

Abstract

In the current era of higher education, where there are pressures to both attract and retain students in degree courses, two significant factors that influence student choices are the reputation of the university and the quality of the courses offered. The research undertaken in relation to this thesis is the latter factor dealing with course quality, and in particular the development of new approaches and an innovative metric that may be used to provide indicative guidance about the expected learning rigour to which students will be exposed in the selected course.

While traditional approaches to assessing course quality have focussed on the examination of student assessments, assignments, examination outcomes, project work and interviews with staff and students, little has been done to examine the learning demands placed upon the students. In this thesis, the specifications for the subjects in courses have been scrutinised using the SOLO Taxonomy, and quantified by a method previously described by Brabrand and Dahl (2007) to generate scores for the various subjects in a course. By aggregation according to the course rules it has been possible to develop learning rigour profiles for each year level in the course and an overall course profile which highlights the different types of learning expectations for the course. In addition to the overall course profile a numeric value labelled the C-Index has been calculated and it has been proposed that this value should be interpreted as an indicator of the level of learning rigour expectation for the course.

With the detailed level of analysis that occurred in constructing a course profile, a composite view of the subjects in the course allowed for further grouping and analysis to take place. When the subject data was compared within year levels it was clear that some subjects appeared to place much higher learning demands on students than others. Although being outside the scope of this research to determine whether such demands were reasonable or not, the analysis has been able to identify where potential problems may exist in courses when either the demands are too great or are not sufficiently strong

for the year level concerned. The methodologies used in this research are proposed as being beneficial tools for university curriculum groups to assist in monitoring the internal quality control aspects of the courses for which they are responsible.

The context of this research has been in the domain of Information Technology and Computer Science, where course quality and accreditation are important matters. The techniques proposed will provide additional tools to accreditation and benchmarking teams by providing course profile information that may be used to support the observations they make about the accompanying course materials.

The outcomes of this research include the creation of a new metric labelled the C-Index; the description of a methodology to construct a course profile; a proposed method to identify “subjects of interest” within a degree program; and the documentation of an approach that may be used for course benchmarking either within a particular university or across universities.