

# **Reframing doctoral pedagogy for the knowledge economy.**

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Doctoral students are an important feature of the global knowledge economy and represent an important ‘strand’ of the ‘triple helix’ (Etzkowitz and Leydesdorff 1997; Malfroy 2011) of universities, industry and governments that enable the development of new knowledge and knowledge-making practices to support innovation and social and economic development in a knowledge economy context (Yang, 2012; Bansel 2011). This paper draws on literature relating to doctoral education and the knowledge economy concept and offers a provocative new perspective.

The aims of the paper are:

1. To examine the epistemological basis of doctoral pedagogy
2. To consider the knowledge production issues associated with the global knowledge economy
3. To contribute an alternative perspective to doctoral education policy and practice.

## **The epistemology of the PhD**

Although differences in structure, status, duration and qualification titles apply in different parts of the world the research doctorate is accepted as representing the highest achievable level of academic qualification. Its award recognises advanced study and independent research presented in the form of a doctoral thesis or dissertation. In North America the PhD programme involves coursework for up to two years with an assessment requirement before students commence work on their research dissertation. Within Europe the Bologna Process is leading to a convergence of PhD programs across different countries and institutions, where the PhD comprises a three to four year program following a Masters level degree (Kehm, 2006).

The PhD involves a particular and distinctive form of knowledge work grounded in a research project. Supervised ‘research-in-practice’ forms the basis for PhD study leading to the submission of a thesis or dissertation. Those who complete the ‘passage’ from novice researcher to doctoral graduate undertake an academic apprenticeship over a long period of time and during this time they are immersed within a disciplinary, epistemic community (Green, 2012). There is no required formal ‘curriculum’ but the epistemological assumptions of ‘discovery’ or ‘originality’ within a tightly defined understanding of knowledge production most usually focused on causal explanation and scientific rationality are reinforced (QAA, 2011; Clarke, 2013). Through this process epistemological assumptions about ‘scientific’ curiosity and the disinterested pursuit of knowledge within a specific academic discipline are developed (Green, 2012).

## **The knowledge-economy context**

The term ‘knowledge economy’ is used in recognition that natural resources, physical capital and low- skill labour which historically dominated economic and social development have been superseded by what are referred to as ‘knowledge resources’ (OECD, 1996). This shift of emphasis has epistemological consequences. Research direction is increasingly influenced by cross-national, national and institutional economic, policy and commercially focused priorities promoting the validity of ‘applied’ knowledge directed at generating social and economic benefits. ‘Pathways to impact’ (ESRC, 2014) policies encourage researchers to work productively in a trans-disciplinary environment requiring interaction with practice-based stakeholders undertaking socially and politically accountable knowledge generation processes (Bartunek and Rynes, 2014). The shift towards this applied and situated epistemology is contested (Peters, 2009; Olsen and Peters, 2005; Brine, 2006; Keiser and Leiner, 2012). None-the-less changes in the global higher education economy and technical and information processing developments have resulted in an increasingly ‘transgressive’ environment where the demarcation of ‘academic spaces’ from other social domains is progressively eroded.

### **The consequences of the knowledge economy for doctoral education**

The consequences for doctoral education are: a significant increase in the number of research students and greater levels of global mobility and diversity. A shift in doctoral career trajectory from employment in academia towards other professional occupations has also occurred. The efficiency and effectiveness of doctoral pedagogy has been questioned, particularly the extended time period involved (associated with high levels of student ‘drop-out’) and perceived subjectivity, inconsistency and lack of quality control in assessment of one ‘terminal’ doctoral thesis (Kehm, 2006; Tinkler and Jackson, 2000; Holbrook and Bourke, 2004). Critics also highlight the perceived (Western) ethnocentricity of doctoral pedagogy and a lack of preparation for employment in the wider labour market (Cyranoski et al, 2011) all of which are seen as problematic in a global knowledge economy context.

Professional doctorate (PD) degrees involving a fusion of practice based and academically grounded research have been developed in some countries in response to these critiques. Most professional doctorates involve a work-based project carried out by the student in conjunction with a company or potential employer. The epistemology of PDs is distinct from the traditional PhD. The assumptions of scholarly disciplinary specialisms involving a ‘rational-scientific’ approach to knowledge prevalent in the traditional PhD are challenged by the PD which ascribes equivalent value to practice-based knowledge (Nowotny, Scott, and Gibbons 2003). In contrast to the traditional PhD the PD distinctively recognises the value of students’ manoeuvring within different communities of practice and the influence of academic and practice-based advisors, colleagues, professional bodies and other stakeholders.

However, this does not mean that knowledge exchange, co-creation and an applied research agenda will necessarily result from the development of a PD pedagogy. First, the potential contribution of the employer or sponsoring organisation to the PD is rarely acknowledged and remains under-utilized (Burgess et al 2013). In the expanding literature

concerned with the ‘research-practice gap’ there is a ‘comparative lack of practitioner voice in the conversation’ Bartunek and Rynes (2014:1188). Second, PD research projects are organisationally or professionally ‘bounded’ addressing limited knowledge problems which are unlikely to stimulate ‘cross-boundary’ research and a shift in research direction by both scholars and practitioners that the knowledge economy context encourages. Third, the PD does not accord parity of esteem and joint process in the knowledge production process. This inhibits the ability of practice-led and scholarly participants to create, contest and sustain local meaning-making processes to provide the opportunity for new local-level interactive languages to develop (Scott, 2004).

In summary, although the PD represents a valuable pedagogic innovation the symbolic power and legitimacy of the HE sector withholds validity from practice-led knowledge (Bourdieu, 2009). Parity of esteem for different forms of ‘knowledge pathway’ (academic, professional body and employer-based) is not a feature of current doctoral pedagogy and a reframing is required.

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