Title: Quantitative measurement of Taylor's Graduate Capabilities for engineering programmes

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Abstract: Recent technological advancements have created a demand for higher employability skills for engineering graduates. In response to these needs, engineering programmes offered in both local and foreign universities are now shifting its focus from the traditional content and time-based method into student-centred and outcome-based method which requires detailed and rigorous assessments of learning outcomes. These learning outcomes are mapped to the university's graduate capabilities which can be assessed both qualitatively and quantitatively. This paper presents the quantitative measurement of the students Taylor's Graduate Capabilities (TGC) by the time of graduation. An End-of-Semester Assessment Tool (ESAT) was developed and used to perform Learning Outcomes (LO) and Programme Outcomes (PO) assessments in the module level. These LOs were mapped to the POs and POs were mapped to TGCs. A key performance indicator (KPI) was set as reference of the attainment level. At end of every semester, LO and PO attainments were used by lecturers to do module analysis of the previous and current semester results to determine the impact of CQI implementation and hence, specify the gains, and gaps in the module delivery to prepare the next CQI plan. Gathered results from all modules were then integrated into the database system to generate the students PO attainments, and hence the TGC attainments. The results can be used by the management to address the gaps and concerns on curriculum, module delivery, and support services provided by the school to enhance the students learning experience and achieve the desired graduate capabilities upon graduation. (C) 2013 The Authors. Published by Elsevier Ltd.

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