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Conceptualising a model for transforming university teacher education through the doctoral curriculum in the South African context

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ABSTRACT

Amid the call for including a teaching component in doctoral programmes, a Teacher Development Programme (TDP) for doctoral students was organised at the research site. The TDP aimed to equip doctoral candidates with teaching and research supervision skills that could guide them in pursuing a possible university teaching career. An earlier empirical study on the participants' experiences of the online TDP indicated that after attending the TDP, doctoral students felt empowered to pursue an academic career. The knowledge and skills acquired from the workshops opened their eyes to teaching, minimised teaching anxiety, and boosted their confidence. This article draws on the empirical findings from the earlier study and aims to present a conceptual model for integrating the TDP into the doctoral curriculum. In conceptualising the model, we employ the integrative theoretical framework posited by Khan and Law (2015) and draw on some fundamental considerations for creating a doctoral teaching programme by Marx, Garcia, Butterfield, Kappen and Baldwin (2016). Supported by a qualitative integrative literature review, the article aims to assist doctoral programme directors, designers, Higher Education Institutions (HEIs) in the South, as well as other policymakers such as the South African Qualifications Authority (SAQA) and The Council on Higher Education (CHE), in improving doctoral offerings and fully attaining all the programme's objectives.

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Introduction and Background

With the increasing emphasis on the knowledge economy, doctoral education has grown over the years as the key driver thereof. It is perceived as the fundamental resource for gaining a competitive advantage as the doctoral curriculum aims to strengthen research capacity, knowledge production, and innovation in society (Cardoso, Santos, Diogo, Soares & Carvalho, 2022). A doctorate was initially conferred, honouring those who taught at HEIs (Winter, Griffiths & Green, 2000). Over the years, it became associated with producing novel research, typically in a supervisor-student relationship (Cardoso et al., 2022; Ramrathan, Cassim & Pather, 2023). Doctoral studies offer opportunities for graduates to work in industry, government, research institutes, or academia (Jones, 2013; Cardoso et al., 2022).

Literature (Chan, Farrell, Healy & Wong, 2019; Khan & Siriwardhane, 2021) suggests that most doctoral graduates take up positions in academia where they are expected to teach, research, and perform university service functions. Indeed, the general variant of the doctoral degree in South Africa is geared towards "providing training for an academic career" CHE, 2018:6). Meanwhile, the focus of many doctoral programmes for years has been on disciplinary content expertise and research capabilities with limited attention to the craft of teaching and learning (Jones, 2013; Marx et al., 2016; Connolly, Lee & Savoy, 2018; Chan et al., 2019; Bonner, Stone, Mittal, Phillips & Utecht, 2020; Bishop-Monroe, Harrison, Knight, Corritor, Rybarczyk & York, 2021; Pittaway, Tantawy, Corbett & Brush, 2023). As such, many doctoral students, graduates, and even postdoctoral fellows feel their teaching abilities for HE are inadequate (Dunbar-Jacob & Hravnak, 2021).

Some HEIs are beginning to respond to the disconnect between the doctoral programmes and the requirements of being an academic by incorporating various elements of teaching into the curriculum (Boman, 2013; Lewicki & Bailey 2016; Marx et al. 2016; Chan et al. 2019; Cardoso et al. 2022; Arek-Bawa & Reddy, 2023; Pittaway et al., 2023; Regan & King-Sears, 2023). In line with its curriculum transformation drive, the University Teaching and Learning Office (UTLO) at a South African HEI developed a four-day TDP to acquaint doctoral candidates with teaching and research supervisory skills. Below is a brief outline of the programme of the TDP:

Day 1 - Teaching and learning in HE: Following an introductory icebreaker, "Participants are expected to critically evaluate their understanding of teaching and learning ideologies and practices; propose

and rationalize changes to their current teaching practices; identify learning styles and a range of teaching strategies including online and blended learning strategies" (Reddy, 2018:1).

Day 2 - Assessing learning in HE: In this session, students are introduced to fundamental assessment principles and practices, including Bloom's taxonomy and constructive alignment. Students design assessment activities across diverse cognitive levels while aiming to constructively align their module outcomes with their teaching and learning practices and assessments. Later, they critique various alternative assessment methods (including online forms) relating to their disciplines.

Day 3 – Designing and evaluating curricula in HE: This session focuses on curriculum design and development, in addition to curricula evaluation, in the light of the transformation/decolonisation programme in the South African context. Participants deliberate on different curriculum design models to locate their curricula within these. National and institutional policies are examined, and principles of HE curriculum design and evaluation are discussed, emphasising structural and ideological differences (Reddy, 2018).

