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Title Stakeholder Perspectives on the Public Value of University-industry Teaching Collaborations: A case study of the MSc in Structural Integrity co-produced by Brunel University London and The Welding Institute
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Stakeholder Perspectives on the Public Value of University-industry Teaching Collaborations: A case study of the MSc in Structural Integrity co-produced by Brunel University London and The Welding Institute

Employability, enterprise and graduate careers (EE)

Abstract

The paper presents stakeholder perspectives on the public value of the MSc in Structural Integrity co-produced by Brunel University London and industry partner The Welding Institute (TWI), designed to supply 'work-ready' graduates. Pre-, mid- and post-course quantitative surveys were administered to students, and two mid-term focus groups were conducted. Pre- and post-course quantitative surveys were administered to industry supervisors. Five purposive case study interviews were conducted with students and representatives from Brunel and TWI. Students rated most highly benefits that accrued to themselves: being offered a scholarship, and industry exposure that led to increased employability. Students and TWI supervisors identified a wide range of benefits to students, TWI, Brunel and other Higher Education Institutions, the economy and society.

Outline

Introduction

Higher Education Institutions (HEIs) are being encouraged by government to make postgraduate students work-ready by including transferable skills training in all postgraduate programmes (BIS 2010, 6), thus creating public value for graduates, industry, and society as a whole. It has also been argued that HEIs have an obligation to ensure students from all backgrounds graduate with equal capacity to flourish in the workplace, and training should be provided covering 'communication, team work and organisational skills' (Milburn, 2012: 6; 67).

In 2013, the UK's Higher Education Funding Council for England (HEFCE) launched a Postgraduate Support Scheme (PSS), providing £25 million in competitive funding for initiatives to promote postgraduate taught education, especially for under-represented groups in subject areas aligned with government growth strategies, specifically 'aerospace, automotive, life sciences, agricultural technologies, international education, the information economy, professional and

business services, nuclear power, oil and gas, offshore wind and construction’ (Keep, 2014: 254). HEFCE funded 40 HEIs covering 20 projects, and providing support to 2,000 students. This initiative stimulated the creation of innovative models of taught postgraduate education which targeted gaps in standard educational delivery and the needs of employers in industry, ‘including engineering, international business, university research, entrepreneurship and small and medium-sized enterprises’ (Wakeling 2015, 4, 6).

Brunel’s MSc in Structural Integrity was one such initiative, and was co-designed with TWI precisely to supply a specialised workforce that could meet the needs of industry. It is standard practice for engineers in areas such as metallurgy, mechanical engineering, or material sciences to be trained to acquire specialist knowledge in Structural Integrity. However, the Brunel Structural Integrity graduates can oversee ‘all aspects of inspection and evaluation regimes, and possess necessary and up- to-date knowledge and skills, thus minimising the training needs of their employers’ and ‘students are expected to build highly analytical skills and industrial knowledge, and thus be ahead of other MSc graduates, and undergraduates with standard placement experience’ (XXXX, XXXX and XXXX, in press: 4).

The MSc was developed within the Brunel-TWI led National Structural Integrity Research Centre (NSIRC) funded by HEFCE, industry, and Cambridge University, Manchester University and University College London. Students were taught for six months at Brunel, with two modules also taught at TWI, and then spent six months at TWI where they produced a research dissertation with support given by a TWI supervisor. TWI employees delivered 44% of the teaching. Students gained access to facilities and knowhow not encountered in an academic setting, were exposed to the state of art in technical and industrial standards, and engaged in industrial projects alongside a professional team (XXXX, XXXX and XXXX in press; 5).

An earlier paper presents the findings of a quantitative and qualitative an evaluation of the MSc in Structural Integrity (XXXX, XXXX and XXXX, in press). This paper taps into a rich seam of qualitative data on the perceived public value of the MSc by its stakeholders, not reported in its sister paper. The larger aim is to critically review these findings against the background of literature on the public value HEIs, and the role of the university in society (e.g. Marginson, 2016; XXXX, 2013; Collini, 2012; Holmwood, 2011; Barnett, 2012; 2005), and to present supporting quantitative and qualitative data from surveys, focus groups and interviews (for which there is no space here).

