
SOUTH AFRICA: Strengthening PhDs in social sciences

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Can the social sciences meet what appears to be an increasing demand for PhD graduates? Is existing supervisory capacity sufficient? Is quality being compromised? Where does the demand originate and where do the graduates go? These are some of the questions raised in a seminar with Manuel Castells on strengthening doctoral scholarship in the social sciences in South Africa.

The seminar was jointly hosted by the Council on Higher Education, the Centre for Higher Education Transformation and the Stellenbosch Institute for Advanced Studies.

Doctoral graduates in the past generally had their ambitions set on the pursuit of academic careers. But a significant shift in this pattern has meant that South African universities, like their European counterparts, face a growing demand for doctoral graduates who will be employed outside academia rather than in it.

In some fields, universities have developed 'professional' doctorates as a response to this demand. But in many fields the 'traditional' PhD is still the common currency, although it is being made to serve a variety of purposes.

Should this implicit division be formalised or should the prevailing situation be allowed to continue? The newly promulgated Higher Education Qualifications Framework in South Africa makes no distinction between different types of doctoral degree. But increasing anxiety about the quality of PhDs suggests that distinctly different demands are made of different doctoral candidates.

Another problem is that if most doctoral graduates are not proceeding into academia, then how will the current generation of academics augment and replenish itself? This is the question that turns the debate back to quality and standards from a different perspective.

The PhD graduates needed for the academic workforce have to be of very high quality and capable themselves of supervision of doctoral students. Unless this basic condition is met, the entire postgraduate enterprise in universities will be fundamentally compromised. And given questions that are being asked about the quality of PhDs the assumption of supervisory capacity in newly minted PhDs cannot be made with any certainty.

Manuel Castells neatly summed up the dilemma as follows: universities are faced with a major contradiction that manifests itself as a need to strengthen the quality of PhDs on the one hand and the need to increase the number of doctoral graduates on the other. The issues would have to be approached differently but the starting point had to be as full an understanding of the current situation as possible.

Facts and figures

In the last 10 to 15 years there has been major expansion in higher education in South Africa according to Professor Johann Mouton, who heads the Centre for Research on Science and Technology at Stellenbosch University.

Enrolments have doubled and graduates have more than doubled. The production of masters graduates from 2000 to 2007 grew on average annually by 4% and doctoral graduates have grown on average by more than 6% annually (although over the last few years the system has registered an overall decline in the production of all postgraduate degrees).

Some 25% of all postgraduates are at masters level and 4% at doctoral level. The distribution of postgraduates across honours, masters and PhDs has maintained a consistent shape over many years. The shape of doctoral production over the major knowledge fields has also remained remarkably consistent over time, with the social sciences (including the economic and management sciences) and humanities producing the lion's share at 54%.

Disaggregating this broad picture, however, reveals tendencies that are cause for concern.

In the natural sciences, students start their postgraduate studies at a younger age and take less time to complete than their peers in social sciences and humanities. The median age at which natural scientists graduate with a PhD is in the 30s, while for social scientists it is in the early 40s. The implications for supervisory capacity are clear: the high investment that the system makes in producing doctoral graduates gives a return in the social sciences of, at most, 20 to 25 years of graduate supervision.

Assessing supervisory capacity as a percentage of permanent academic staff with PhDs, research at CREST shows that the natural sciences have high capacity with about 46% of staff holding PhDs nationally. Although the demand for graduate supervision is highest in the social sciences, its capacity is the lowest nationally with only 29% of staff holding PhDs.

What is more, the shape of graduate production in the last few years shows that both the percentage of graduates and the percentage of enrolments is declining. The only increase is the percentage of students who have not yet completed their studies, and this pile-up in the system may very well be one of the symptoms of capacity stretched beyond its limits.

The capacity to produce doctoral graduates also creates a de facto differentiation of institutions in the system, with the top six producing 75% to 76% of PhDs and a further six universities contributing another 20% among them. That means nearly half the institutions in the higher education system make little, if any, contribution to national doctoral production.

Explanations and interpretations

A number of interpretations and explanations were offered for the phenomena described above which included the following:

PhD graduates going into other fields:

- * The growth of science councils has led to a shift of expertise from universities. Many social scientists have been lured into the Human Science Research Council.
- * The commercialisation of research and growth of consultancies has opened up numerous employment opportunities for knowledge workers outside universities.

Increased demand for PhDs:

- * The demand has in part been driven by international comparisons: in the 25 to 34-year-old age cohort, South Africa produces doctorates at only one eighth of the rate of the European Union. This led to a call from the National Research Foundation (NRF) to increase the annual production of PhDs from 1,200 to 6,000 by 2015. This has since been revised downwards to 3,000 by 2018.
- * In a number of universities there has been considerable pressure from managers for staff to upgrade

their qualifications - a translation at institutional level of state policies. This may have the effect of both increasing demand and lowering quality because it can often lead to bureaucratic supervision of students who are not driven by a genuine knowledge interest.

* An incentive culture is embodied in the NRF rating system as well as in the new funding formula that specifically rewards postgraduate production. In combination with the devolution of performance management to faculties, this produces significant pressure to enrol more postgraduate students.

* Some postgraduates are entering the market with poor basic skills in writing, expression and presentation.

Age and time-to-completion factors differ across different knowledge fields:

* Natural sciences and engineering doctoral students enrol earlier, complete faster and graduate younger than their social science counterparts.

* Nearly 90% of doctoral students in the social sciences are working full-time while studying, and have already been working for some years before initial enrolment.