Day 4 – Supervising research in HE: This session provides a broad context for postgraduate studies and explores the varied facets of supervision in different disciplines. Participants are acquainted with the roles and responsibilities of the supervisor and supervisee, deliberate on research and supervision ethics, identify relevant policies, and devise supervisory strategies, including online supervision methods.

The programme is organised using active pedagogical approaches that require students to use their contexts to tackle the ideas presented. The "breakout room" feature in Zoom allows students to be divided into groups to complete activities through discussion and deliberation, followed by a plenary session. Feedback from peers and facilitators promotes rich debates while enhancing active learning. In some instances, resources were provided to the students before the relevant session so that they could have sufficient time to deliberate on the topic and offer meaningful contributions during the breakaway sessions. During the four days, participants were encouraged to employ diverse teaching strategies such as discussion panels, debates, case studies, and reflective practices. All this was designed to create an environment that encouraged discussion, constructive arguments, and diverse evaluations of teaching and learning to prepare the participants for their future careers as educators. At the end of the workshop, they evaluate the programme and receive a certificate of participation.

After two years of running the programme, an empirical study was conducted to assess the effectiveness of the programme. Specifically, it sought to ascertain the extent to which doctoral candidates' experiences of the TDP contributed to developing their teaching skills and informing their career choices. The TDP was well received by the participants since it helped them see the teaching profession more clearly, allayed their teaching anxiety, and provided them with the confidence to pursue a career in academia (Arek-Bawa & Reddy, 2023).

However, while this four-day voluntary teaching course may have exposed candidates to teaching and research supervision, scholars (Brightman & Nargundkar, 2013; Connolly et al., 2018; Bonner et al., 2020) believe that such events are somewhat inadequate. This view was also echoed by participants who contributed to the empirical study. Some yearned for more time in the workshop, while others called for the programme to be evaluated and certified, probably at National Qualification Framework (NQF) levels, as a means of integrating it into the doctoral curriculum. These findings point to the need to revise the doctoral curriculum to include a teaching component in the South African context, for which limited literature currently exists. Further, not all registered PhD candidates participated in the workshop, probably because it was voluntary. Given the key mandate for HEIs to prepare graduates for the workplace, failure to include a teaching component in the doctoral curriculum renders the programme incomplete (Bonner et al., 2020) and a violation of its basic mandate (Lund Dean & Forray, 2020 in Pittaway et al., 2023) – training for an academic career (CHE, 2018).

Against this background, this article conceptualises a model for integrating teaching and learning knowledge and skills into the doctoral curriculum, given the paucity of "literature on how university doctoral programmes prepare doctoral students to teach" (Regan & King-Sears, 2023:40). The article asks the following research question – How can university teaching and learning knowledge and skills be integrated into a university doctoral curriculum (NQF 10) in South Africa? It draws from literature and the outcome of a previous empirical study (Arek-Bawa & Reddy, 2023) to explain the requirements for integrating digital pedagogies in university doctoral curricula in the South African context. The remainder of the article proceeds with an explanation of the theoretical framework, followed by the research methodology. Thereafter, a detailed exposition of related literature on teaching programmes in doctoral curricula ensues before the model is presented, followed by the conclusion.

Theoretical framework

Based on a review of related literature, Khan and Law (2015) developed an integrative theoretical framework for curriculum development. It incorporates five variables that must be considered in curriculum development or review by HEIs, irrespective of their context or size. As seen in Figure 1, it commences with Environmental Scanning from two perspectives – internal and external to understand what is required or areas of need.

