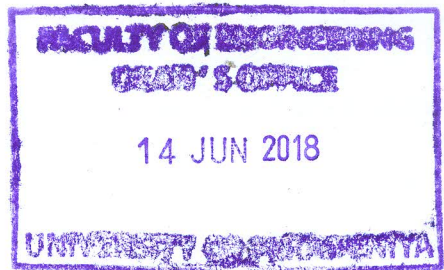


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METHODOLOGY FOR OUTCOME BASED ASSESSMENT OF THE EMPLOYABILITY SKILLS OF ENTRY LEVEL ENGINEERING GRADUATES

By

M.M.G.V. SHYAMALEE

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698909

**University of Peradeniya
Peradeniya,
Sri Lanka
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698909



ABSTRACT

Development of employability skills in undergraduates is a vital objective of any engineering curriculum. The employability skills may differ with respect to different engineering fields and are decided by the requirements of the relevant industry and often change with time. While some of the employability skills may be measurable others may be expressed and estimated through combination of many other measurable attributes.

The main objective of this study is to establish a methodology to assess the outcome of the employability skills of entry level engineering graduates with respect to the employer expectation. To achieve this objective, procedures to extract required employability skills, to develop an employability skills model, and to estimate the expected and achieved levels of the skills by undergraduates at different stages, are developed. Further, the methodology introduces a procedure to estimate gaps between employer expectation and achievement of each skill by undergraduates at different stages. These gaps are useful in planning necessary enhancements to the existing engineering curricula.

The procedures are mainly composed of questionnaire surveys for data collection, data analyses, and interpretation of results. For data analyses, Factor Analysis (*FA*), Multi Attribute Value Technique (*MAVT*) and qualitative and quantitative Gap Analysis are used. The validity, applicability, related issues, and limitations of the proposed methodology are discussed with the help of a comprehensive data analysis which is conducted based on the data collected from the civil engineering discipline.

Based on the results, eight employability skills were extracted from the twenty eight measurable attributes. An overall quantitative gap of 30% was found as the gap between employer expectation and graduates' achievement as per the employers' perspective. The gap was 35% when the graduates' perspective is considered. Through the data analysis, guidelines for questionnaire preparations, remedial actions for the issues encountered and finally the basic steps of the proposed methodology are presented. The methodology can be applied to any engineering education programme that needs regular monitoring, evaluation and feedback based improvements owing to the fact that the expectations of employers are changed parallel with the economic situation in the country.