BrieflySpeaking

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The Qualification Standard for Doctoral Degrees and its Implications for the Pedagogy of Doctoral Supervision and Assessment

Abstract

In 2018, the Council on Higher Education published the *Qualification Standard for Doctoral Degrees* which sets benchmarks for acceptable quality of doctoral qualifications offered by South African higher education institutions. At the centre of the doctoral qualification standard are two sets of graduate attributes. The purpose and level of the qualification would be achieved when these attributes are evident in the candidates for the doctoral degree. The first set of attributes is about 'knowledge', and the second set of attributes is about 'skills'. There are five knowledge-related graduate attributes, and four skills-related graduate attributes at the doctoral degree level. This *Briefly Speaking* piece discusses the implications of the quest for the achievement of the graduate attributes, for the way doctoral students are supervised and assessed. Generally, the piece argues that group models of supervision facilitate the attainment of the graduate attributes than the 'apprenticeship' or 'one-on-one' model of supervision. It also argues that assessment solely on the basis of the 'remote' examination of theses cannot fully establish that all the attributes have been attained. It therefore calls for some form of oral assessments to complement the 'remote' examination of theses. These need not take the form of the often-maligned traditional *viva voce*.

Keywords: Assessment, doctoral degrees, graduate attributes, qualification standard, supervision

Introduction

The doctoral degree has an interesting history. The understanding that it is a research degree conferred on a student after making an original contribution to knowledge, is relatively new (Wittrock, 1993). In medieval Europe, the title 'doctor' constituted the acceptance of a candidate into the university teaching guilds, or into professions such as medicine or law; and it was conferred for advanced scholarship, not for research (Ruano-Borbalan, 2022). Although the so-called 'modern' university is often associated with the establishment of the University of Berlin in 1810, it was only towards the end of the 19th century that the understanding of universities as 'knowledge making' institutions became dominant, and the purpose and function of the doctorate as a degree conferred on the basis of original research became widespread (Wittrock, 1993; ASSAf, 2010).

Although the doctoral degree as a research qualification has long been associated with educating students for an academic career, it is now increasingly being considered as a means of gaining high status employment in a wide range of contexts. The increase in the number of candidates seeking a doctorate degree can be linked to the 'massification' of higher education (Trow, 1973) and the fact that ever-increasing numbers of people now hold bachelor's and master's degrees. What is often known as 'qualification creep', 'degree inflation' or 'credentialism' (NYU Dispatch, 2017) then pushes more and more individuals towards seeing a doctoral degree as a way towards social mobility in the form of better employment and status. As this happens, doctoral candidates no longer study for the sake of learning, personal development or contributing to knowledge. Rather, their motivation is more instrumental and is related to employment and social advancement.

At national levels, governments increasingly view people who hold doctoral degrees as essential for engaging with the so-called 'knowledge economy', and national plans often set targets for an increase in the production of doctoral graduates. In South Africa, for example, the National Development Plan (RSA, 2012:319) set a target of 5,000 doctoral degree graduates to be produced annually by 2030, a significant increase from the 1,420 produced in 2010. Although a study undertaken by the Academy of Sciences of South Africa (2010:18) recommends that 'specific institutions with existing capacity and established track records' should be targeted for 'scaling up the production of PhDs', the incentivised funding formula[1] (MoE, 2004) and the race to be included in international ranking systems that favour research intensive universities (Badat, 2010), have resulted in an interest in producing doctoral graduates at all universities. All this has meant that doctoral programmes, far from enrolling academically elite cohorts of students intent on pursuing an academic career, have become 'massified'.

Massification, and the diversification that accompanies it (Trow, 1973), have contributed to concerns about the quality of doctoral education. The ASSAf Report (ASSAf, 2010:18) noted above, for example, recommended the introduction of 'quality assurance measures' for the doctorate, on the one hand, to prevent irresponsible massification of the degree in the light of the substantial funding incentives for producing doctoral graduates; and, on the other hand, to deepen the quality of this final qualification across universities. The need to balance the tension between equity and efficiency, long experienced in South Africa as discussed by, among others, Kraak (2001), also applies to doctoral education. ASSAf (2010), for example, not only noted the need for the country to produce more doctoral graduates if it is to be a 'serious competitor in the global knowledge economy' (p.21) but, also, that diversity needed to be enhanced as, in 2007, the final year analysed for the purpose of producing a statistical profile of doctoral students at public universities, most graduates 'were white South African men in their 30s' (p.16).

[1] The funding formula introduced to the South African public higher education system in 2004 (MoE, 2004) allocates three 'subsidy units' to the doctoral graduates. Since the figure often quoted for a single 'subsidy unit' is R120, 000 (see, for example, Rybicki, 2019), the value of doctoral graduates to universities is substantial, particularly as most students also pay tuition fees.

The Council on Higher Education (CHE) has responded in a number of ways to calls for the need for the assurance of quality at doctoral level, while recognising the tensions involved in doing this at a time when a the doctoral qualification needs to serve a wider range of purposes, and when the country has set itself on a path towards producing more graduates from a diverse range of backgrounds with varying educational experiences at both school and undergraduate/early postgraduate levels. The Higher Education Qualifications Sub-Framework (CHE, 2013) identifies two variants of both master's and doctoral degrees in the form of 'traditional academic' and 'professional' qualifications. In 2018, the CHE published the Qualification *Standard for Doctoral Degrees* (CHE, 2018) – hereinafter referred to simply as 'the Standard'. In 2020, the CHE conducted a National Review of South African Doctoral Qualifications (CHE, 2021) based on the Standard.

This *Briefly Speaking* piece discusses the Standard and its implications for the pedagogy of doctoral supervision and assessment. The focus is on 'graduate attributes', or characteristics of the graduate, which constitute the backbone of the Standard. It sets out to do this by exploring the notion of attributes more closely.