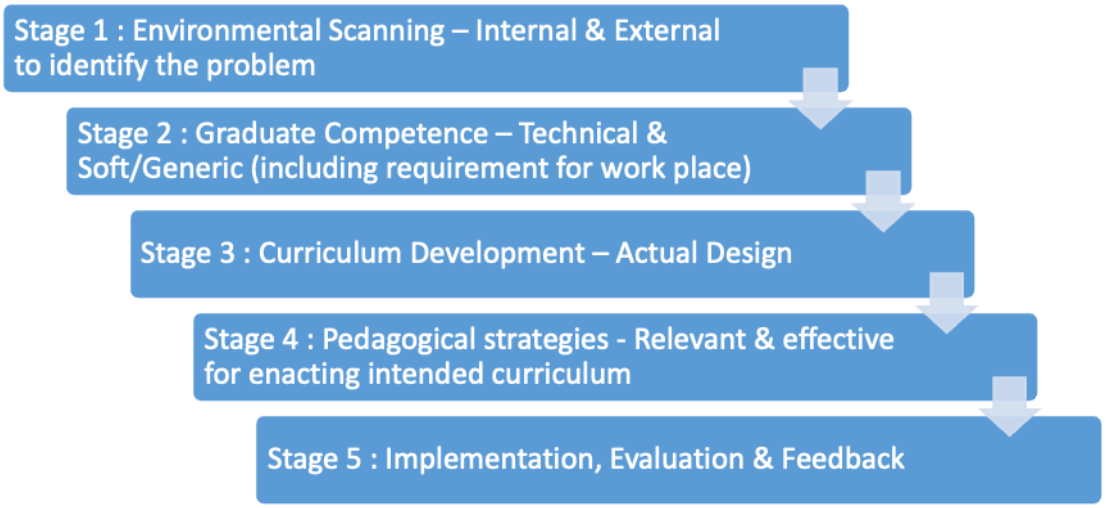

Figure 1: Integrative Approach to Curriculum Development in HE (Khan & Law, 2015)

The internal environment "reflects the culture, operations, people, strategies, and structures of the institution," while the external environment incorporates the "educational sector or industry and the general or macro environment" (Khan & Law, 2015:69). Stage 2 translates the identified need/gap into the competencies required to fulfil the gap, including disciplinary content and cross-functional skills needed to thrive in the workplace. Since HEIs prepare students for employment, the curriculum should be adapted for current and future students to be equipped with skills required for the real world (Khan & Law, 2015). Thus, there is emphasis on the need for the transformation of the doctoral curriculum to incorporate a teaching component in response to the demands of an academic career. Stage 3 entails the actual curriculum design, considering the skills requirement in Stage 2 based on the identified need in Stage 1. Stage 4 "specifies the pedagogical strategies most relevant and effective in imparting the knowledge intended in the curriculum" (Khan & Law, 2015:72). Stage 5 includes mechanisms for follow-up and evaluating the planned curriculum and learning outcomes to provide feedback to stakeholders on its effectiveness.

Previous studies (Joshi, Bruce, Amadi & Amatya, 2021; Kizi, 2021) have referred to Khan and Law's (2015) framework in curriculum development, revision, and update in HE. Kizi (2021) used the integrative model to examine Natural Science and English curriculum reforms. Joshi et al. (2021) used it to design the integrative competence-based model deemed more suitable for incorporating workplace skills.

Research Methodology

A thorough literature review (LR) was conducted to understand how TDP models were conceptualised. As a research methodology, an LR can be done systematically or non-systematically (Kraus, Breier, Lim, Dabić, Kumar & Kanbach, 2022). A systematic LR uses strict requirements for searching, selecting, and analysing all the empirical data related to the research question/hypothesis to minimise bias (Snyder, 2019). Where it is impossible to review all articles relevant to a phenomenon, a non-systematic review can be done. Also termed the integrated review, it "aims to assess, critique, and synthesize the literature on a research topic in a way that enables new theoretical frameworks and perspectives to emerge" (Snyder, 2019:335). The integrative approach "combines perspectives to create a new theoretical model" (Snyder, 2019:334). It is deemed appropriate for addressing a mature or new/emerging topic where knowledge can be synthesised into a conceptual model or framework that provides a fresh perspective (Torraco, 2005), such as the current study. This article adopts an integrative review approach since it aims to conceptualise a model for incorporating a TDP into the doctoral curriculum in South African HEIs by synthesising perspectives from literature to suit its contextual realities.

This study reviewed articles/book chapters targeted towards preparing doctoral students for teaching using Google Scholar, spanning a decade from 2013 to 2023. Keywords included "doctoral students", "doctoral candidates", "PhD Students", "PhD programme", "Doctoral Programme", "Doctoral Curriculum", and "PhD Education." Within the articles identified based on their titles, we sampled 10 models/ideas – see Table 1 that explained the TDPs in doctoral programmes. This sample size falls within the range of 10 to low hundreds, which is considered ideal (Kraus et al., 2022) when using content analysis in an LR as an independent study such as this one.

The initial review was done in stages – abstract, findings, discussions, and conclusions before a detailed screening of each article (Torraco, 2005; Snyder, 2019). As suggested by Torraco (2005),

some studies were identified by going through the citations of others. A detailed explanation of the TDP approaches discussed in the sampled articles is provided in the data presentation section below.

