A double helix the postgraduate research skills agenda and the doctorate

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The article explores and compares the approaches taken by two universities in two countries, England and Australia, for the implementation of government initiated postgraduate research skill development. In England the VITAE, and QAA bodies have established attributes, skills or competencies to be achieved whilst undertaking doctoral research. Australia has also introduced attributes to be achieved. Progress in the achievement of these is reported upon in the individual annual student progress reports. The skills to be achieved include transferable skills needed for employment such as taking personal responsibility and being able to operate in uncertain situations (QAA, 2008, p.24), the knowledge and skills to do research, knowledge of the standards and requirements, the knowledge and skills to work with others and ensure the wider impact of the research, and personal qualities to be a researcher (Vitae, 2010). The Australian Qualifications Framework similarly emphasises the development of skills and knowledge and the application of these with authority, responsibility and autonomy (AQF, 2011). There is also an emphasis on career planning, useful and appropriate given that an increasing number of those graduating with doctorates do not enter the academy, and careers already embarked upon may be enhanced by a doctorate and other doors opened.

The emphasis on doctoral skills and competences to be developed at times appears to overtake the key focus of a doctorate – that is to undertake the research to be presented in a thesis.

The implementation programmes incorporate professional development, portfolio development, taking formal courses, with similar monitoring but different implementation procedures. Quality Assurance regimes require extensive reporting and monitoring. It can be questioned as to what extent this focus on skill development

contributes to the thesis development and whether these goals for postgraduate researchers are in conflict or complementary. Such developments add to the ongoing discussion and debate as to the nature, form and purposes of the doctorate.

Keywords: postgraduate research skills, doctoral education and training

Introduction

Reflection upon the professional doctorate and the PhD and the challenges and developments encountered through working in these programmes prompted a comparison with the image of a double helix, parallel developments intertwined, as in the structure of DNA, a paired spiral, of the professional doctorate and the PhD.

In this article, the doctoral programmes focussed upon embrace both PhDs and the professional doctorate, specifically the Doctor of Education programmes, particularly at the research thesis/dissertation stage of the programme. It is argued that there is a tension between policy directives, focus and purpose and the realities of both delivering and doing a doctorate. Tennant identifies an increasing diversity of doctoral education in some ways, (2009: 227) whilst Shulman *et al* have argued for a decrease in diversity (2006). As part of the consideration of the doctorate and the shape it may take, models are being developed with a more organic focus on skill development.

The image of the double helix seemed an appropriate metaphor for this article which explores and compares the approaches taken by two universities in two countries, England and Australia, in the implementation of government initiated postgraduate research skill development. Also woven into the discussion is a consideration of challenges to the two key forms of doctorate, the professional doctorate and the PhD. As do the two strands of the double helix, these appear as anti – parallels, running in opposite directions, whilst as in a double helix, they share the same building blocks (1962).

Programmes to develop doctoral skills and competences are being developed, piloted and implemented with goals to better prepare candidates to undertake the research to be presented in a thesis. Such programmes are generally for those undertaking a PhD, as professional doctorates generally incorporate modules encompassing such skill development.

The focus on skill development runs parallel to the existing requirements, processes and schedules for the doctoral journey. The goals for postgraduate researchers development ideally should be complementary but may engender conflicts, especially with competing demands for time and focus. The specification of attributes or competences needs to be put in perspective in relation to the undertaking of doctoral research. These aspects underpin the consideration of the similarities and differences between the two cases exploring learning from the Australian system and England.

Methodology

A qualitative methodology has been employed, utilising methods of participant observation and documentary analysis. As a course coordinator of a doctor of education at an Australian university and as research degrees leader in an English university, insight and experiences have been gained as to the requirements for doctoral students and the development and implementation of national and university policies. Contributions as a member of a sub-committee to develop policy and implementation strategies also contribute to insider insights into the postgraduate skills development agenda. Given the early stages of the addressing of postgraduate researcher skill development at each university, it is too early to assess or evaluate the impact of such programmes, albeit anecdotal responses can be reported. In the course of considering the introduction of research skills training in each of the universities other issues have arisen.

