Increasing the Value of Professional Body Computer Science Degree Accreditation

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ABSTRACT

This poster shares the progress related to an evaluation of computer science degree professional body accreditation, framed through an ongoing national review in the United Kingdom (UK). While this review substantially focuses on the UK, other countries, including South Africa and Ireland, have adopted a similar accreditation regime; furthermore, this work is evaluated in the context of the Washington Accord review, taking into account the memorandum's impetus for increased consistency in the UK. In parallel with this international review, the UK's Engineering Council is seeking to enhance and modernise the processes and procedures for degree accreditation (which includes the award of the protected professional title "Chartered Engineer") and the introduction of the new set of accreditation expectations on approved institutions. The review includes consideration of the value of accreditation to universities, students and employers. It was initiated in 2016 following two major national reviews looking at computer science and wider STEM degree accreditation. The intent is to better understand the value of professional body accreditation in computer science, as well as how to co-create improved outcomes for all accreditation stakeholders.

CCS CONCEPTS

• Social and professional topics → Accreditation.

KEYWORDS

Accreditation, graduate employability, undergraduate curricula, UK

The review was initiated by the UK's professional body/learned society for computing – BCS, The Chartered Institute for IT – which has responsibilities for degree accreditation; in part, to ensure that graduates have the skills needed to drive economic recovery and growth across the UK. Building on the findings of UK Government's 2016 Shadbolt review [3], the latest work assesses whether computer science degree programmes in the UK needs to address a refreshed set of accreditation criteria. Building on recent work in this area [2], there has been a clear mandate from employers and from across the UK's higher education sector to strengthen the current accreditation framework so that it is more focused on outcomes and links more closely with employability [1]. A steering group of practitioners, industrialists, academics and representatives from other UK engineering/technology professional bodies was established under an independent chair in summer 2020. Initial tasks include: a review of progress in reforming academic accreditation of computing related degree courses since the Shadbolt report was published in 2016; an evaluation of what currently works well and is valued by the various stakeholders and establish if fundamental changes are required (and if so, what are they); and gathering recommendations for reforming accreditation to fulfil the purpose of validating that graduates have gained sufficient academic knowledge, understanding and competencies for a successful professional career.

At the time of publication, the review is continuing to gather data from the various key stakeholders, which includes: i) industry and employers; ii) academia; iii) students, parents and the general public; and iv) other professional bodies and statutory/regulatory bodies (e.g. the UK's Engineering Council and Science Council). The next steps will be to collect improved sector-level data (both quantitative and qualitative), analyse and evaluate these findings, to then refine and relaunch the accreditation regime in 2021.

REFERENCES

[1] Tom Crick, James H. Davenport, Paul Hanna, Alastair Irons, Sally Pearce, and Tom Prickett. 2020. Repositioning BCS Degree Accreditation. *ITNOW* 62, 1 (2020), 50–51. https://doi.org/10.1093/itnow/bwaa023
[2] Tom Crick, James H. Davenport, Paul Hanna, Alastair Irons, and Tom Prickett. 2020. Computer Science Degree Accreditation in the UK: A Post-Shadbolt Review Update. In *Proc. Computing Education Practice (CEP'20).* Article 6. https://doi.org/10.1145/3372356.3372362
[3] Nigel Shadbolt. 2016. Computer science degree accreditation: Shadbolt review. https://www.gov.uk/government/publications/computer-science-degree-accreditation-and-graduate-employability-shadbolt-review.