Table 1: Sampled articles

Year	Authors' Names	Title	Type of Study	Models/Findings/Ideas/ Contributions
2013	Brightman & Nargundkar	Implementing Comprehensive Teacher Training in Business Doctoral Programs	Action research /Self-reporting	Model for teacher training in business doctoral programs
2016	Marx et al.	Isn't It Time We Did Something About the Lack of Teaching Preparation in Business Doctoral Programs?	Empirical	1) A teaching institute within a School of Business. 2) A full-semester teaching practicum 3) A centralized modular series of seminars 4) An intensive, required, school-wide course taught over three years
2016	Lewicki & Baily	A Deeper Dig: Rejoinder to "Isn't It Time We Did Something About the Lack of Teaching Preparation in Business Doctoral Programs?"	Theoretical	Competencies and deliverables for effective teaching
2020	Bonner et al.	Preparing Academics to Teach: Example of a Structured Method of Preparing Doctoral Students in Business Programs to Teach	Empirical	Framework for teaching doctoral students how to teach
2021	Dubbar Jacobs & Hravnak	Educating PhD students in research-intensive nursing doctorate programs regarding teaching competencies	Empirical (conference resolution)	Pathways for developing teaching competencies
2023	Pittaway et al.	Improving Doctoral Educator Development: A Scaffolding Approach	Empirical	Model -A scaffolding approach for educator development
2023	Regan & King-Sears	A Scaffolded Model for Preparing Doctoral Students to Teach in Higher Education	Theoretical	CTE model for preparing doctoral students to teach

Literature Review

Before delving into a review of the sampled articles, this section offers insight into the doctoral curriculum in South Africa and the requirements for NQF level 10.

Doctoral Programmes in South Africa/ UKZN.

In South Africa, the NQF oversees all the qualifications offered at different stages of education from grade R to PhD (SAQA, 2012). The PhD programme is governed by the HE Qualification Sub-

Framework (HEQSF) and offers two variants – general and professional (CHE, 2018). In this study, the Qualification Standards for Doctoral Degrees are referred to as "the standards" going forward.

The purpose of the general variant of the doctoral degree is to "provide training for an academic career" (CHE, 2018:6). It requires students to carry out advanced-level research, resulting in the submission of a thesis. Furthermore, "candidates may also present peer-reviewed academic articles and papers, and, in certain fields, creative work ... in partial fulfilment of the research requirements (CHE, 2018:6). Doctoral graduates must be capable of supervising the work of others, having demonstrated "high-level research capabilities and … a significant and original academic contribution at the frontiers of a discipline or field" (CHE, 2018:6). In summary, the standard for the general doctorate variant requires advanced research capabilities, disciplinary expertise, and research supervisory skills in preparation for an academic career. Ironically, the characteristics of this variant make no reference to acquiring or developing teaching competencies, which is a vital function of an academic. (Jones, 2013; Connolly et al., 2018; Chan et al., 2019; Bonner et al., 2020; Bishop-Monroe et al., 2021; Pittaway et al., 2023).

The professional doctoral degree for those in industry or other professions combines coursework and advanced research, resulting in the submission of a thesis with an option for Work Integrated Learning (WIL) (CHE, 2018). The standards further prescribe that the research component must account for a minimum of 60% of the degree. Alternatively, the candidate can embark on a commensurate form of research applicable to their discipline. The emphasis is on high-level research skills that integrate theory into practice in a highly complex situation (Botha, 2016). Either way, the doctoral curriculum emphasises research and disciplinary expertise, which aligns with the requirements of NQF level 10 described below.

NQF Level 10

The NQF describes 10 categories of applied competence expected at different levels of learning achievement, arranged progressively from levels one to 10 (SAQA, 2012). The exit level for the doctorate qualification is at the pinnacle, pitched at level 10 with a minimum of 360 credits (CHE, 2018). In a recent review of doctoral degrees CHE, 2022:22), the standards at the doctoral level identify two key attributes – *knowledge,* which relates to:

> The original contribution of a doctoral study, the extent to which this contribution is integrated within existing literature and academic debate, the extent to which the graduate is able to demonstrate expert and highly specialised knowledge within a specific area of research, the

> ability of the graduate to identify the interconnectedness of their work with other fields of study and practice, and the extent to which the graduate is able to demonstrate ethical awareness.

The other category of *skills* relates to:

> The selection and application of the most appropriate research approaches and methods to answer or solve the research problem, the extent to which the graduate is able to work independently, substantiate and defend their findings and conclusions, reflect on the various stages of the research process critically, and demonstrate critical and analytical thinking in a clear, coherent and logical manner.

