

Should universities be producing more PhDs to make a difference?

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Richard Rorty in an article “The dangers of over-philosophication” expresses his doubts about the relevance of philosophy to education. He notes, “insofar as philosophy has a social function, it seems to me a therapeutic one – helping people get out from under out-dated philosophical ideas, helping break the crust of convention. The principal instrument for breaking the crust of convention, however, is the suggestion of new, concrete alternatives. ... A good new way of setting college entrance exams or of licensing teachers is the sort of thing that advances education.”¹

A philosopher by training, and now a director of postgraduate studies, I am lured by Rorty’s call to “break the crust of convention” by looking at the problem of “over-doctorification” and suggesting some alternate ways of thinking about PhD training and output. In this short piece I will touch on the following: the general assumption that universities should produce more PhDs since this contributes to the overall well-being of society; the problems associated with the conventional way of approaching the PhD; and some suggestions of re-articulating the value of PhDs.

One is good, two are better

Globally, it is assumed that the production of a country’s PhDs is correlated to its economic growth. The university, and PhD output in particular, is seen as a source of scientific and technological innovation, high-level skills production, a driver of job creation and thus of economic growth and of greater social well-being. The better educated a society, the more economically globally competitive it is and the more able to address pressing developmental needs. This has put pressure on universities everywhere to increase their PhD output.

Along with global trends, South Africa correlates research and knowledge production with a more productive and healthy society. And given its paucity of research outputs², the South African government has called for a five-fold increase of PhD graduates by 2025 (i.e. from about 1,039 to 6,000 PhDs per annum) (Assaf, 2010:45). Not only is this dramatic increase in PhD production seen as necessary for South Africa to be globally competitive, but also for it to apply high-level research-led solutions to developmental problems and to address the ageing professoriate and rapidly expanding higher education provision across Africa.

All is not well

Recent articles have cast doubt on the taken-for-granted benefit of producing more PhDs.³

¹ Rorty, R. (1990). The dangers of over-philosophication – reply to Arcilla and Nicholson. *Educational Theory* 40(1):41-44.

² In 2007 South Africa produced 26 PhDs per million, compared to Portugal (569 per million), Germany (297 per million), Greece (218 per million) and Estonia (114 per million) (Assaf, 2010:46).

³ “The disposable academic” (*The Economist*, Dec 16th, 2010); “No longer a guaranteed ticket to an academic career, the PhD system needs a serious rethink” (*Nature*, April 21st, 2011); “A fair deal for PhD students and postdocs” (Bourne, H. *eLife* 2013;2:e01139).

There is evidence of an overproduction of PhDs: In the USA and Japan supply seems to have outstripped demand. Although there are few unemployed PhDs, there is doubt whether the benefits of pursuing a PhD for 5-6 years outweigh the opportunity costs. Neither the higher education sector nor the industrial sector seems to be able to accommodate all the PhD graduates. Academic posts at universities are dwindling, and industry often prefers to employ smart young graduates with Bachelor (or Master's) qualifications and to train on the job, in the industry-specific needs.

Exploitation of PhD students and postdocs: The over-supply of PhD graduates has led to an increase in the numbers of postdocs who are in a growing "holding tank" vying for the small number of academic positions. Critics accuse universities of exploiting PhD students and postdoc fellows – many of whom are foreign-born - as cheap, highly motivated and disposable labour that often tolerate poor working conditions. Given the cuts to universities, PhD students and postdocs enable universities to keep wages down and to do more research, and often more teaching, with less money.

The quality of the PhD graduates is not consistent: Even in countries such as China and India where their fast developing economies are using all the PhDs they can produce, there is concern about the quality of the graduates. In countries where there have been substantial cuts to higher education, the squeeze takes a toll on the quality of training and research.

Appropriateness of PhD graduate attributes is questioned: where PhD graduates take up positions outside of academia, there is concern about the appropriateness of the high-level training to positions in careers in industry, government and the non-profit sector. Doctoral programmes are often over-specialised, with fragmented curricula, narrow research foci and often unconnected to the world beyond academia. Expertise is, of course, essential for advancing knowledge and society, but industry also needs high-level skills that can transcend disciplinary boundaries and that focus on solving practical problems.

PhD attrition rates imply public investment loss and personal costs: Average time to completion of science and engineering PhD graduates is 7 years, with more than a third never finishing at all.⁴ Coupled with the over-production of PhDs leading to graduates often taking up positions for which they are over-qualified, public investment in PhD training implies more costs than benefits. In developing countries, such as South Africa, such a loss of social and personal investment can be ill afforded.⁵

⁴ "The PhD factory" (*Nature*, April 21st, 2011:278). In South Africa the attrition rate is as high as 53% in Humanities, 51% in Business and Management and 36% in SET.

⁵ "It is estimated that 'a student drop-out rate of 20% implies that about 1.3 billion in government subsidies is spent each year on students who do not complete their study programme ... moreover, the cost to those who drop out, in terms of the moral and psychological damage associated with 'failure' is incalculable' " (Herman, 2011, "Obstacles to success: doctoral student attrition in South Africa", *Perspectives in Education*, 29(3):40)

Lack of supervisory capacity to meet demand of increase in PhD enrolment: In South Africa, and Africa, many higher education institutions have too few academics with PhDs to be able to supervise doctoral students. And those few who are qualified, are often over-burdened with supervisions. The call for a dramatic increase in PhD enrollment rings hollow if there is not enough institutional capacity to carry the increase.

Re-articulating the value of PhDs

Given the listed problems, universities need to rethink the way they conceptualise and deliver doctoral education.

Expanding opportunities for “brain circulation”: With the internationalization of research, comes greater mobility. An over-production of PhDs in the US and Japan can address the problem of too few PhDs graduates in Africa.

Greater permeability of disciplinary boundaries: Robust PhD programmes are those whose graduates find appropriate and satisfying employment. Findings are that such PhD programmes are often interdisciplinary, include cross-institutional collaboration and train students in professional skills.⁶

Differentiation of PhDs: Increasingly, there is appreciation of the value of a professional PhD that serves as a benchmark for independent professionals and executive positions in government and industry, as opposed to a purely “academic” PhD as an indicator of high-level expertise in a specific academic discipline.

Complementary and alternative models of supervision: With limited existing supervisory capacity, a substantial increase in PhD enrollment will likely have the effect of a slump in academic standards, a probably backlash from society and sectors of the economy, and increased frustration of PhD graduates to find appropriate employment. However, existing supervisory capacity can be increased if the traditional model of 1-1 supervision is replaced – where feasible – with models of cohort supervision, group or project supervision, and cross-institutional co-supervision and supervisory committees.

⁶ “A fair deal for PhD students and postdocs” (Bourne, H. eLife 2013;2:e01139).