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Offshore engineering education: Assuring quality through dual accreditation

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Abstract

In an increasingly globalized environment, engineering graduates must be able to work in diverse teams which may span nations. This means that engineering qualifications must embrace transnational perspectives and different local contexts within which engineering is practiced. One way to assure quality at the transnational level is to develop “dual accreditation”: degrees offered offshore are accredited by both the offering education provider’s accrediting body and the professional body of the country in which the offering is being delivered. In light of this change to the engineering industry, The International Engineering Alliance has modified the Washington Accord, which controls the accreditation of all engineering degrees offered within signatory nations. Pre-2014 any engineering program delivered offshore needed accreditation from the offering education provider’s professional body, however, by 2014, the Washington accord was altered to require dual accreditation: in other words, accreditation must be a collaborative endeavor between the accrediting body from the country offering the program and the local accrediting body of the nation where the program is being offered. This change in the agreement has some significant implications for the future accreditation of offshore engineering programs and this paper will examine some of these emerging issues.

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1. Introduction

The Washington Accord was originally established between six countries which had well established national accreditation processes for professional engineering degrees. The Accord was developed because there was recognition of equivalencies across both the accrediting process which occurred in each nation, and in the standards set by that process [1]. The Accord was developed to aid in the global mobility of engineering professionals, while still maintaining the required professional, ethical and technical standards. Since its inception in 1989, other countries have joined the Accord as signatories and currently there are 16 member countries, with 2 new members, India and China, joining in 2014 and 2016 respectively.

The most common form of accreditation is where the accrediting body of a country, accredits engineering qualifications within that nation, or “jurisdiction” to use the language of the Washington Accord. For example, in Australia, the accrediting body is the professional body Engineers Australia. Engineers Australia is therefore responsible for accrediting all engineering qualifications which are offered in Australia. Accreditation of degrees within a nation which is a signatory of the Washington Accord is a relatively simple situation where the accrediting body requires that the educational institution seeking accreditation, demonstrates that the qualification to be accredited meets the accreditation requirements via alignment with the graduate attributes required by the accrediting body [2]. Accreditation also requires a site visit where the facilities available to students are also evaluated [3].

With the ubiquity of the internet since the mid-1990s, there has been much focus on the offshore delivery of education, where the educational institution providing the qualification has its main campus in another nation and provides content delivery via face-to-face, online or blended learning environments [4]. The 1990s also saw a rapid expansion of the Australian education industry into Asia, where even in the new millennia, education is Australia’s fourth largest export commodity [5].

As early as the turn of the millennium, questions were also being raised as to the quality of offshore programs and whether such programs are of the same standard and deliver the same educational outcomes as any similar program offered onshore [6]. To deal with offshore delivery, the Washington Accord developed a strategy whereby an offshore program achieved accreditation status if it was accredited by the professional organization of the country providing the qualification, so long as that country was a signatory of the Washington Accord [7].

As we enter into the second decade of the new millennium, questions around the quality of qualifications continue to arise as the number of private operators within the educator sector increases. In addition, with the rapid industrialization of South East Asia, more providers are tapping into the market for technological qualifications [3].

To assure quality of engineering qualifications, the Washington Accord has been reviewed, so that Clauses B.8.1 to B.8.4 have now been updated (now B.8.2X to B.8.5X) so that where programs are being delivered by a signatory into a jurisdiction which is also a signatory, accreditation must be done collaboratively, under the initiation of the signatory offering the degree. This process of “dual accreditation” is new and so far, has been rarely successfully achieved by Australian Universities offering offshore programs into Asia [8].

This paper will discuss the principles behind accreditation and highlight some of the issues and current challenges with dual accreditation.

2. Outcome Based Education and the Graduate Attributes

2.1 Outcome Based Education

All signatories of the Washington Accord assess the rigor of engineering qualifications by assuming that the educational system used is one which can be described as “outcome based education”. This means that the qualification is evaluated in terms of what the graduates can do upon completion of the qualification, rather than which topics are covered within the qualification [9]. Outcome based education can cover knowledge, skills and attitudes, but each of these things must be translated into what would be expected of a graduate of that program, rather than the knowledge, skills and attitudes which are explained or developed by the content which goes into the program[9]. Clear expression of what the student can do upon graduation is therefore key to outcome based education.

Typically, outcome based education requires that there be program level learning outcomes which are achieved by the student once the whole program of studies is completed and course/subject level learning outcomes which are

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