Graduate Attributes

Having noted the emergence of the concept of the 'graduate attribute' from a neoliberal shift in higher education as universities tried to align their teaching with the needs of the workplace, Faller, Burton, Kaniki, Leitch and Ntshoe (2023:99) identify a number of ways in which attributes are conceptualised before noting that, in the Standard, attributes appear to be a 'combination of translation and enabling conceptions'.

'Translation' conceptions construct attributes as 'clusters' of personal, cognitive and skills-based features' (p. 96) which are separate from, but not entirely independent of, disciplinary knowledge. From this perspective, attributes 'shape' disciplinary knowledge by, for example, allowing abstract concepts and theories to be applied to practical problems or phenomena. As a result, attributes are not generic, or cross-disciplinary, but are rather 'competencies that are shaped to address the needs of a particular discipline or field of study' (p. 97). 'Enabling' conceptions of attributes, on the other hand, are 'interwoven networks of clusters which result in the construction of a particular perspective or worldview' (p.97). As Faller *et al*. note, if attributes are understood as contributing to the development of a particular perspective or worldview, questions need to be asked about whose worldview is being privileged? This question is particularly pertinent in the South African context where calls for the decolonisation of curricula and institutional cultures emerged during the student protests of 2015 and 2016, and where concepts such as 'humanising pedagogy' (Salazar, 2013; Zinn, Proteus & Keet, 2009; Zinn & Rodgers, 2013; Zinn, Adam, Kurup & du Plessis, 2016) are identified as a means of addressing the alienation that students experience as they engage with learning in universities.

The Standard identifies the need for the 'mastery and ability' captured by the attributes to be 'embedded within an appropriate scholarly disposition', and that the graduate 'should represent the field of knowledge with critical and ethical integrity, assume a role as its custodian and steward, evince a scholarly curiosity, and be able, where relevant, to collaborate with peers from diverse academic backgrounds without compromising independent critical thinking' (CHE 2018:11). The idea that the graduate should act as 'custodian and steward' is particularly pertinent to the questions about 'whose worldview' is being privileged posed by Faller *et al*. (2003) given the demand for transformation in the

South African context. As indicated earlier, doctoral degrees have long been associated with the socialisation or acculturation of candidates into privileged groups. In medieval Europe, these groups included a few select professions such as medicine and the law, and the university teaching 'guilds'. Ruano-Borbalan (2022) points out that only a small proportion of students could afford to complete doctoral studies because of the cost of the public defence (still a requirement at some universities in Europe) and the lavish banquets associated with induction rituals with the result that the doctoral degree was always an elite qualification. Later, the doctoral degree became associated with socialisation into disciplinary norms and values related to what could count as knowledge, and how it could be known, as universities shifted to being knowledge producing institutions in the late 19th century. The explicit statement of attributes in the Standard makes the endpoint of socialisation more overt and, potentially, more open to critique.

As the *Doctoral Degree National Report* notes, at some universities, the development of attributes at institutional level has encompassed explicit statements related to 'values like moral integrity, responsibility, cultural and cognitive justice, accountability, and human compassion' (CHE, 2022) as, in principle, the attributes in the Standard could apply to, for example, the development of knowledge that is unethical and harmful to humankind or the environment. This practice adds more complexity to consideration of the question of 'whose worldview' is being privileged through the development of attributes at doctoral level.

The Standard makes a distinction between attributes generic to the higher education system overall and those that relate to the mission and vision of individual institutions, although this was not identified as common practice in the national review. As the *Doctoral Degrees National Report* (CHE, 2022) also points out, although distinctions between institutional types tend to be 'blurred', it was possible to discern a shifting of priorities in the attributes developed at institutional level. More specifically, it was possible to identify a privileging of attributes related to disciplinary knowledge, and of the specialised field of study at some universities, most notably those designated 'traditional', while others, typically the universities of technology, prioritised the use of critical thinking to produce applied knowledge to solve problems (Faller *et al*., 2023).

Having explored the concept of 'graduate attributes' in the context of the Standard (CHE, 2018) and the South African higher education system, this *Briefly Speaking* now moves to examine their implications for supervision in more detail.

Developing the person or getting the thesis done

ASSAf (2010:65) notes that the 'availability of appropriately qualified doctoral supervisors is particularly important within the South African context' given that, in 2007, only one third of all permanently appointed academic staff were qualified at doctoral level, although this differed by institutional type. Historically, staff at the former technikons did not require doctoral qualifications as they were often employed on the basis of their professional and technical expertise. The number of staff qualified at doctoral level was also lower at historically black universities. The ASSAf Report also noted the prevalence of the 'apprenticeship model' of supervision, where one or two supervisors work with a single student, and that, at many universities two supervisors were a requirement. Since the publication of the ASSAf Report, many universities have put pressure on staff to qualify at doctoral level with the result that recent data (CHE, 2022:) shows that 50.4% of permanently

appointed academic staff had doctoral degrees in 2020, up from 45.4% in 2015. Nonetheless, the report of the national review (CHE, 2022:41) still notes that 'a lack of available qualified supervisors can result in high student: supervisor ratio and heavy supervision loads for some individuals'.

The incentive of the substantial subsidy resulting from the funding formula (MoE, 2004) and the lack of supervisory capacity has resulted in many universities focusing on 'time to completion' by introducing tracking systems and other means of putting pressure on both students and supervisors. In the context of the lack of supervisory capacity, the argument is often made that getting students through the system on time makes more space available for others. The fact that the funding formula (MoE, 2004) rewards completion 'on time' is, however, undoubtedly a factor in the pressure from universities to 'get students through'. Interestingly, the notion of 'regulation time' or 'minimum time' does not appear anywhere in the funding framework. What appears to have happened is that both these concepts have been discursively constructed at institutional level in order to gain maximum benefit from funding which allocates, for example, three subsidy units to a doctoral graduation and each unit is equated to funding for one year of study.