The policies

Internationally there are concerns expressed for the development of highly skilled workforces, and as part of this that doctoral researchers should be developing their

skills whilst undertaking their research and producing their theses (Hinchcliffe et al 2007). This agenda was accompanied by a more overt government policy intervention and control, driving universities to develop, implement and report on the achievement of national goals. This has been accompanied by concerns for poor supervision, lack of departmental and infrastructure support, lack of links between research strengths and research education, and a lack of employability and commercialisation skills (Tennant 2009: 232).

In Australia in the 1990s the higher education policy agenda focussed on funding, accountability and value for money, 'judged by measured outcomes and contribution to the Australian economy,' (Neumann 2009: 212). Scott *et al*, (2009) note that the UK is demonstrating concern for national standards and formal procedures for doctoral completions. Completion rates are a concern in general internationally. There are concerns for universities to provide research and education relevant to the needs of the knowledge economy. Goals for a more highly skilled workforce create a drive for workers to be innovative, entrepreneurial, collaborative, self motivating, self managing, flexible, reflexive, and with an international perspective (Tennant 2009: 226).

Thus, throughout the past two decades, the quality assurance agenda has gained in power and impact on the workings of universities. As noted by Tennant there has been an increase in government control over universities (2009: 225) through accreditation provisions, audits, standards requirements and quality assurance processes. Policies, procedures and checklists abound to monitor the achievement of outcomes.

Internationally there are parallel developments in the consideration of doctoral programmes; in the US the Carnegie Foundation study produced an innovative study on the future of doctorates, in the EU Bologna is driving re- examination of doctoral programmes, for a European Framework for length and quality assurance, in England the 2005 HEFCE study explored issues of doctoral completions and supervision quality and in Australia, doctoral education has been driven by policies concerned with outcomes and decreased timelines (Neumann 2009).

McWilliam (2009: 198) identifies performativity and risk management as high priorities which place limits on the focus of academics' work, as to the meaning of teaching and researching. Additionally 'there has been an increased emphasis on the creation of instrumental forms of knowledge and a desire to make doctoral programmes and doctoral completion rates more relevant to the perceived needs of the economy and in particular professional practice' (Scott et al, 2009: 144).

The Quality Assurance Agency for Higher Education in the United Kingdom developed a code of practice in 2004 that requires universities to have their own internal quality control mechanisms. For doctoral level, this code refers to generic skills, with the Skills Training Requirements for Research Students, in the Joint Statement by the Research Councils/Arts and Humanities Research Board, with 35 skills listed under the following headings.

1. Research skills and techniques, e.g. to be able to demonstrate original, independent and critical thinking.
2. Research environment, e.g. to be able to understand the processes for funding and evaluation of research.
3. Research management, e.g. to be able to apply effective project management through the setting if research goals, intermediate milestones and prioritisation of activities.
4. Personal effectiveness, e.g. to be able to demonstrate flexibility and open mindedness.
5. Communication skills, e.g. to be able to write clearly and in a style appropriate to purpose.
6. Networking and teamwork, e.g. to be able to develop and maintain co- operative networks, working relationships with supervisors, colleagues and peers, within the institution and wider research community.
7. Career management, e.g. to be able to appreciate the need and show commitment to continued professional development (QAAHE 2004, in Tennant, 2009: 227).

The focus is broadened to include employment and personal skills in addition to producing a thesis.