Both attributes emphasise research capabilities and original contributions in specific fields. Although the reviewers (CHE, 2022) made some recommendations for improving the doctoral programmes, none addressed the need to include a teaching component in the curriculum. This study aims to contribute knowledge by conceptualising a model for transforming doctoral curricula by integrating university teaching and learning and research supervision into it, drawing from the related literature discussed below.

Presentation of Data - Approaches to Doctoral Teaching Programmes

Prior studies (Marx et al., 2016; Connolly et al., 2018; Bonner et al., 2020; Regan & King-Sears, 2023) indicated that including teaching components in doctoral curricula manifests in diverse forms. The teaching components range from discussions and once-off workshops to more rigorous semester-long and certificate courses. They could be organised by academic units, graduate schools, or teaching and learning units (Marx et al., 2016; Connolly et al., 2018; Pittaway et al., 2023). This section discusses eight approaches to formally incorporating teaching in doctoral curricula, and other suggestions.

Brightman and Nargundkar (2013:301) discussed a teaching course for doctoral students that Brightman developed based on his earlier ineffective teaching experience. Described as a comprehensive three-credit teaching course, it engages students in innovative teaching practice, starting with developing learning outcomes, teaching philosophies, critical thinking, Bloom's taxonomy, and learning styles. Much time is spent discussing and practicing innovative teaching approaches (text and interactive cases, group discussions, games, simulations, and role plays) targeting higher-level outcomes individually and in groups. Mini-lecture presentations are critiqued with feedback provided by peers and facilitators. Discussions also include assessing learning, grading strategies, and classroom management approaches. According to the authors, the TDP, which started as a three-credit teaching course, has been running for over 35 years and is now mandatory to complete a doctoral degree (Brightman & Nargundkar, 2013).

Based on a sample of teaching programmes embedded into doctoral curricula in the United States, Marx et al. (2016) described four models requiring a minimum of 35 contact hours. They are all credit-bearing courses that are prerequisites for conferring a doctorate. The first is a three-year programme, starting with classroom observation and seminars on language and classroom culture in the first year. The second year comprises two courses on developing pedagogical competencies, including a teaching practicum. During this period, students engage in content relating to syllabus development, leading classroom discussions, and actual lesson presentations to students. Feedback from students and teacher educators provides critical learning points for another teaching practicum. The third year is a semester-long teaching requirement observed by the director/supervisor, who provides feedback on areas of improvement and continued training. The year begins with pre-teaching meetings with supervisors and peers with teaching experience. Thereafter, there are weekly informal meetings with instructors throughout the semester. Students are expected to submit a teaching portfolio at the end of the third year. Contact hours range from 20 – 60, and additional support, such as language and communication classes, are available to needy students. The Director and a deputy administer the programme (Marx et al., 2016).

The second is a semester-long (13 weeks) teaching practicum module organised in weekly meetings of two and a half hours with a formal syllabus. It entails reading and writing with emphasis on doing and feedback. Doctoral students are expected to present short (15-minute) lectures, which are recorded and later critiqued by their peers and the professor. At the end, students submit a teaching portfolio and a teaching journal. After the programme, students complete two semesters as teaching assistants and can teach some courses. A professor handles the course as part of their teaching load (Marx et al. 2016).

The third requires the completion by doctoral students of a formal teaching certificate programme at a third-party teaching centre. It entails a minimum of 10 two-hour teachings offered throughout the year, developing a teaching portfolio, mentoring, videotaping lectures, and peer feedback, amongst other activities. During this period, participants are expected to attend teaching-related conferences and submit key learning points as part of the deliverables. The student's transcript includes the certificate (Marx et al., 2016).

The fourth is a six-day intensive 42 contact hours seminar on teaching spread over three years during school holidays. The first day introduces students in their first year of doctoral education to pedagogical issues such as Bloom's taxonomy, learning styles, how to motivate students, and leading

classroom discussions. Days two to five are for second-year students, focusing on leading class discussions, constructing assessments, syllabus development, online teaching, videotaped, and actual lesson critiquing, followed by constructive feedback from the facilitator and peers. Thereafter, students engage in two semesters of teaching independently before the sixth-day teaching seminar focused on preparing a teaching philosophy and portfolio. The seminar concludes with reflecting on their teaching experiences, especially how they can overcome challenges. The cost is the honoraria paid to the facilitators (Marx et al., 2016).