In many respects, it is easier to 'get the thesis done' than to 'develop the doctor' particularly if candidates come from a wide range of socio-economic backgrounds. Following Gee (2007:154), students entering a programme of study need to master a new 'Discourse' (always deliberately capitalized to distinguish this use of the term from others) which is:

> ...composed of distinctive ways of speaking/listening and often, too, writing/reading *coupled* with distinctive ways of acting, interacting valuing, feeling, dressing, thinking, believing, with other people and with various objects, tools, and technologies, so as to enact specific socially recognisable identities engaged in specific socially recognized activities (original emphasis).

The graduate attributes captured in the Standard describe the 'distinctive ways' associated with the enactment of the 'socially recognisable identity' of the 'doctor. For Gee, an individual is socialised into a 'primary Discourse' in their homes of origin and, thereafter, can acquire any number of secondary Discourses through exposure. The primary Discourses of some students will be closer to the secondary Discourse described in the Standard and, therefore, it could be expected that, for these candidates, development of the attributes might be less difficult than for others, a point acknowledged in the *Doctoral Degrees National Report* (CHE, 2022:23). Development of the secondary 'doctoral' Discourse will also be impacted by other conditions such as the quality of education at undergraduate and early postgraduate levels and, once a doctoral programme has been joined, by the quality of supervision and the extent to which the structure of that programme provides exposure to others who 'model' the ways of behaving characteristic of the Discourse.

At times, supervisors may therefore be confronted by the need to focus on the completion of the thesis to comply with institutional tracking and, even, performance management systems when, ideally, a candidate might need more time to develop the attributes. This situation is then often exacerbated by the fact that candidates themselves are eager to complete, especially when their motivation for doing the degree is instrumental and linked to enhanced employment opportunities.

In the context of decolonisation, it is also necessary to consider the extent to which the attributes described in the Standard are not always aligned to ways of being valued in students' home communities. For example, the concept of 'autonomy' prized in higher educational discourses can be seen to be linked to the Enlightenment of the 17th and 18th century Europe (see, for example, Boler, 1999; Deligiorgi, 2005; Peters, 2018). Other writers show how the concept of autonomy has shaped the concept of the 'ideal' student (see, for example, Link, Gallo & Wortham, 2017; Boler, 1999; Ahmed, 2014; Clarence, 2021). In some contexts, including South Africa, 'being and thriving' are often seen as communal (as in the concept of '*Ubuntu*'). In a similar vein, the idea that the doctoral graduate should demonstrate communication skills that include the 'capacity for extended, sustained and rigorous academic writing' (CHE, 2018:14) can be linked to the development of the printing press in the 15th century Europe (Olsen, 1977). Before this development in technology made printed texts widely available, meanings were communicated orally. Once printed texts were available, written forms of meaning making came to be privileged, especially as what is termed the 'essayist tradition' typified in the work of the likes of de Montaigne (1834) or Locke (2002) and other thinkers became dominant. Research on orality in South Africa (see, for example, Gough, 1990) shows how poets and others drawing on traditional indigenous genres compose original, overly complex conceptual works as they engage with audiences. The privileging of literacy over orality in higher education and, particularly in doctoral education as the thesis is used as the main form of assessment, effectively constructs the need to write, and students' inability to write in 'acceptable' academic ways, as a 'problem' when, if other modes of communication were equally prized, this would not be the case. For many students, the need to develop the identity of the doctor described in the Standard might well result in the alienation and loss of the sense of 'self' described by decolonial thinkers such as Salazar (2013), as well as the sense of being an 'imposter' in the academic world (see, for example, Nori, Peura, & Jauhiainen, 2020; Sverdlik, Hall and McAlpine, 2020). In this context, what can supervisors do to support development of the attributes outlined in the Standard?

One of the most obvious ways to support the development of attributes in the Standard is to make students aware of them as they embark on a programme of study. The *Doctoral Degrees National Report* (CHE, 2022) notes that Self Evaluation Reports (SERs) submitted by many institutions for the purposes of the national review

> … focused on a discussion of graduate attributes as a summative and demonstrable outcome, with only a few institutions discussing the processes of how the attributes were acquired.

This would suggest that the practice of introducing students to the attributes, monitoring their development and supporting students to master them was not common supervisory practice. One way to monitor the development of attributes and support their development would be to ask students to keep a journal reflecting on their understandings of the attributes and how they were mastering them. This practice would, in itself, support the development of the attribute of 'reflection' but, more importantly, would provide a basis for ongoing discussion with supervisors as well as an opportunity for students to evaluate their own progress. The Standard identifies mechanisms at institutional level to 'monitor progression in studies' including 'procedures that will normally be used to check the level of knowledge and skills'. Although, as already noted, many universities have introduced mechanisms to track progress, these are not necessarily directed at

monitoring achievement of attributes. Monitoring such progression could probably not be achieved using a standardised checking system, however. Many universities do require supervisors to submit reports on students' progress and these could be expanded to include a section on the development of attributes. This form of reporting would better contribute to development if both supervisors and candidates were required to draft the reports collaboratively.

Supervisory models and the development of attributes

Numerous descriptions and/or classifications of models of supervision are available in the literature on doctoral education (see, for example, Bitzer & Albertyn, 2011). The main distinction is between what might be termed 'individual' and 'group' models. Individual models focus on the supervision of a single student by an expert, often in conjunction with a co-supervisor, who might be a junior academic 'in training' as a supervisor. Such models are often termed 'apprenticeship models', to signify the induction or socialisation into research practice, 'dyadic models' to indicate a relationship between two people, or 'one-on-one' models. Group models focus on bringing a group of candidates together, usually with more than one supervisor. Variations of group models are discussed below.

Cohort models

Cohort models involve recruiting a group of students who all embark on doctoral studies at the same time. Students are usually recruited to undertake doctoral research in a particular focus area and are required to design a study within it. Cohort models usually involve some form of teaching, not necessarily coursework. For example, students may be brought together for weeks of seminars and workshops relevant to the point they are in their research journeys. Increasingly, cohort models involve some sort of online teaching often using a learning platform to post resources and host discussions and other events.