In Australia, there are several different bodies involved in overseeing higher education, such as the Australian Universities Quality Assurance Agency, and the Australian Vice Chancellors (Tennant 2009: 232) in establishing and reinforcing the focus on quality, outcomes and skills development for doctoral students. The Australian Qualifications Framework (AQF) updated in 2011, has brought professional doctorates and PhDs closer, defining them as:

> There are two forms of Doctoral Degree within the Doctoral Degree qualification type: the Doctoral Degree (Research) and the Doctoral Degree (Professional) with the same descriptor. Research is the defining characteristic of all Doctoral Degree qualifications. The research Doctoral Degree (typically referred to as a PhD) makes a significant and original contribution to knowledge; the professional Doctoral Degree (typically titled Doctor of (field of study)) makes a significant and original contribution to knowledge in the context of professional practice. The emphasis in the learning outcomes and research may differ between the different forms of Doctoral Degree qualifications but all graduates will demonstrate knowledge, skills and the application of the knowledge and skills at AQF level 10 (AQF 2011: 52).

They are expected to have highly developed skills to advance learning and/or professional work, demonstrating these skills with attributes such as autonomy, judgement, adaptability and responsibility as an expert and leading practitioner or scholar. Knowledge, skills and the application of these are listed (AQF 2011: 6).

By comparison, the USA does not have a national accreditation or quality system rather more complex state and local processes. Risk is managed through national, regional and institutional levels 'regimes of uniformity' (Tennant 2009: 227).

Within this policy context, in England the VITAE, and QAA (Quality Assurance Agency) bodies have established attributes, skills or competencies to be achieved whilst undertaking doctoral research. Australia has also introduced attributes to be achieved at the doctoral level of study.

The skills to be achieved include transferable skills needed for employment such as taking personal responsibility and being able to operate in uncertain situations (QAA 2008: 24), the knowledge and skills to do research, knowledge of the standards and requirements, the knowledge and skills to work with others and ensure the wider impact of the research, and personal qualities to be a researcher (Vitae 2010). The Australian Qualifications Framework similarly emphasises for both PhDs and Professional doctorates the development of skills and knowledge and the application of these with authority, responsibility and autonomy (AQF 2011). There is also an emphasis on career planning, useful and appropriate given that an increasing number of those graduating with doctorates do not enter the academy, and careers already embarked upon may be enhanced by a doctorate and have other doors opened. However the profile of the professional doctorate learner, generally presenting as mature aged mid career professionals working full time does not necessarily fit with this type of skills framework (Stephenson et al 2006).

Interpretations of the policies

Within this research skills agenda, the Doctor of Education, both in England and Australia is classified as a research doctorate, due to two thirds of the qualification being devoted to the production of a research thesis, dissertation or research product. The one third devoted to course work modules generally orients the candidate to and providing preparation for the undertaking of their research. In both the English and Australian case programmes there is an emphasis on professional practice with a recognition of the work of the mid career professionals undertaking the courses.

In the English university, the approach to providing research methods experience had been to provide a set of compulsory research modules at masters level to be

undertaken and to be passed at the start of the MPhil/PhD. Only applicants with a research masters degree enrolled directly into a PhD. Consideration of these modules led to the formation of a university sub-committee which developed a new form of research experience to be piloted in 2012. The QAA and Vitae policies and Researcher Development Statement formed an integral basis for the university level programme. The resulting Postgraduate Researcher Skills Development Programme has been introduced, initially for MPhil/PhD students with a planned for extension to the Professional Doctorate students in the thesis/dissertation stage of their study.

As a member of the sub-committee which developed this policy and programme, I then had the experience of taking responsibility in a School of Education to implement the programme and thereby gained first-hand experience of the challenges involved. The goal was challenging, we established a researcher skill development programme which emphasised individual and negotiated skills development plans to be formed by the student and the supervision team and to then be monitored through the annual progress reviews. The use of a portfolio to record development and achievements was encouraged. A complicating factor has been the addition of a series of credit points for each type of activity allied to type and hours of a series of activities, for example, presenting a conference paper, publishing an article, undertaking a research module. Understandably the conversations as to what had to be achieved and how became entangled in a consideration of how any points each activity would accrue and whether or not points allocated to a paper were equal to doing a research module! A series of information sessions were provided for staff and students to introduce the programme with moderate levels of attendance. Emails were sent out to as a supporting source of information.