Bonner et al. (2020) argued for a semester-long three-credit-hour module administered by professors as a baseline standard for granting a doctorate. In addition to developing content expertise in related business courses, the course equips students with relevant skills in instructional design, course administration, classroom management, instructional delivery, and teaching philosophy. The course is conducted using "in-class discussion, activities, and demonstration of strategies… complemented by deliverables, which include (1) a reflective paper, (2) teaching video, (3) course development and presentation, and (4) development of the conceptualization of the discipline and statement of teaching philosophy" (Bonner et al., 2020:442). Peers and facilitators critique teaching videos and teaching practices. The course development project includes daily lesson plans, class activities, assignments, and examinations. Since 2011, the course has been endorsed as a degree requirement for doctoral candidates (Bonner et al., 2020).

Dunbar-Jacobs and Hravnak (2021) suggested four possible pathways for equipping nursing PhD students with teaching competencies. The first is through regular credit-bearing coursework or modular lessons contributing to attaining their degree. The second is mentorship learning via a teaching practicum for credit or a teaching assistantship for pay. The third is a form of teaching residency comprised of an intensive study period combining educational learning and mentored teaching practice, distinct from the doctoral curriculum. The fourth is a teaching certificate programme usually obtained online, focusing on educational content which could be combined with experiential learning. Apart from the third component that is separate from the PhD curriculum, the components of the other variant suggested by the authors have been discussed extensively by other scholars (Brightman & Nargundkar, 2013; Marx et al., 2016; Bonner et al., 2020).

More recently, Pittaway et al. (2023) developed a scaffolding model for progressively enabling students with teaching competence in their doctoral studies. The program integrates formal and informal activities at conceptual, procedural, and metacognitive levels. It commences with an

introduction to teaching practice before progressing to a basic one- credit-hour teaching seminar, which may be facilitated by guest speakers where students form peer-to-peer networks. At this stage, students partake in class observations and reflective practices with mentors or supervisors informally before taking on a more formal teaching assistantship. They also participate in university workshops in preparation for teaching seminars. In the second stage (year), students get involved in more small teaching and co-teaching opportunities while engaging in formal teaching for two semesters. The third year is focused on developing a teaching portfolio and philosophy. The curriculum includes an introductory class on teaching practice and classroom management strategies followed by master classes on learning taxonomy and a three-hour credit course on instructional techniques.

Regan and King-Sears (2023) adopted the Continuum of Teaching Experience (CTE) model, which incorporates a scaffolding technique in preparing doctoral students to teach undergraduate students in special needs education. The CTE intertwines a continuum of teaching experiences into the doctoral programme, beginning with developing instructional materials, lesson observations, co-teaching with peers/academics, and mentoring. It progresses to independent teaching sessions with feedback provided either physically or virtually in a non-evaluative manner. Finally, doctoral students can teach independently with minimal support, yet under the supervision of a mentor. The content of CTE includes components discussed by other scholars (Marx et al., 2016; Bonner et al., 2020; Pittaway et al., 2023). The difference is the approach, which, like that of Pittaway et al. (2023), is progressive and aimed at gradually inducting students into university teaching activities (Regan & King-Sears, 2023). However, a slight variation between the two is that CTE emphasises a flexible continuum conducive to all students, irrespective of their teaching backgrounds. Since most of the components were captured by other scholars, minimal reference will be made to CTE going forward, starting with the analysis.

Analysis of Approaches to Doctoral Teaching Programmes

In a non-systematic, qualitative LR, content analysis may be used in data analysis guided by an organising framework (Kraus et al., 2022). This study used the key attributes for designing a teacher training programme for doctoral studies synthesised by Marx et al. (2016) to guide the data analysis (see Table 2).

Table 2: Fundamental considerations for designing doctoral teaching programmes

Dimensions	Description
Administrative Origin	Which university administrative level is most responsible for developing and delivering the Doctoral Teacher Training Programme (DTTP)?
Certification	Is completion of all components of the DTTP recognised by an announcement of certification on the recipient's transcript or diploma?
Content	Does the DTTP include many core competencies comprising thorough coverage of essential classroom-teaching skills?
Formality	To what degree is the DTTP delivered through formal, credit-bearing, scheduled course(s), etc.?
Intensity	How many contact hours does the DTTP invest in developing classroom teaching competencies?
Leadership	The DTTP is developed and presented by faculty/administrators.
Required or optional	Prerequisite to receiving their PhD or optional
Timing	When is the DTTP scheduled during the doctoral programme?