Within the cohort, candidates may be supervised by a single supervisor or by a supervisor and co-supervisor. Cohort models can also use supervisory panels or 'teams' where a panel of experts (often three) is convened to provide guidance for each study (see, for example, Manathunga, 2012; Akerlind & McAlpine, 2015).

Project models

Project models, often used in the natural sciences, involve a lead researcher obtaining funding for a research project. The project is then 'sliced' into smaller pieces of studies each of which contributes to answering the main research question or testing the main hypothesis. Postgraduate students, at honours, master's and doctoral levels, are recruited to complete these smaller pieces of studies. Other researchers, sometimes from several universities, also collaborate on the project and provide supervision which may be one-on-one or offered in conjunction with others (that is, in the form of co-supervision or panel/team supervision). In the natural sciences, project models may involve laboratories with researchers and postgraduate students working alongside each other. Researchers in a project will often socialise over lunch and 'talk research'. It is also common to see journal clubs, where a recently published article is discussed, and presentations of work in progress made by all project members.

Doctoral/postgraduate schools/centres

Strictly speaking, doctoral or postgraduate schools are not 'models' of supervision although they are commonly established in universities to provide opportunities for

support and development to postgraduate students. These schools or centres are typically led by a senior academic and offer workshops, study spaces and other amenities, including the loan of computers. The recognition of postgraduate students as a group who are 'different' to undergraduates can help to promote opportunities to socialise and learn and avoid the postgraduate as a 'lonely scholar' phenomenon reported in the literature (see, for example, Shettar, Karkal, Kakunje, Mendonsa & Chandran, 2017).

Coursework

Coursework is also not a 'model' of supervision but is included here as it offers opportunities for students to study as a group. The South African Higher Education Qualifications Sub-Framework (CHE, 2013) does not allow coursework to be counted for credit towards the conferment of a 'traditional academic' doctoral degree although it is a feature of professional doctoral degrees. However, there is no reason why coursework cannot be included in any doctoral programme. Coursework at doctoral level often includes a focus on methodology and research design although other areas particular to the focus of studies can also be included. Sitting in a class with other students allows for socialisation, thus avoiding the 'lonely scholar' phenomenon noted above and, in principle, allows students to provide peer support, and learn from, each other.

Knowledge forms and models of supervision

The advantage of group models of supervision is that students benefit from peer support within the group. In the natural sciences, more senior students may teach techniques at the bench. Regardless of the knowledge area, students can offer emotional support and motivate each other. However, the current interest in knowledge forms emanating from the work of Bernstein (2000) suggests that different knowledge areas will favour particular models of supervision.

Bernstein (2000) begins by making a distinction between two ways of describing and understanding the world around us termed 'discourses'. Horizontal discourse draws on experience to describe phenomena in ways which are context- and time-bound. An example of horizontal discourse might be 'it always rains in summer'. While this might be true of some contexts, for example, the eastern seaboard of South Africa, it is not true for all contexts. On the western coast of South Africa, for example, the main rainfall tends to occur in winter. The effects of global warming and climate change may mean, moreover, that the patterns currently experienced will not always hold true.

In contrast to horizontal discourse, vertical discourse draws on abstract, theorised, systemetised accounts of the world. An example of vertical discourse could be the rain cycle, often taught at primary school and made progressively more complex as learners move to higher educational levels. In principle, the rain cycle will explain rainfall in any place in the world now and into the future.

Within vertical discourse, Bernstein identifies two 'knowledge structures', a hierarchical knowledge structure and a horizontal knowledge structure. A hierarchical structure is typical of the natural sciences where knowledge is produced by collecting and analysing data to produce ever more overarching theories and principles to account for it. Within a hierarchical knowledge structure, researchers often work to test, elaborate upon or challenge existing theories and principles and are generally in agreement about what can constitute knowledge and how it can be known. It is not difficult to see that knowledge areas with

a vertical structure accommodate group models of supervision more easily.

In a horizontal knowledge structure, typical of the social sciences and humanities, researchers use a theory as a lens to look at a problem, a phenomenon or an artefact (such as an artwork or a piece of literature). The lens allows the researcher to 'see' things that might otherwise not be evident and to identify connections which might not otherwise be apparent. Any number of theories might be used as lenses. The same theory might be used to look at different problems, phenomena or artefacts or different theories might be used to examine the same problem, phenomenon or artefact. As a theory is used, researchers begin to speak a theoretical language of description in that they draw on the terminology of the theory. In addition, in the social sciences, researchers use a range of methodological approaches often based on quite different views of what can count as knowledge and how it can be known. The organisation of academic institutions into faculties, schools and departments or, increasingly, of researchers into 'niche areas', may mean that only one supervisor is available to supervise work using a particular theory or methodological approach. As a result, one-on-one supervision dominates.

Although different knowledge structures may favour particular models of supervision, this does not mean that their use is determined. Many examples of group models being used successfully in the social sciences can be identified (see, for example, the Higher Education Studies Doctoral Programme at Rhodes University (https://www.ru.ac.za/teachingandlearning/highereducationstudies/doctoralprogramme/)).

Implications for Graduate Supervision

It is not difficult to perceive that group models may be more conducive to the development of attributes. For example, the Standard (CHE, 2018:13) identifies, as knowledge attributes,

- Broad, well-informed, and current knowledge of field or discipline
- Expert, specialised, and in-depth current knowledge of specific area of research
- Insight into the interconnectedness of one's topic of research with other cognate fields.

It can be argued that in group models, students are more likely to develop 'broad, well-informed and current knowledge of the field or discipline' and 'insight into the connectedness' of their own research 'with other cognate fields' as well as 'expert, specialised and in-depth current knowledge' of their own research area as there are more possibilities to interact with others and hear about their studies and the approaches they are using. In group models focused on a particular knowledge area (for example, 'social justice in higher education'), it is also possible that students with backgrounds in a range of disciplinary areas (in this case, education, linguistics, sociology, politics, anthropology and even economics) may be recruited.