The initial reactions reported anecdotally were of confusion and uncertainty followed by self-justification and queries as to whether such professional and skill development programmes were applicable to them. It is a challenge to involve supervisors, with emails being received requesting further information and guidelines as to how the programme applies to them and to their students, with emails from the students voicing

uncertainty forwarded almost as a 'so there' message. There are differing interpretations held by those involved in the formation of the programme and this has led to differing interpretations as well. The debates became cyclical and frustratingly complicated and indicated a need to refine the programme and to communicate it more clearly to all involved.

The impetus to replace a compulsory set of research modules coincided with a structural reorganisation of the university with a reduction in numbers of schools and a shift from central to school level responsibilities for administration of postgraduate research programmes. The central department became increasingly an agency or instrument for monitoring policy implementation so that school level administrators and programme leaders have been audited and required to produce a never ending series of reports on all aspects of introduction and management of the new programme. This has increased workload considerably especially as it is additional to the daily increase in administration tasks to be carried out. The increased workload has come at a time of a reduction in the number of administration staff after voluntary departure packages.

The quality agenda of monitoring university achievements has placed an emphasis on the provision of a quality experience for postgraduate students with an opportunity to participate in and benefit from a research culture. A schedule of research seminars, and support meetings open to all doctoral students is developing. The national Postgraduate Research Experience Survey (PRES) is emphasised as important to be seen to be contributing to and to the achievement of positive feedback and so a series of practice PRES surveys will be conducted. It is important to be seen to be achieving positively in this national survey irrespective of how many universities or students participate or whether the results are statistically significant.

Australian universities similarly participate in a national survey of student experience and are also driven to meet government goals to produce a more highly skilled workforce. In the Australian university, the first step to address the emphasis on skill development was to add to the twice yearly progress reports a series of attributes to be

reported upon. This has been utilised for some years, introduced to meet national policy requirements, without a briefing to staff or students; the additional to the reports just appeared.

This year two research modules are being piloted for all PhD students to undertake. This will then become a requirement with points gained. The Doctor of Education students already undertake research methodology and proposal preparation modules. The goal is for students to be better prepared to undertake their theses.

In the case universities, progress in the achievement of postgraduate skill development is reported upon in the individual annual student progress reports. The programmes in both case universities incorporate professional development, portfolio development, taking formal courses, with similar monitoring but different implementation procedures. Quality Assurance regimes require extensive reporting and monitoring. In the UK case university, the research skill development programme is currently for the PhD students with extension to professional doctorate students this year. In the Australian university, the reporting on attributes achieved has been for both PhD and professional doctorate students.

The Australian university introduced into the twice yearly progress reports on the doctoral students, PhDs and Professional Doctoral thesis students, a number of points to be checked to monitor skill development. The extract below indicates the points to be reported upon:

Examiners are now asked to indicate whether a thesis shows evidence that the student has developed each of the University seven generic attributes. Below we list these generic attributes:

Attribute 1 - Evaluate and Synthesize the Research
Attribute 2 – Formulate the Research Questions
Attribute 3 – Design, Conduct and Report the Research

Attribute 4 – Address and Solve Research Problems

Attribute 5 –Critically Analyse

Attribute 6 – Contextualise the Research

Attribute 7 – Understand the Relevance of the Research

Please discuss with your student:

The extent to which the student is developing in each of these areas,

How these attributes will be demonstrated in the thesis, and

What the student might do to further develop these qualities.

Please make a brief comment to affirm that this conversation has happened and to indicate where and how the student will be assisted with this development in the forthcoming months.

