the project were:

- To what extent is there a standard subject-specific TQI across Australian universities?
- How do students' responses to a standardized TQI impact on their responses to a CEQ?
- To what extent do previous subject experiences influence response to the CEQ?
- To what extent does academic performance influence response to the CEQ?
- What is the relationship between the TQI and the CEQ?

In order to do this, several analyses were conducted. Details of TQIs from 39 Australian higher education institutions were collected, categorised and developed into a composite generic TQI for more consistent measurement across the four participating universities. The implementation of this new generic survey in the four universities also involved the collection of data on three sets of questions from the CEQ: those relating to teaching quality, generic skills and overall course satisfaction. No clear relationship was established at four of the participating universities

between the generic TQI and selected CEQ responses showing that in general the TQI and the CEQ measured difference factors. A further phase of the project was conducted at The University of Melbourne and included data on students' experiences. These results showed that students were most responsive to CEQ questions when they could report that their expectations were not met; that more mature students and those able to study full-time in their final year were likely to rate a course more highly on the CEQ; and that students who enrolled in subjects with large enrolment numbers and subsequent lower TQI ratings were less likely to rate their course highly.

## **4. Purpose and design of the evaluation**

### **4.1 Aims/objectives of the evaluation and this report**

This evaluation has involved careful review of the processes, findings and outcomes of the project by way of the following:

- An informal open-ended survey inviting feedback from participating personnel;
- A review of the website resource;
- Other documentation including interim reports, final report, meeting notes, etc.

### **4.3 Stakeholders and audience**

The key stakeholders and therefore the audience for this report are the following: the ALTC, senior university management, academic teaching staff, learning and teaching centres and students.

### **4.3 Key questions addressed**

A survey short was developed for this evaluation and circulated among the project team. This instrument sought to gather these stakeholders' feedback on the extent to which the project achieved its aims; any administrative or research based obstacles; challenges overcome or not; envisaged future benefits of the project at the faculty, school/department or university levels; any changes in quality measurement that might be attributed to the findings of the study; general management of the project and information dissemination during the project.

## **5. Evaluation results**

### **5.1 Stakeholder Survey Results**

#### **The extent to which the project achieved its aims**

Stakeholders who responded to the survey considered that the project had achieved its aims, although not without some flaws causing changes in the original aims which would be expected of any project of similar originality and size.

#### **Obstacles faced either administrative or research based**

Obstacles identified were the length of time to achieve the aims of the project. This was attributed to the three factors; the sheer scope of the project, the time taken to gain ethical clearance to use student data; and the complexity of the data analysis. A further obstacle was caused by the considerable variability between each university's survey constructs making comparison difficult.

### **Challenges that the project addressed and overcame or not**

A major challenge in the project was the ever changing nature of TQI instruments which limited, to some degree, the establishment of a stable relationship between the TQI and the CEQ good teaching indices. This rendered difficult the reliability of this relationship which to date has been assumed but not substantiated. The in-depth statistical approach to the data analysis did however bring a new perspective to the study of quality assurance measures in higher education.

### **Limitations in the research**

Limitations, apart from the above mentioned complexity and ethics approval time, included the reluctance of some universities to share their TQI surveys or to collaborate in making any changes to their surveys transparent for researchers. Moreover, the continual changing nature of individual university's TQIs meant that the research can only represent a "snap-shot" in time and risks being out-of-date before its publication.

### **Benefits of the study to future policy direction in universities**

A significant benefit of the project has been to question the validity of measures such as TQIs and CEQs, especially given the impact that they can have on course offerings and academic career paths. The research indicates the need for a more rigorous approach to TQI surveys. Of particular need is a greater shared understanding of those survey items which are relevant and predictive and their alignment with the Course Experience Questionnaire.

### **Benefits from the study for future directions within faculties and schools**

The study has validated calls for the fine-tuning of both internal and external quality measures. This is already happening at one of the participating universities where the results of the study will be taken into consideration at the next review of TQIs.

### **Subsequent changes in the evaluation of units/courses as a result of the project**

Although the findings of the project have been widely disseminated through the usual academic channels (published papers and conference presentations), there seems to little change as yet to quality measurement at the faculty level. Some interest in Evaluation Central (online database) by The University of Melbourne Planning Office has been evident however.

### **Management of the project**

Management of the project was considerably hindered by internal restructuring at some universities, for example, internal mergers, changes in staffing, the loss of key staff, etc. This placed some strain on communication between involved parties. As with many projects, limited time towards the end hindered participants in giving adequate feedback on the final report.

## 5.2 Website Evaluation

To date the website offers little to be shared across institutions. This has been caused by reluctance to share TQI survey questions openly, even within a secure context.