Group models also allow for 'understandings of ethics and professional conduct', another knowledge attribute, to be developed along with some of the skills attributes. A Doctoral School or Centre can be particularly useful in exposing candidates to studies being conducted in a wide range of knowledge fields and, thus contribute to the development of understandings of the 'interconnectedness' of a research topic to others. In a group model, the presentation of proposals and work-

in-progress can be expected to contribute to the 'evaluation, selection and application of appropriate research approaches, methodologies, and processes in the pursuit of a research objective' as well as to 'broad, well-informed, and current knowledge' of a field or discipline all candidates are working within. Group models may also contribute to the development of other attributes such as communication skills, in that students will need to discuss their work with others in ways that make it accessible, as well as to the development of 'critical and analytical thinking for problem solving' as they contribute to discussions on the work of others.

The *Doctoral Degrees National Report* (CHE, 2022:66) notes that the 'growing international trend in doctoral studies to explore alternative models of supervision' is 'generally underdeveloped in most institutions in South Africa'. The Report does not specifically recommend the introduction of alternative models although it does recommend that 'institutional plans should be designed to address the need for ongoing improvement with regard to the provision of supervisors […] and supervision models'. However, if institutions are to be serious in supporting the development of the attributes used to 'set the standard' for doctoral degrees, the exploration of group models of supervision needs serious consideration.

Implications for Assessment

In South Africa, the introduction of the National Qualifications Framework (NQF) as a result of the SAQA Act (Act 58 of 1995) (RSA, 1995) led to the need for a 'common language' to describe qualifications on the framework. The SAQA Act was repealed and replaced by the National Qualifications Framework Act No. 67 of 2008 (RSA, 2008). Following practice in other countries across the world, South Africa drew on the construct of the 'learning outcome', along with the concepts of 'credits' and 'levels' to develop this language. Criterion-referenced assessment was then introduced as a means of judging performance against outcomes. While outcomes describe what a candidate needs to do in order to merit the award of a qualification, assessment criteria describe what an assessor needs to 'see' to be sure an outcome has been met. The next step in designing a criterion-referenced system is to identify assessment tasks which will allow performance against criteria to be demonstrated. Criterion-referenced assessment can thus be seen to draw on the 'alignment' of outcomes, assessment criteria and assessment tasks.

Boud's (2006) concept of 'constructive alignment' develops this idea in arguing that 'alignment' of an instructional system with the outcomes of a curriculum enhances learning. In this case, alignment involves outcomes, assessment criteria, assessment tasks, learning materials and teaching approaches and, nowadays, mode (online, face-to-face or blended teaching and learning). The concept of 'constructive alignment' is now widely used in curriculum design and is frequently taught in programmes focused on the development of academics as educators.

In the Standard, attributes function in much the same way as outcomes. Although they do not describe actions in the same way as learning outcomes, they do describe the characteristics of a graduate as they complete a doctoral programme and are thus a form of outcome. If the concept of 'constructive alignment' is followed, then the pedagogy of doctoral supervision needs to focus on the development of the attributes. In a similar vein, assessment needs to be 'aligned' with the attributes in that assessment tasks need to allow candidates to demonstrate that they meet assessment criteria developed from the attributes.

Contemporary understandings of assessment see it not only as a means of measuring learning which has taken place but also as a means of developing it (see, for example, Taras, 2002: Williams, 2011). Such understandings call for assessment to be used developmentally throughout a programme of study. In a doctoral programme, the implications are that candidates need to be provided with opportunities to demonstrate their growing mastery of the graduate attributes listed in the Standard and with feedback which will further develop it. Opportunities could include seminar and conference presentations and engagement with peers involving the provision of feedback on their research proposals, applications for ethical approval and so on.

In all but a few South African universities, achievement at doctoral level is judged summatively using a written thesis as an assessment task. A few universities add an oral examination or '*viva*' as an assessment task although this is not common. Now that the Standard is available, questions about the validity of traditional forms of examination, where the term 'validity' refers to the extent to which assessment tasks assess what they are intended to test, need to be asked.

As already noted, the attributes in the Standard are categorised as 'knowledge attributes' and 'skills attributes'. Knowledge attributes are listed as:

i) Broad, well informed, and current knowledge of a field or discipline;
ii) Expert, specialised, and in-depth current knowledge of a specific area of research;
iii) Insight into the interconnectedness of one's topic with other cognate fields;
iv) Ethical awareness in research and professional conduct;
v) An original contribution to a field of study.

Of these, a thesis will most likely demonstrate attribute ii) 'Expert, specialised, and in-depth current knowledge of a specific area of research'. The extent to which it can provide evidence of attributes i) and iii) is arguably linked to a candidate's ability to employ an 'editorial voice' and provide comment on the field or discipline more generally and the relationship of the focus of the study to other fields.

The quality of students' writing is one of the problems most frequently commented upon by supervisors. The *Doctoral Degrees National Report* (CHE, 2022) notes that several reports from panels reviewing doctoral programmes at different universities commented upon the 'under-preparedness' of many candidates for doctoral level study. It also notes (p. 29) that although reports from panels noted that 'the challenge of academic writing in general had been raised in SERs, 'a few institutions specifically referred to the fact that some students, even first language speakers of English, experience difficulties'. This observation points to claims by South African researchers of academic writing that the 'writing problem' is considerably more complex than simply addressing problems related to grammar and vocabulary (see, for example, Boughey, 1999, 2002, 2005; Boughey & Mckenna, 2021) and that writing is related to identity (Bangeni & Kapp, 2004, 2017; Boughey 2013, Boughey & McKenna, 2016). The 'doctoral voice' able to provide editorial commentary identifying links between the study and the discipline more generally as well as between the study and other cognate fields is thus related to the development of the doctoral identity but may well not be evident in all theses.