This conversation has happened. In a number of ways:

- Prior to his candidature presentation
- In discussion relating to data collection and recording
- In the formulation of his research instruments
- In the literature review

(Extract from Australian university progress reports 2010)

The English university has identified a series of 'domains' to be reported upon, embracing knowledge and intellectual abilities, that is, knowledge, cognitive and creativity; personal effectiveness, with personal qualities, self management and professional and career development to be noted; research governance and organisation, addressing professional conduct, research engagement and finance, funding and resources to be achieved. Engagement, influence and impact embrace working with others communication and dissemination and engagement and impact. (Internal English university document 2011)

These efforts at researcher skill development may be criticised by academic staff who perceive regular supervision practices as sufficient to develop the skills of their doctoral students. Students may report being time challenged to fit in and address the demands

for class attendance, reading and assessment tasks, a scenario different from expectations of the progress of their studies, and be concerned as to progress to complete their theses. However the quality agenda has prevailed.

At the beginning of 2012, the Australian university introduced a pilot programme of research modules to be undertaken by new PhD students, modules focussing in research skills, literature searches, methodology and other skill attributes. This is another example of the introduction of a research skills development programme, which utilises the type of module focus, employed in professional doctorate course work. The Australian students are only now becoming aware of the existence of the pilot programme, so it is too early to have captured their reactions. Other universities phased out their professional doctorates, their Doctor of Education programmes taking into their PhD programmes the essence of the modules for the Doctor of Education (Malloch 2011). One university has labelled this the 'Modern PhD'. PhDs attract a higher level of recognition for research quantum, have the reputation for being the 'gold' standard, having status and for ostensibly creating new knowledge. Such developments give rise to the question as to the continued viability of the Doctor of Education and of professional doctorates in general.

Considering the strands of the helix

The overall trend is however worrying for the status and valuing of the professional doctorate in that the PhD is being refined, morphed into a new shape, a different combination of 'molecules' borrowed from the professional doctorate, raising questions as to the continuation of the professional doctorate. In the Australian university the Australian Qualifications definition and description of the PhD and professional doctorate has been blurred with an emphasis on research rather than professional practice. Entry into doctoral study is more contested and interpreted in narrower ways, with an emphasis on research undertaken already rather than professional expertise and capability. There is also the questioning at the Australian university of the calibre of those with professional doctorates to undertake PhD supervision. The professional doctorate should be recognised as equal but different. Tennant (2004) argued that the

PhD/professional doctorate binary could not be sustained, however the tensions and the searching for revised forms are still very much a part of the doctoral zeitgeist.

The zeitgeist is one of higher education in both countries experiencing steady declines in government funding, of policy agendas emphasising productivity and outcomes, and the production of highly skilled workforces, so that doctoral education is in a time of transition, and has moved to focus on timely completions and manageable projects (Tennant 2009: 222). McWilliam describes the situation as one of 'risky times' with performativity and risk management as high priorities, accompanied by an audit explosion (2009: 192-193). There is nevertheless, a growing expectation that universities provide research and education more relevant to the needs of the knowledge economy (McWilliam 2002). There is greater uniformity of the administrative processes, and ultimately outcomes. Given the moves in Australia to focus on a 'modern' PhD, one with embedded research development modules preparatory to the thesis, the place and time of professional doctorates may be more challenged. The provision of postgraduate researcher skill development programmes has wider implications than a focus on individual learner development in individual universities.

Shulman et al (2006) in considering the Doctor of Education, argued that the purpose and preparation of scholars and practitioners is confused, and they argue for a reclaiming of the research doctorate, a PhD with strong links to practice and the development of a strong 'practice' doctorate, equally valuable but different, contributing to prepare scholars and high level leading practitioners. Examples of changes made at a number of American universities were referred to, for example, the University of Southern California revising the PhD and EdD as two distinct programmes, with more emphasis on research in the PhD and on practice and contemporary problems in educational leadership in the EdD, the University of Colorado designed a new doctoral curriculum with more emphasis on research, the University of North Carolina. Shulman et al suggest that there should be two fresh new doctorates, a PhD focusing on research and an EdD, a Professional Practice Doctorate with the dissertation

replaced by substantive professional assessments with signature pedagogies, a better alignment to contribute to education.