## 5.3 Dissemination of the project findings

The Project team has disseminated the findings of their research widely in appropriate media as evidenced in the following list.

- Three annual Forums: *Quantitative Analysis of Teaching and Learning in Higher Education in Business, Economics and Commerce*. (February 2006, 2007 and 2008). Attended by 180 academics in total representing more than 30 institutions in the Australasian region. Opened by Professor Peter McPhee, Deputy VC (Academic).
- Three Forum Proceedings published ISBN: 978 07340 3690 2 , ISBN: 0 7340 3612 4 and ISBN: 9 7807340 3906 4
- Papers published:
  - Davies, M., Hirschberg, J., Lye, J. and Johnston, C. (2010). A systematic analysis of quality of teaching surveys, *Assessment and Evaluation in Higher Education*, 35: 1, 83-96.
  - Davies, W. M., Hirschberg, J., Lye, J. Johnston, C. and McDonald, I. (2007) ‘Systemic Influences on Teaching Evaluations: The Case for Caution’. *Australian Economic Papers*, 46, March, 18-38. (an earlier version of which was also published in 2006 Forum Proceedings).
  - Davies, W. M., (2007) “Making it Quantitative: Report on the 2007 Teaching and Learning Forum in Economics, Commerce and Business Disciplines” Higher Education Research and Development Society of Australasia (HERDSA) Newsletter, December, pp. 26-27.
  - Davies, W. M., Hirschberg, J., Lye, J. Johnston, C. and McDonald, I. (2006), ‘What Influences Teaching Evaluations?: Evidence from an Major Australian University’, *The Business Review*, Cambridge, Vol 6, No. 1, December 2006
  - Davies, W. M., Hirschberg, J., Lye, J. and Johnston, C. (2007), “An Exploration of the Relationship between Quality of Teaching Surveys and the CEQ”, *Quantitative Analysis of Teaching and Learning in Higher Education in Business, Economics and Commerce 2007 Forum proceedings*: ISBN: 0 7340 3612 4
  - Davies, W. M., Hirschberg, J., Lye, J. and Johnston, C. (2007),”*Quality of Teaching Surveys and the Course Evaluation Questionnaire; How do subject surveys relate to course results in Australian Universities*”, 2007 Oxford Business & Economics Conference Proceedings, Oxford, UK, June 25, 2007. ISBN : 978-0-9742114-7-3
  - Davies, W. M., Hirschberg, J. Lye, J., and Johnston, C. (2007), Let's Evaluate the Possibilities, *The Australian*, Higher Education Supplement, 12th September, p. 33.
- Conference presentations:
  - Davies, W. M., Hirschberg, J., Lye, J. and Johnston, C. (2007), ‘An Exploration of the relationship between the Quality of Teaching Survey and the Course

Experience Questionnaire', Quantitative Analysis of Teaching and Learning in Higher Education in Economics, Commerce and Business, Proceedings of the One Day Forum 9/2/2007, Faculty of Economics and Commerce, the University of Melbourne. Chilli Press: Collingwood.

- Davies, W. M., Hirschberg, J., Lye, J. and Johnston, C. (2006) 'The TQI and the CEQ: Is There Method in this Madness?' Assessment and Evaluation Forum, 28-29th November, Curtin University, Perth, Western Australia.
- Davies, W. M., Hirschberg, J., Lye, J. and Johnston, C. (2007), "Quality of Teaching Surveys and the Course Evaluation Questionnaire; How do subject surveys relate to course results in Australian Universities", 2007 Oxford Business & Economics Conference, Oxford, UK, June 25, 2007.
- Reports:
  - Davies, W. M., (2006) "Making it Quantitative: Report on the 2006 Teaching and Learning Forum in Economics, Commerce and Business Disciplines" *Higher Education Research and Development Society of Australasia (HERDSA) Newsletter*.

## 5.4 Review of final report

The final report for this project presents in detail the findings addressing the proposed research questions. The introduction of this document provides background in quality assurance processes in Australian universities highlighting important developments in the field generally and the extension of these into numerous discipline areas. This chapter also alerts the reader to growing concerns about current quality assurances, specifically the cross-institutional Course Experience Questionnaire (CEQ) and universities' individual Teaching Quality Instruments (TQIs). In the face of these oft cited concerns, the aim of the current project, to empirically test for any relationship between these two measures, is then outlined.

The aims of the project were addressed in two main ways. Firstly, the team sought to establish any similarity between CEQ and TQI questions. Secondly, they investigated whether variables in terms of responses to TQIs, subject and student characteristics, and academic performance show any relationship with responses to the CEQ.