A thesis will, generally, provide evidence of ethical considerations addressed in order to obtain approval to conduct the study. It will not necessarily provide

evidence of wider understandings of ethics and how they might apply to particular situations and problems.

The 'skills attributes' identified in the Qualification Standard are:

vi) Evaluation, selection and application of appropriate research approaches, methodologies, and processes in the pursuit of a research objective;
vii) Reflection and autonomy;
viii) Communication skills, including relevant information and digital literacy skills;
ix) Critical and analytical thinking for problem-solving.

Again, problems can be identified with the use of a thesis as the sole assessment task allowing for their demonstration. Skills attribute vii) will be demonstrated in chapters discussing methodology, and research design as the focus of the discussion is likely to be on building an argument for the employment or approach or methods/techniques used in the study.

The extent to which skills attribute vii) is demonstrated may well be related to the discipline or field of study at least in relation to 'reflection'. In the social sciences and humanities, understandings of knowledge and how it can be known will often lead to a reflective approach encompassing the positionality of the researcher as a knowledge maker. In the natural sciences where objectivity is valued, this may not be so evident as the dominant value is for the identity of the researcher to be masked.

Consider, for example, an extract taken from the following randomly selected doctoral thesis (Rukweza, 2023:90) in a chapter entitled 'Experimental procedures and methods':

> A 50 mL round bottom flask was charged with pyrazine carboxylic acid (2.482 g, 20.0mmol), EtOH (20 mL) and concentrated H2SO4 (1 mL). The reaction mixture was allowed to stir at room temperature for 10 mins and then heated to reflux for 10 h. TLC confirmed the completion of the reaction. Thereafter, the resultant reaction product was allowed to cool to ambient temperature. The product was washed with NaHCO3 solution to neutralize the solution. The organic phase was obtained through liquid extraction using DCM. The organic phase was dried using Na2SO4 and filtered.

Writing of this nature clearly meets the norms of scientific discourse and the expectations of the examiners but it does not necessarily allow for the candidate to reflect on dilemmas, for example, encountered in the course of doing the research.

Observations made immediately above also relate to the potential of the thesis to allow for the demonstration of skills attribute viii) communication skills. The Standard (CHE, 2018: 14) elaborates on the attribute by noting:

> The graduate demonstrates an advanced level of communicative competence, through capacity for extended, sustained and rigorous academic writing, including relevant digital literacy skills appropriate for doctoral research, and ability to relate individual research with reference to, and critical analysis of, associated research produced by scholars in the relevant intellectual and knowledge domain(s).
>
> The graduate is able, as appropriate to the field of research, to communicate research findings effectively to expert and non-expert audiences alike, to defend them in the context of intellectual contestation, and to disseminate them in appropriate forms.

While a thesis provides a space for the demonstration of 'rigorous academic writing' and some 'digital literacy skills' (although increasingly candidates employ specialists to format a thesis if they can afford to do this) it does not demonstrate the ability to communicate findings to non-expert audiences. A test of the ability to communicate with non-experts would need to include writing for publications such as 'The Conversation'.

There is thus a strong argument for the need for 'tests' of a candidate's ability to demonstrate the attributes in the Standard in addition to the traditional thesis. One question, however, is whether the 'traditional' oral examination or *viva*, the other assessment task traditionally used in the assessment of doctoral qualifications, is sufficient to do this.

The 'traditional' oral

Kumar, Sanderson and Kaur (2021:1080) identify three types of oral examination: the 'compulsory' oral, the 'hybrid' oral, and the 'ritualised examination'. The compulsory oral involves the examiners, candidate and supervisor only and Kumar *et al*. draw on Carter (2008:365) to describe this form of the oral as having 'a Hogwartsian sense that it is an arcane ritual – a mystery'. The hybrid oral is described as both a 'ritual and an examination' involving a public defence of the thesis at which an examination committee is present. For Kumar *et al*., this form of oral is a 'rite of passage' (p. 1081). The final form of oral, the 'ritualised examination' is not strictly an examination as decisions about the award of the degree would have already been made. Rather it is a 'ceremonial public debate'.

A number of observations can be made with regard to the typology offered by Kumar *et al*., one of which relates to the idea introduced in the introduction to this piece that, initially, the conferment of a doctoral degree signified the acceptance of a candidate into an existing social group such as a teaching guild or profession (Ruano-Borbalan, 2022). The conferment of the degree could thus be seen as an indication of the acknowledgement of the new doctor as 'someone like us' by existing members of the group. The concept of the oral as a 'rite of passage' is particularly pertinent here. A second observation relates to the fact that the 'compulsory' oral tends to be seen as an interrogation of the candidate by the examiners. In contemporary times, this view often underpins arguments for the oral based on concerns about ghost writing and the use of artificial intelligence. An 'interrogation' of the candidate is thus seen as a means of discerning whether or not the person being questioned actually did the research and authored the thesis. A third observation relates to the fact that, increasingly, a 'closed door' oral involving the candidate, examiners and supervisor(s) has been developed into a format which allows the candidate to make a presentation on their work, using PowerPoint and other digital tools, and that the event is often held online.

The existence of the Standard and its use of graduate attributes arguably implies the need for a complete reconceptualisation of the oral as one of a series of tests which allow the candidate to demonstrate mastery of attributes not necessarily evident in a thesis. The inclusion of the oral in a series of tests, and it is possible to imagine others including some form of practical performance, supplements the examination of the thesis in order to ensure coverage of all attributes in the examination process and, thus, the validity of the examination overall.