Adapted from Marx et al., 2016:507

According to the authors (Marx et al., 2016), the administrative level could be the university – the UTLO, a school, a department level, or a non-university programme. A programme's content could emphasise pedagogy (leading discussion, assessment, curriculum design, etc.) or content in specialised fields. A comprehensive programme with a balance of both could also be catered for. Regarding formality, programme designers must consider if a formal programme incorporating out-of-class mentoring, observation, feedback, etc., is required or if an informal, irregular programme would suffice. Intensity could range from a one-hour-credit module (12 contact hours) to a three-hour-credit one (35 or more contact hours). Regarding leadership, the authors recommend academics passionate about teaching to drive the programme successfully. The timing for the teaching component could range from one semester to three years.

Table 3 summarises six of the above programmes using these key dimensions. While the current four-day programme encompassed some attributes synthesised from literature, it differed in many aspects, mainly because it is not a formal requirement for attaining a doctorate. (See Table 4). It is a voluntary four-day programme spanning about 12 hours in total. While the current leadership is enthusiastic and passionate about teaching, the TDP is not a recognised key performance workload for the facilitating professor.

Regarding content, there is only so much you can achieve in 12 hours. As shown in Table 4, some topics offered in the programmes synthesised from the literature differed from those offered in the current TDP and vice versa. On the one hand, the contents synthesised from literature contained topics like classroom management strategies feedback, grading, student motivation, and developing

teaching portfolios and philosophy, which are not part of the current TDP. They also included class observations, reflective practices with peers/mentors, teaching practices, and teaching assistantships. The synthesised programmes further exposed students to teaching conferences, workshops, and seminars not part of the current workshop. As a prerequisite for the conferment of the doctorate, all the programmes synthesised from literature catered for deliverables by students that are assessed to ascertain the extent to which the intended outcomes have been achieved.

On the other hand, the current TDP includes supervising research in HE, which is not included in the programmes synthesised from the literature. This component was incorporated into the TDP because academics in South African HEIs are expected to supervise postgraduate research (Naidoo-Chetty & du Plessis, 2021). Moreover, the standards require that "a graduate should be able to supervise and evaluate the research of others in the area of specialisation concerned" (CHE, 2018:6). Thus, the TDP also aimed to expose doctoral candidates to other functions of a university teacher so that they could make informed choices about a possible career in academia. It is likely that the programmes synthesised from literature did not include supervising research because it is not a core teaching function.

The contents (in italics) in Table 4 are common to the TDP and synthesised programmes. However, the depth of coverage is unlikely to be similar, given the time constraints. Although the current TDP (Arek-Bawa & Reddy, 2023) is a step in the right direction, the teaching fraternity would attest that a four-day teaching programme is only the tip of the iceberg. For instance, engaging teaching philosophies, teaching and learning theories, learning styles, and teaching approaches in three hours would, at best, be done at superficial levels and inadequate (Brightman & Nargundkar, 2013; Connolly et al., 2018). While such exposure is better than nothing, the need for a more comprehensive/formalised intervention (Regan & King-Sears, 2023) cannot be over-emphasised. Hence, teaching must be incorporated into the doctoral curriculum as a prerequisite for conferring the doctorate.

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Table 3: Approaches to doctoral teaching programme (author complied)

Dimensions	Business College (*Brightman & Nargundkar, 2013)*	Business School (Marx et al., 2016)	Management School (Marx et al., 2016)	University (Marx et al., ,2016)	Business College (Bonner et al., 2020)	Business School (Pittaway et al., 2023)
Administrative Origin	Faculty/College level	School level	Department level	University level	College level	
Certification	Certified to teach upon graduation	No	No	Formal Certificate programme	No	
Content	Cover classroom management, presentation, student motivation, course organisation, teaching philosophies, Bloom's taxonomy and learning styles, active learning strategies, assessment and grading, technology, and student evaluation.	First year: Classroom observation; second year: courses on building teaching competencies and practice teaching; third year: full-semester teaching requirement, with observations, feedback, and continued training, followed up by designing a teaching portfolio.	Formal syllabus with reading and writing tasks emphasising doing and feedback; formal teacher training; critiquing videotaped presentations by peers and the professor; submission of a teaching portfolio and journal of each class.	Developing a teaching portfolio, videotaping class lectures, faculty mentoring, peer feedback, etc. The certificate appears on each student's transcript. Attendance of teaching-related conferences.	Content expertise, instructional design, course administration, classroom management, instructional delivery, and teaching philosophy. Deliverables include reflective paper, teaching video, course development and presentation, and teaching philosophy.	Teaching seminars; class observations; reflective practices with peers and mentors informally; formal teaching assistantship. Next, small teaching and co-teaching; formal teaching for two semesters. Third year: a teaching portfolio and philosophy. The curriculum: teaching practice and classroom management strategies, and taxonomy.
Formality	Formal -three-credit teaching course	Formal	Formal	Formal	Formal -three-credit teaching course	Formal and Informal three-hour credit course
Intensity		High (20 -60)	High > 35	High		
Leadership	Senior faculty members passionate about teaching	Passionate about teaching	Passionate about teaching	Passionate about teaching	Passionate about teaching	
Required or optional	Required for degree	Prerequisite for degree	Required for degree	Required for degree	Degree requirement	
Timing	Maybe seven weeks	three years	13 weeks: two and a half hours weekly; one semester + two semesters as TA	one academic year	one semester; 10 weeks; four hours weekly	three years

