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Abstract

A means of managing engineering outcomes, sharing good practice and facilitating mobility

The hypothesis is that accreditation maintains standards of engineering education, allows good practice to be shared and facilitates mobility of engineers. Therefore, accreditation is a universal means of publicly demonstrating the academic attributes of engineering graduates. In order to test this hypothesis it is possible to review the history of accreditation, assess the current situation and uncover the challenges faced.

In 1970, the Engineering Council was formed to provide guidelines on the attributes of graduate engineers and hence introduce accreditation as we know it today. Developments in accreditation have continued – raising the threshold standards, broadening the curriculum, moving to learning outcomes and integrating the practice of engineering with the underlying scientific and engineering principles.

At the same time, there has been a move to international recognition through the various accords (e.g. Washington) and agreements (e.g. Bologna). The aim is to increase the mobility of engineers in recognition of the globalisation of engineering. The signatories to these arrangements agreed to a threshold of a common set of standards thus allowing engineers to go on to demonstrate competence and ability to practice no matter in which country they were educated or in which they practice. They have now moved to refer more to degree programs.

Given the diversity in education systems, it is inevitable that there are some differences between degree programs. For example, some programs are based on term served, some on input standards, some on output standards and some on learning outcomes. This inevitably means that attributes of a graduate may be different depending on which country they have studied. This is further compounded by the emergence of transnational degrees, MOOCs, blended learning and flexible educational paths



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that include elements of work place learning. Further, in some countries, the signatory is not in an authoritative position to register an engineer so the agreement may not be honoured by the registering body; and in other countries, there are border restrictions to mobility of engineers. Therefore, the hypothesis, accreditation maintains standards of engineering education, allows good practice to be shared and facilitates mobility of engineers, is only partly fulfilled. In particular, there is little sharing of good practice beyond borders and mobility of engineers is constrained somewhat.