Public value

Public value was defined in our study as the possible range of benefits that may be generated from the MSc in Structural Integrity, covering several dimensions, for example:

- Benefits to students: e.g. enhanced skills development, greater industry employability
- Benefits to TWI/industry: e.g. a pool of 'industry-ready' graduates, reduced costs for in-house training
- Benefits to Brunel/other HEIs: e.g. enhanced reputation, greater links with industry
- Benefits to the economy: e.g. a skilled workforce, more cost-effective engineering
- Benefits to society: e.g. a safer physical environment, reduced risk

Taken as a whole, these benefits can be thought of as a spectrum of public value.

Methods

Pre-, mid- and post-course quantitative surveys were administered to students, and two mid-term focus groups were conducted. Pre- and post-placement quantitative surveys were administered to industry supervisors. Five purposive case study interviews were conducted with students and representatives from Brunel and TWI. The case studies were purposively chosen to ensure inclusion of the female perspective (TWI supervisor and one student); the perspective of a student who, during their time on the MSc course, had been offered employment; and the perspective of a representative from both Brunel University London and TWI.

Table 1: Methods employed and success rates

| | | | |
|-----------------------|---------------------------------|----------------|--------------|
| Students | Pre-course survey | November 2014 | 22/22 = 100% |
| | Mid-course survey | June 2015 | 16/21 = 76% |
| | Post-course survey | September 2015 | 19/21 = 90% |
| | Focus groups | June 2015 | 2 x 8 = 16 |
| TWI supervisors | Pre-placement survey | March 2015 | 15/15 = 100% |
| | Post-placement survey | September 2015 | 12/13 = 92% |
| Students, Brunel, TWI | Purposive case study interviews | July 2015 | 5 |

Results

Benefits to students: The students valued more highly benefits from the MSc which they themselves were recipients of. The three most highly rated aspects were (1) that they were offered a scholarship to cover fees: this created opportunities to study that would otherwise have not existed, and allowed space for students to focus on their studies, making the MSc experience less stressful and more

productive; (2) the modules related to industry; which (3) increased job prospects. The other benefits students believed they accrued from the MSc were interesting topics to study, future stability, and enjoyment.

TWI supervisors believed that the benefits to students from the MSc were better links to industry than a standard Master's degree in engineering; necessary skills to start or advance their careers; and a strong basis for pursuing a PhD in the area.

Benefits to TWI and industry:

Students argued that the benefits of the MSc to TWI were the ability to tailor a Master's course to train future employees; creating industry-ready graduates; and positive reputational exposure.

TWI supervisors felt that TWI accrued benefits from access to a suitably trained workforce; increased collaboration with universities; and less in house-training of new recruits.

Benefits to Brunel and other HEIs:

For the students, the main benefits of the MSc for Brunel were: industry relevance making the MSc stand out from other courses; attracting more students; increased income from student fees; and greater links with industry.

TWI supervisors believed the benefits to Brunel were greater collaboration with industry; higher employability for graduates; enhanced reputation; and more profitability.

Benefits to the economy: From the students' perspective, the key benefits of the MSc in Structural Integrity for the economy were Structural Integrity engineers make structures cost-effective; and creating greater numbers of skilled engineers for the UK workforce.

TWI supervisors identified the economic benefits as providing a trained workforce.

Benefits to society: Finally, students identified the greatest benefit of the MSc in Structural Integrity was that structural Integrity engineers improve the public's quality of life by maintaining structures and infrastructure, and making these safer.

For TWI supervisors the key benefits to society were enhanced economic returns; and greater value for money from a university education.

References

Barnett, Ronald (ed.) (2012) *The Future University: Ideas and Possibilities*. London; New York: Routledge.

Barnett, Ronald (ed.) (2005) *Reshaping the University: New relationships between research, scholarship and teaching*. Maidenhead: Open University Press.

Collini, Stefan (2012) *What are Universities For?* London: Penguin Books.

XXXX (2013) XXXX *The European Legacy*, XXXX

Holmwood, John (ed.) (2011) *A Manifesto for the Public University*. London; New York: Bloomsbury Academic.

Marginson, Simon (2016) *Higher Education and the Public Good*. Melbourne: Melbourne University Publishing.

XXXX, XXXX and XXXX (in press) XXXX, *Studies in Higher Education*.