Whether approaches such as those employed in these programmes would contribute to greater clarity for the Doctor of Education programmes as distinct from the PhD with the blurring of their respective foci by common skill development modules, is yet to be seen, however the doctoral agenda remains contested, challenged and to some extent confused.

Skills to assist researchers to apply for jobs, rather than careers, building confidence, communication and management, taking responsibility, gaining in capability are of use for all postgraduate students but the skills they bring to the programmes should not be forgotten nor neglected. Doctor of Education candidates tend to be mid career professionals bringing experience and professional expertise to their studies, a factor to be utilised and built upon, not ignored.

The skills to be achieved include transferable skills needed for employment such as taking personal responsibility and being able to operate in uncertain situations (QAA 2008: 24), the knowledge and skills to do research, knowledge of the standards and requirements, the knowledge and skills to work with others and ensure the wider impact of the research, and personal qualities to be a researcher (Vitae 2010). The Australian Qualifications Framework similarly emphasises for both PhDs and Professional doctorates the development of skills and knowledge and the application of these with authority, responsibility and autonomy (AQF 2011). There is also an emphasis on career planning, useful and appropriate given that an increasing number of those graduating with doctorates do not enter the academy, and careers already embarked upon may be enhanced by a doctorate and have other doors opened. However the profile of the professional doctorate learner, generally presenting as mature aged mid career professionals working full time does not necessarily fit with this type of skills framework.

The possibility of a professional doctorate utilising recognition or acknowledgement of prior learning is also missing from the provision of skills development programmes.

The growing emphasis on doctoral skills and competences has not overtaken the key focus of a doctorate – that is, to undertake the research to be presented in a thesis but certainly adds to what has to be achieved in a finite and limited time frame thereby adding to the stresses of students and supervisors alike. It can be questioned as to whether a one size fits all approach to skill development, as in the Australian example, is useful and whether it is inclusive of all doctoral candidates. The English programme attempts to address individual needs within a bureaucratic and quality driven organisation.

In each programme it is too early to ascertain as to whether and how this focus on skill development contributes to the thesis and to the development of the learner. There are intimations of conflict, there are other anecdotal reports of the usefulness of some of the research training activities undertaken. The goals for the development of postgraduate researchers are both in conflict and complementary to preparing for a dissertation for the PhD students, the professional doctorate students are able to continue to build on their skills post their modules and throughout the thesis.

Concluding remarks

As Tennant identifies there are conflicting messages in the defining of quality research education. He sees a shift in the Australian policy focus to alignment with research strengths, impact and employability and less on retention and completion (2009: 234). In an earlier paper, Tennant (2004) referred to the impact of the knowledge economy on the doctoral landscape, arguing that the distinction between the PhD and professional doctorate whilst not appropriate may be useful strategically and tactically. He sees the shift from 'autonomous scholar' to 'enterprising self' as important in the move in the doctoral education landscape in response to the demands of the knowledge economy (2004, 440-441)

The image of the double helix, of strong intertwined and twisting threads is a possible visual representation of the postgraduate research skills agenda and the undertaking of a doctorate, in reality for the two programmes referred to in this paper, they are parallel strands, touching at intermittent points for those undertaking a PhD or a professional doctorate. In the English university, the Doctor of Education students are included in the programmes aiming at building a research culture, and the modules they undertake to develop their methodology, literature review and proposals are being in the English university offered to the PhD students. In the Australian programme only the PhD students undertake the research modules at this stage and the doctoral attributes need to be demonstrated by students of both programmes. The researcher skills programmes in one sense merge the two types of doctorate and blur the focus and purpose for each.

Doctorates are continuously being tweaked, impacted upon by national government policy goals, assessed and measured as to productivity and outcomes to an extent that seems counterproductive (Malloch 2011). The strands of doctoral study, the PhD and the professional doctorate become entwined, blurred and need to be more distinct again. Like the helix they can run in opposite directions, with an emphasis on knowledge and research for the PhD and on research and practice for the Doctor of Education. Diversity and flexibility may still be a part of the doctoral agenda.

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