Chapter Two of the report presents an extensive review of the literature on students' evaluation of tertiary teaching. This covers the impetus behind collecting such data; controversial issues relating to the use of the data; influences on students' responses; determinants in the questionnaires which define a 'good' teacher; and potential bias in the data resulting from students' own perceptions of their teachers and their subjects.

Chapter Three reports on the analysis of questionnaires used by the participating universities across Australia. This includes a classification of question types into three types: those relating to the lecturer and the subject, to the student and his/her learning and a miscellaneous category (e.g., open-ended questions). The Student Learning Quotient (SLQ) is further classified across all institutional types (GO8, IRU, ATN NGU and IND) showing two distinct foci of TQIs: whether their surveys show a tendency to seek feedback on student learning or on lecturer/subject characteristics.



Chapter Three also includes results of an analysis of question types across universities and showed that some questions to be more commonly used than others.

In Chapter Four the development and implementation of a new ‘generic’ TQI, based on the above data, is described. The generic TQI was implemented at four universities and compared firstly with responses to each university’s Good Teaching Scale (GTS) – a component of the CEQ; and secondly to each university’s TQI responses. Using Item Response Modelling, Factor Analysis, Cluster Analysis and Regression Analysis, results show that the generic TQI and the GTS of the Course Experience Questionnaire appear to measure different constructs. Obviously the TQI focuses on a single unit or subject at any point in their studies (here 1<sup>st</sup> and 2<sup>nd</sup> year students were involved), while the CEQ takes into consideration the whole course of study as completed by graduates.

Chapter Five describes influences which may affect students’ responses to quality assurance surveys at the lead university (the University of Melbourne). These factors included CEQ, GDS (Graduate Destination Survey) and TQI results and the students’ study histories. This analysis has generated valuable data relating to the types of students most likely to complete the CEQ, students’ reactions to the quality of teaching in a particular subject, and the impact of level of achievement on responses to the CEQ.

Interestingly high marks do not necessarily appear to influence the actual completion of the CEQ, whereas the proportion of close grades in a subject did have a positive impact on CEQ completion, but not of the type of response (i.e., positive or negative). With regard to the Good Teaching Scale of the CEQ, extensive modeling shows that students are influenced by the quality of teaching and will score a course lower if they consider it not well taught. Higher grades did not appear to influence the GTS responses although low marks did. Other items in the CEQ showed results different from the GTS however. Factors having some influence on these items included class enrolment numbers, learning resources, age, wage levels upon employment and grade levels.

Overall the report from this project responds to many concerns expressed about the quality assurance measures used in tertiary institutions today. The project overall suggests the need for greater co-operation between universities in establishing a set of standard psychometrically tested constructs for assessing the quality of individual subjects and that these constructs are reflected more robustly at the CEQ level.

## **6. Recommendations**

This study of the relationship between the TQI and the CEQ highlights both the complexity and the inadequacy of current quality assurance measures. Of particular concern is the marked absence of alignment between TQI-type surveys (as achieved by the generic constructed TQI) and the CEQ. The study also serves to demonstrate that a considerable number of variables are impacting on students’ willingness to respond to such surveys and on the responses themselves. Therefore the research provides fertile ground for further investigation of TQIs at universities Australia wide.

The following recommendations are therefore offered:

### **Recommendation 6.1**

The findings of the study strongly suggest a greater need for collaboration between universities in the review and development of TQIs or similar internal unit/subject level quality assurance measures.

### **Recommendation 6.2**

The results presented in this report suggest that a number of variables may be impacting on students' willingness to respond to such surveys and further investigation is needed on how to overcome these hindrances to enable more complete data sets.

### **Recommendation 6.3**

The study shows that several factors in students' experiences have an influence on the type of response they give to quality surveys. Further research is required to identify these and other factors which may be confounding the data. This is especially important given the significance of TQIs for academic promotion and advancement.

### **Recommendation 6.4**

To date an in-depth study of influences on students' responses to these surveys has only been conducted within one faculty at one university. Given the widespread use of quality assurance measures at the unit/subject level, there is clearly a need for further research into students' responses in other faculty and discipline areas and at other universities.

### **Recommendation 6.5**

It appears that, at the project team/management level, there was some lack of communication between stakeholders. This may have been caused the statistical focus of the study which could possibly have excluded other parties. Greater communication on the use of statistics through an online 'hub', video conferences, email circulars etc, may have alleviated this problem. Similar discipline-focused and in-depth studies should include ongoing explanation of methodology to ensure the inclusion of all stakeholders. A repository such as an online 'hub', using one of any number of open source programs would also enable meeting notes, discussions, etc., to be stored for future reference and evaluation.



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