* Top students in the social sciences go overseas to study for at least two reasons: they are offered good scholarships to study at UK or US universities which are not available locally; the quality of the environment for doctoral studies is seen to be more attractive in that students are offered course work and get to work in cohort groups.

Valid as these interpretations might be, it is clear that further research is needed to develop a better understanding of what goes on behind the figures.

The next level of research

Introducing the possibilities for taking research forward, Professor Cheryl de la Rey, CEO of the Council on Higher Education, stressed the need to look at a possible differentiation of purpose within the doctorate. This might call for revision of certain aspects of the HEQF, which currently expresses the purpose of the PhD as being for the generation of new knowledge only.

Does the labour market - the destination of an increasing number of graduates - require the same kind of doctorate? Mixed demands and confusion of purposes contribute to mixed quality and confused expectations. From the perspective of the professions, the traditional PhD is not seen as relevant enough; from the perspective of the academy, professional doctorates are seen as conceptually and methodologically shallow.

In terms of the non-academic labour market, the first issue to tackle would be the demands of the market. In well-established professional areas where regulatory bodies are strong, there is often a high level of consensus about what is needed, benchmarked against international practice and captured in the language of regulatory frameworks. But this is not necessarily the case in newer professions where there is less consensus, fewer professional bodies, and therefore weaker regulation.

More evidence is needed in order to devise a qualification properly aligned to the requirements of specialised professional practice. This kind of qualification, the professional doctorate, could be based less on the generation of new basic knowledge and more on new knowledge for professional practice.

In terms of the academic labour market, Castells argued that there could be no compromising the scholarly rigour required by a PhD of whatever kind if it is to be internationally credible. The PhD should offer a programme that enables candidates to do research and produce new knowledge, and in that sense, there is only one 'science'. It is an expensive process in which the ratio of qualified supervisors to students is critical and should never exceed one to five students at a time. His advice was that it is better to have a few very good PhDs than a lot of mediocre graduates. Only by building a cohort of good PhDs would supervisory capacity be extended.

Further topics for exploration

A number of areas were suggested for further investigation.

Typology of PhD training

It is necessary to investigate various models of training in the social sciences and humanities in South Africa, and to become fully acquainted with international scholarship and debate.

First, further exploration is needed of the two dominant models for the induction of students into academia through PhDs - the so-called cohort and apprenticeship models. The cohort model is dominant in the natural sciences and appears to account for shorter time-to-completion rates, but is there more than one form of this model? Is the apprenticeship model, dominant in the social sciences, still appropriate? Second, should the apprenticeship model be adapted to include courses, especially courses in high level quantitative and qualitative methods which seem to be lacking at the moment?

Quality assurance processes

Which quality assurance systems are in place within institutions and departments? For example support systems, PhD committees, mentoring and other support checks and balances. The production of a single PhD graduate constitutes a huge investment, yet it is unclear how the investment is being vouchsafed. Will there be differences between disciplinary clusters and between successful and unsuccessful institutions?

Quality of supervision

It is often said that good academics attract good students, but it does not necessarily follow that good academics make good supervisors. What is it that makes supervision effective?

Quality of the PhD

Scholarship, as opposed to 'research', is the capacity to ask a conceptually interesting question, and to pursue it with conceptual as well as methodological rigour. Completed PhDs could be analysed to determine whether they meet the standards of scholarship, and if they do not, in what ways they fall short.

Push and pull factors

What attracts good students to the PhD? Is it the pursuit of knowledge? Is it the lure of the labour market? And do these factors weigh differently for graduates who have accomplished a conceptually astute piece of work compared to that produced by 'jobbing' graduates?

Tentative conclusions

Given there is already a high level of differentiation across institutions in relation to the production of doctoral graduates, this should be supported by policy and driven by funding.

Different benchmarks should be set for different institutions. Even among institutions that have high levels of production, specialisation should be encouraged by funding programmes (rather than block funding) where there are concentrations of expertise, in order to achieve high quality of output. Programmes should not be replicated everywhere and no single institution should attempt work at this level across all knowledge domains.

System level differentiation should be reflected in practices within institutions to take into account differences between faculties and programmes. Treating all faculties in the same way, spreading funding uniformly, in the end produces unjust outcomes. Institutions need leaders who understand the importance of internal differentiation and drive it through differentiated targets.

There are relatively more doctoral candidates entering the humanities and social sciences (the pressure of quantity) than there are in engineering, materials and technology. Castells pointed out that this field is a vital indicator for development and should be grown. As it is dominated by black students, targeted funding would also have the effect of changing the demographics of doctoral graduates.

A short-term solution to the shortage of quality PhDs would be to fund significant numbers of students to study overseas. The problem is whether this might become a state-funded form of brain drain. Agreements would have to be reached to ensure a commitment to return, and institutions should develop mechanisms to reintegrate graduates into universities with the offer of positions.

The long-term solution is to improve the schooling system and in this respect, part of the mission of universities must be extension programmes for teachers.

Virtual education presents possibilities for meeting demand for the increased production of doctorates, particularly if professors could be 'shared' by institutions in a network of mentorship.

The issue of compulsory coursework for doctoral degrees should be reconsidered, especially regarding advanced methodological training. There have been numerous research initiatives exploring different facets of postgraduate research programmes, which should be drawn on and synthesised.

A final observation from Castells was that research will not solve all problems. The world will keep changing and demands will shift - which calls for a process of constant self-reflection.

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