Looking back at the attributes, what form could the reconceptualised oral take? Arguably it would need to include a 'public' component where the candidate draws on digital tools to interact with a non-expert

audience about the study. The ability to communicate with a non-expert audience could, of course, also be tested by requiring the submission or publication of a piece for inclusion in a publication such as 'The Conversation'. Arguably, this would be a more valid additional assessment task than the requirement, now imposed by some universities, that a candidate should provide proof of submission or publication of an article in an academic journal, sometimes even before the thesis can be submitted (see Boughey 2023 for more on this). Following a public engagement in which skills attribute (iii) 'communication skills' could be tested more rigorously, the process could move to an engagement between candidate and examiners, where the supervisor is also present. In this second stage, the candidate could, again, be required to demonstrate communication skills by drawing on digital presentation tools, but, more importantly, examiners could be guided to ask questions about, and therefore assess, the full range of knowledge attributes including wider knowledge of the discipline, the ability to make connections between the study and other cognate disciplines and ethical awareness. Examiners could also be guided to assess the 'skills attributes' of awareness of methodological approaches, reflection and to probe the candidate's ability to solve problems more deeply. Clearly the success of the second stage of the process would be dependent on universities alerting examiners to the need for all attributes to be tested by developing assessment criteria.

Conclusion

This *Briefly Speaking* piece has discussed the implications of the Qualification Standard for Doctoral Degrees (CHE, 2018) for the pedagogy of doctoral supervision and, also, the assessment of candidates. In doing this, essentially it makes a bigger argument about 'joining the dots' between practice in teaching in higher education more generally, that draws on the concept of 'constructive alignment', and other practices related to criterion referenced assessment, required in, for example, applications for programme accreditation made to the CHE, at least until now.

References

Academy of Science of South Africa (ASSAf). 2010. *The PhD Study.* ASSAf: Pretoria.

Akerlind, G. & McAlpine, L. 2015. Supervising doctoral students: variation in purpose and pedagogy. *Studies in Higher Education*, 42(9): 1686-1698. https://0-doi.org.wam.seals.ac.za/10.1080/03075079.2015.1118031

Badat, S. 2010. Global rankings of universities: A perverse and present burden, in E. Unterhalter & V. Carpentier (eds.) *Whose Interests are we Serving? Global Inequalities and Higher Education.* Palgrave Macmillan: Basingstoke.

Bangeni, B. & Kapp, R. 2004. Why Can't I Write about the Dalai Lama Without Being Penalized? Literacies in Transition in A. Coetzee (ed.) *Identity and Creativity in Language Education.* Proceedings of the 21st World Congress of the World Federation of Modern Language Associations, July 2-5, 2003.

Bangeni, B. & Kapp, R. (eds.) 2017. *Negotiating Learning and Identity in Higher Education: Access, Persistence, Retention.* Bloomsbury Academic: London & New York.

Bernstein, B. 2000. *Pedagogy, Symbolic Control, and Identity: Theory, Research, Critique*. Rowman & Littlefield: Lanham, Maryland.

Biggs, J. 1996. Enhancing teaching through constructive alignment. *Higher Education* **32**, 347–364. https://0-doi.org.wam.seals.ac.za/10.1007/BF00138871

Bitzer, E. & Albertyn, R. 2011. Alternative approaches to postgraduate supervision: A planning tool to facilitate supervisory processes. *South African Journal of Higher Education*, 25(5): 875-888. https://0-hdl.handle.net.wam.seals.ac.za/10520/EJC37725

Boler, M. 1999. *Feeling Power: Emotions and Education.* Psychology Press: London and New York.

Boughey, C. 2000. Multiple Metaphors in an Understanding of Academic Literacy. *Teachers and Teaching,* 6(3): 279-290. https://0-doi.org.wam.seals.ac.za/10.1080/713698740

Boughey, C. 2002. Naming students' problems: an analysis of language-related discourses at a South African university. *Teaching in Higher Education,* 7(3): 295-308. https://0-doi.org.wam.seals.ac.za/10.1080/13562510220144798

Boughey, C. 2005. Epistemological access to the University: an alternative perspective.' *South African Journal of Higher Education* 19(3):638-650. https://0-hdl.handle.net.wam.seals.ac.za/10520/EJC37141

Boughey, C. 2013. What are we thinking of? A critical overview of approaches to developing academic literacy in South African higher education. *Journal for Language Teaching.* 47(2): 25 - 42. https://0-hdl.handle.net.wam.seals.ac.za/10520/EJC148781

Boughey, C. 2023. Postgraduate students and publishing in academic journals. Leader in *South African Journal of Science*, 119(10/11).

Boughey, C. & McKenna, S. 2016. Academic literacy and the decontextualized learner. *Critical Studies in Teaching and Learning*, 4(2):1-9. https://0-hdl.handle.net.wam.seals.ac.za/10520/EJC199932

Boughey, C. & McKenna, S. 2021. *Understanding Higher Education: Alternative Perspectives.* African Minds: Cape Town.

Carter, S. 2008. Examining the Doctoral Dissertation: A Discussion. *Innovation in Education and Teaching International.* 45 (4): 365–374.

Clarence, S. 2021. Towards a theoretical framework for exploring emotion in doctoral education, in P. Rule, E. Bitzer, L. Frick (eds), *The global scholar: Implications for postgraduate studies and supervision.* SunPress: Stellenbosch.

Council on Higher Education. 2013. *Higher Education Qualifications Sub-Framework.* CHE: Pretoria.

Council in Higher Education. 2018. *Qualification Standard for Doctoral Degrees*. CHE: Pretoria.

Council on Higher Education. 2022 *Doctoral Degrees National Report.* CHE: Pretoria.

Herman, C. 2017. Looking back at doctoral education in South Africa. *Studies in Higher Education*, 42(8): 1437-1454. DOI: 10.1080/03075079.2015.1101756

Deligiorgi, K. 2005. *Kant and the culture of enlightenment*. State University of New York Press: Albany, NY.

Faller, F., Burton, S., Kaniki, A., Leitch, A. & Ntshoe, I. 2023. Achieving doctorateness: Is South African higher education succeeding with graduate attributes? *South African Journal of Higher Education*, 37(2): 93-108. https://0-hdl.handle.net.wam.seals.ac.za/10520/ejc-high_v37_n2_a6

Gee, J.P. 2007. *Social Linguistics and Literacies: Ideology in Discourses* (3rd edition). Routledge: London.

