Student rating of teachers in an Electronic Engineering department

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Abstract:

Student rating of teachers is still a controversial subject even after 70 years of study and evaluation. This paper seeks to put the subject into a historical context. It then goes on to consider the potential and actual biases inherent in the commonly available testing instruments, attempting to locate these within a cross-cultural context, and then analyses the results from a study into the biases in student ratings over a 5 year period in the Department of Electronic Engineering at City University of Hong Kong.

The formal evaluation of teachers and their teaching effectiveness has been discussed since the beginning of formal education itself. Universities were relatively late in adopting formal evaluation methods for teaching faculty, both as a method of aiding those faculty in improving their own standards of teaching, but also, more controversially, as a means of administrative decisions of promotions and tenure.

The modern era of student evaluations of teaching (SET) can be broken roughly into four periods: the thirty year period preceding 1960, the 1960s. the 1970s. and the period from the 1980s to the present. Before 1960, most of the research on student evaluations was conducted at Purdue University. Student rating and achievement data was correlated over 60 years ago, and the first published multisection validity study 37 years ago.

It has been suggested that it was the student protests of the 1960s that evaluating courses and their teachers was one way of making their voices heard. In the beginning students administered these evaluations in a haphazard way, and published the results. This resulted in Michigan State University developing one of the first commonly used and accepted evaluation forms, the Student Instructional Rating Report.

During the 1970s most universities in N America had adopted some form of student evaluation of teaching, and it was during this period that they metamorphosed from being used mainly for formative evaluation into something that heads and deans could used for summative purposes. In fact, department heads ranked student evaluations among the top three sources of information on teaching effectiveness, and believed them to be the most important source. Others found that the use of student ratings as evaluation tools had increased by 57% between 1973 and

1993. The fourth period, from the 1980s until today, is characterised by more detailed and refined analyses of the SET data, including the use of newer statistical techniques such as meta-analysis.

For this study, data was collected from teaching feedback questionnaires (TFQ) completed by students on all courses in the Department of Electronic Engineering at City University of Hong Kong from 1997 to 2002. Criticism within university had been building for a number of years as no validity or reliability analysis had ever been carried out on the TFQ results – the "instrument" was "uncalibrated". Hundreds of studies worldwide had shown that Student Rating of Teachers have many potential biases and it was clear that senior management in many academic departments and the faculties at CityU had no understanding of TFQ – even using the "uncalibrated instrument" for personnel decisions.

In 2001 the university approved a project to study the "Influence of Bias Factors on Student Ratings of Teaching" in an attempt to foster a better understanding of the psychometric properties of the six common items of the TFQ in order to determine whether they are valid and reliable measures of teaching effectiveness. The relationships between student ratings, and a list of potential bias variables, as well as student learning variables in order to determine whether such ratings are biased, was carried out. This paper presents the results of this analysis and puts them into the context of assessment of the effectiveness of engineering courses.