Full length article

What determines students' perceptions in course evaluation rating in higher education? An econometric exploration

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ABSTRACT

While student evaluation of courses (SEC) in higher education is an intensely researched area, the existing literature has not paid due attention to rigorous econometric analysis of the SEC data. Using the four-year (2010–2013) evaluation results for economics courses on offer at a leading Australian university, this study employed a random effects ordered probit model with Mundlak correction to identify factors influencing student ratings of courses. This represents an innovative application to educational data.

Findings show that class-level, course-level, class-size, instructors' course-specific experience and their linguistic background influence student ratings of courses. Lecturers' prior teaching experience in a course and their English language background attracted higher rating while second and third-level courses relative to postgraduate classes, 2010 and 2012 student cohorts relative to 2013, and larger classes attracted lower ratings.

Implications include specific training for instructors of non-English speaking background (NESB), teaching larger classes, and intermediate and upper undergraduate courses.

This study underscores the critical importance of student-specific responses capturing student heterogeneity in preference to class-average data including students' academic performance, discipline destination, linguistic background, age and indicators of effort-level. It raises survey instrument implications e.g., sub-scales, data on course contents providing intellectual challenges, real world applications, and problem-solving skills.

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1. Introduction and background

Systems for evaluating teaching and course quality in higher education have long been created in many countries, including Australia. Though the style of student evaluations differs from country to country or from institution to institution, the ultimate purpose of evaluation is to ensure "accountability, benchmarking and continuous improvement".

One of the instruments that has been most widely used to measure performance and quality assurance in Australian higher education is the Course Experience Questionnaire (CEQ). Designed by Ramsden (1991), it has been in use since 1992 as a national survey (as part of the Australian Graduate Survey). It aims to uncover what Australian university graduates thought of the coursework program that they had recently completed, including their perceptions of course quality, their self-rated skill levels and their overall satisfaction with their courses during their program. The CEQ, despite its role as a performance indicator in higher education, suffers from some limitations. One of the main limitations is the lagging and aggregate nature of the CEQ data (Davies et al., 2010). It is difficult for a higher education institution to gain information on student perceptions of individual courses without developing its own instruments.

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A critical issue often missed in research on course evaluation is student participation. Zumrawi et al. (2014) provided an in-depth analysis of the adequacy of response rates and suggested acceptable response rates for a range of variability scenarios, class sizes, confidence level and margin of error. Ernst (2014) found very low response rates for online administration of course evaluation questionnaire relative to paper-based administration due to differing feeling of obligation in the two formats. Given that universities are increasingly moving towards online administration of course evaluation, low response rates could be particularly worrying.

The university, whose data form the empirical basis of this study, uses student evaluation of courses (SEC) questionnaire. Each time a course is offered, students enrolled in that course are invited to evaluate their course mainly to serve for "quality assurance" processes including curriculum review. Generally, three groups of variables can affect the SEC scores. These relate to the characteristics of the students, courses and instructors. Using these variables, this paper investigates the determinants of student evaluations of economics courses offered by the university between 2010 and 2013 inclusive.

In Australia, there has been a number of national initiatives to obtain feedback from university students (Chalmers, 2011). The government has taken an active role in promoting quality assurance in universities since the 1980s. In 1989, the government commissioned a team led by Professor Russell Linke to define performance indicators to evaluate the quality of higher education. Subsequently, in 1991 the "Linke Committee" was commissioned to examine the indicators (Linke, 1991). An outcome of the team's recommendations was the creation of the CEQ. The CEQ survey, which has been administered by all Australian university graduated since 1993, is about the perceptions of graduates towards their courses and the skills they acquired during their student years. Despite the widespread use as an instrument of teaching performance indicator, CEQ suffers from several limitations (Barrie and Ginns, 2007; Davies et al., 2010; Henman and Luong-Phan, 2014). One criticism of the CEQ is related to the aggregate nature of the data. Because the CEQ assesses a whole field of study, disaggregation is limited. This implies that each university has to conduct its evaluations about specific courses and individual instructors rather than programs or degrees. Another limitation of the CEQ is related to the time-lagging nature of the data given that the CEQ data are collected after graduation. For that reason, each university has to conduct its evaluations after completion of each semester.

Student feedback on courses plays a vital role in improving student learning outcomes. Course evaluation is different from teaching evaluation because it seeks student opinions about the courses in which they have been enrolled. It is not specific to the instructor, nor is it directly related to processes measuring teaching performance. At this university, student course evaluation was administered for the first time in semester 2, 2003. At that time, the idea was to administer the instrument, called Institutional Course Evaluation (iCEVAL), each semester and apply to no more than one-sixth of courses in a program or sequence of study each semester, so that by the end of a three year cycle all courses in a program/sequence of study will have been evaluated.[1] In 2009, the Australian Universities Quality Agency (AUQA) recommended that the university extend its proposed requirement that all courses be evaluated every semester (AUQA, 2009). During the time, university's major student surveys on teaching and learning were assessed to determine if new instruments were required, consider improvement to the existing tools and identify whether changes needed to be made. As a result, a combined student evaluation of course and teaching (SECaT) questionnaire was developed and started to be implemented from Semester 1, 2010 after the validity and reliability of the instrument was examined in Semester 2, 2009 through psychometric testing. The student evaluation of course questionnaire consists of eight quantitative and two qualitative items. The first seven quantitative items are measured on a five-point scale ranging from "Strongly Agree" (5) on one end to "Strongly Disagree" (1) on the other with "Neither Agree not Disagree" (3) in the middle. The eighth quantitative item, which measures an overall rating of the course, is also measured on a five-point scale but rated "Very Poor" (1) on one end to "Outstanding" (5) on the other with "Satisfactory" (3) in the middle. The two qualitative items ask students to comment on best aspect of the course and on how to improve the course.

Until recently, the university was conducting student evaluation using paper-based surveys. The transition to online evaluation began in semester 2, 2014. Morrison (2013) identified several advantages and disadvantages of online evaluations over paper versions. Online evaluations allow students more time.[2] Students can complete online evaluations at their own convenience. Time and costs associated with administering online evaluations are lower relative to that of paper-based evaluations. Relatively, online evaluations can guarantee greater privacy and anonymity. Reporting of evaluation results are faster and accurate when done online. Study shows that students are more likely to write comments in online surveys (Anderson et al., 2005; Ballantyne, 2004; Donovan et al., 2006; Handwerk et al., 2000; Heath et al., 2007; Johnson, 2003; Kasiar et al., 2002; Layne et al., 1999).

However, online evaluations have several disadvantages. One disadvantage mentioned most often is lower response rate (Avery et al., 2006; McGourty et al., 2002; Meredith et al., 2012; Sax et al., 2003; Thorpe, 2002). However, this does not necessarily mean that there is a significant difference in the ratings given by students on paper comparing to online (Burton et al., 2012). Another disadvantage of online survey is that student may forget to complete the evaluation before the closing date. To some extent, online evaluation may encourage some students to write disparaging comments.

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[1] The iCEVAL instrument contained 16 quantitative items regarding the course experience, and had a 6-point scale ranging from 5 (strongly agree) to 0 (not applicable).

[2] At this university, evaluations open two weeks prior to the last week of teaching and close before the start of the revision period. This gives students two weeks (including weekends) to complete their evaluations. Students are sent up to two reminders, usually one week apart.