Gough, D. 1990. Oral formula and oral tradition: problems and prospects, in H. Groenewald (ed.) *Oral Studies in South Africa*. HSRC Publications: Pretoria.

Kraak, A. 2001. Policy ambiguity and slippage: Higher education under the new state, in A. Kraak & M. Young (eds.) *Education in Retrospect.* Human Sciences Research Council & Institute of Education, University of London: Pretoria & London.

Kumar, V., Sanderson, L. & Kaur, A. 2021. Investigating the role of convenors in the PhD viva. *Assessment & Evaluation in Higher Education*, 46(7):1080-1091, DOI: 10.1080/02602938.2020.1841092

Link, H., Gallo, S. & Wortham, S. 2017. The production of schoolchildren as enlightenment subjects. *American*

Educational Research Journal, 54(5): 834–867. https://doi.org/10.3102%2F0002831217706926

Locke, J. 2002. *The Second Treatise of Government and a Letter Concerning Toleration.* Dover Publications: Mineola, NY.

Manathunga, C. 2011. Team supervision: New positionings in doctoral education pedagogies, in A. Lee & S. Danby (eds) *Reshaping Doctoral Education*. Routledge: London.

Ministry of Education (MoE). 2004. *A New Funding Framework: How Government Grants are Allocated to Public Higher Education Institutions.* MoE: Pretoria.

Montaigne, M. 1834. *Essais de Michel de Montaigne.* Chez Lefevre: Paris.

Nori, H., Peura, M. & Jauhiainen, A. 2020. From imposter syndrome to heroic tales: Doctoral students' backgrounds, study aims, and experiences. *International Journal of Doctoral Studies,* 15: 517-539. https://doi.org/10.28945/4637

NYU Dispatch. 2017. The curse of credentialism. NYU Dispatch, 17 November 2017. https://wp.nyu.edu/dispatch/2017/11/17/the-curse-of-credentialism/

Olsen, D. 1977. From utterance to text: the bias of language in speech and writing. *Harvard Educational Review*, 47(3): 254–279. https://0-doi.org.wam.seals.ac.za/10.17763/haer.47.3.8840364413869005

Peters, M. 2018. The enlightenment and its critics. *Educational philosophy and theory*, 51(9): 886-894. https://doi.org/10.1080/00131857.2018.1537832

Republic of South Africa (RSA). 1995. The South African Qualifications Act (Act 58 of 1995). South African Parliament: Cape Town.

Republic of South Africa (RSA). 2008. The National Qualifications Framework Act (Act 67 of 2008). South African Parliament. Cape Town.

Republic of South Africa (RSA). 2012. *National Development Plan 2030: Our future - make it work*. National Planning Commission: Pretoria.

Rosenberg, R. 1962. Eugene Schuyler's Doctor of Philosophy degree: A theory concerning the dissertation. *Journal of Higher Education*, 33(7): 381-386. https://0-doi.org.wam.seals.ac.za/10.1080/00221546.1962.11773477

Ruano-Borbalan, J-C. 2022. Doctoral education from its medieval foundations to today's globalisation and standardisation. *European Journal of Education Research Development and Policy*, 57(3): 367-380. DOI: 10.111/ejed.12522

Rukweza, K. 2023. *Quinolone-Pyrazinamide Derivatives: Synthesis, characterisation, in silico ADME analysis and in vitrobiological evaluation against Mycobacterium tuberculosis*. Unpublished doctoral dissertation: Rhodes University, Makhanda.

Rybicki, E. 2019. Publication subsidies in South Africa: another view. Ed Rybicki's blog, February 2, 2019. https://edrybicki.wordpress.com/2019/02/02/publication-subsidies-in-south-africa-another-view/

Salazar, M del C. 2013. A humanizing pedagogy: reinventing the principles and practice of education as a journey toward liberation. *Review of Research in Education*. 37(1):121-148. https://0-doi.org.wam.seals.ac.za/10.3102/0091732X12464032

Shettar, M., Karkal, R., Kakunje, A., Mendonsa, R. & Chandran VM. 2017. Facebook addiction and loneliness in the post-graduate students of a university in southern India. *International Journal of Social Psychiatry*. 63(4):325-329. doi:10.1177/0020764017705895

Sverdlik, A., Hall, N. & McAlpine, L. 2020. PhD imposter syndrome: Exploring antecedents, consequences, and implications for doctoral well-being. *International Journal of Doctoral Studies*, 15: 737-758. https://doi.org/10.28945/4670

Taras, T. 2002. Using assessment for learning and learning from assessment. *Assessment & Evaluation in*

Higher Education, 27(6): 501-510, DOI: 10.1080/0260293022000020273

Trow, M. 1973. *Problems in the Transition from Elite to Mass Education.* Carnegie Commission on Higher Education: Berkeley, Ca.

Williams, D. 2011. 'What is assessment for learning? *Studies in Educational Evaluation*, 37(1:3-14). https://0-doi.org.wam.seals.ac.za/10.1016/j.stueduc.2011.03.001

Wittrock, B. 1993. 'The modern university: the three transformations', in S. Rothblatt & B. Wittrock (eds.) *The European and American University since 1800: Historical and Sociological Essays.* Cambridge University Press: Cambridge.

Zinn, D., Proteus, K. & Keet, A. 2009. 'Mutual vulnerability: a key principle in a humanising pedagogy in post-conflict societies'. *Perspectives in Education*, 27(2):109-119.

Zinn, D. & Rodgers, C. 2012. A humanizing pedagogy: Getting beneath the rhetoric. *Perspectives in Education*, 30(4): 76-87.

Zinn, D., Adam, K., Kurup, R. & du Plessis, A. 2016. 'Returning to the source: Reflexivity and transformation in understanding a humanising pedagogy'. Educational Research for Social Change, 5(1):70-93. http://0-dx.doi.org.wam.seals.ac.za/10.17159/2221-4070/2016/v5i1a5.

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