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Table 4: Comparative approaches (author generated)

Dimensions	University Approach	Synthesised From Literature
Administrative Origin	UTLO	School/Faculty/College/University
Certification	Certificate of Participation	Teaching Certificate/Transcript/None
Formality	Formal/None credit-bearing	Formal/Credit-bearing; min three
Intensity	Moderate (12 hours)	High > 35 credit hours
Leadership	Academic Leader: HE Studies	Faculties passionate about teaching
Required or optional	Optional	Prerequisite for degree
Timing/Duration	Four days	Seven weeks; 13 weeks; one semester; two semesters, three years
Content	*Teaching philosophies* *Teaching and Learning theories* *Bloom's taxonomy* *Learning styles* *Active learning strategies, including online approaches* *Constructive alignment* *Principles in constructing assessment* *Alternative forms of assessments, including online assessments* *Models of curriculum* *HE curriculum policies and structure* *Designing programme and module templates* Forms and structure of research supervision, including online supervision, Ethics and policies in supervision	*Teaching philosophies* *Bloom's taxonomy* *Learning styles* *Active learning strategies* *Assessment and technology* *Syllabus design* Teaching seminars Class observations Reflective practices with peers and mentors Teaching assistantship Co-teaching Developing teaching portfolio and philosophy Instructional design Teaching practice (formal & informal) Classroom management strategies Feedback and grading Student motivation Course organisation Faculty mentoring, Attendance of teaching-related conferences Deliverables – • Teaching philosophies • Teaching statements • Reflective paper • Teaching video • Course development • Presentation

Incorporating digital pedagogy

Digital pedagogical competence has become an essential requirement in academia. However, literature (Bishop-Monroe et al., 2021) indicates a lack of research addressing the training of doctoral candidates on digital pedagogies even though it "can increase students' confidence and ability to teach in this mode and can be cost-effective" (2021:166). In a review of relevant literature on digital curriculum transformation, Jepson and Moulton (2016) identified vital indicators for the success of online programmes. They include retaining students by making the programme more participatory and engaging, using technology to better the learning experience, quality programmes, a learning community that allows students to be independent and interactive, and relevance to learners' needs (Jepson & Moulton, 2016:284). Other factors required for digital curriculum success include incorporating diverse digital technologies and pedagogical strategies to enhance student engagement.

Based on a review of best practices for online teaching, Bishop-Monroe et al. (2021) suggest that facilitators and coordinators must be trained in online pedagogical strategies because students' approach to learning is mainly determined by the academics' conduct of their educational activities (Roberts, Benson & Mills, 2021). Instructor presence was also deemed crucial in maintaining an interactive learning space that would otherwise be lonely, leading to digital isolation (Bishop-Monroe et al., 2021). Regular communication with students while creating opportunities for peer engagement contributes to a successful digital learning experience. The proposed model below includes active digital pedagogical strategies to engage students while equipping them with online teaching strategies.

Proposed model for transforming doctoral curriculum in preparation for academia

Drawing from the doctoral teacher development programmes synthesised from literature and the current TDP, we propose an integrated model for incorporating teaching into the doctoral curriculum at NQF level 10 (see Table 5). Our proposed structure suggests that the teaching development component be administered in the School of Education by the Academic Leader of HE Studies who currently heads the TDP and is passionate about teaching. As a formal credit-bearing module that should be a prerequisite for attaining the doctorate, running as a high-intensity programme planned for 35 credit hours, i.e., two semesters, is recommended.

Table 5: Proposed structure for the inclusion of a teaching component in doctoral programme

Dimensions	University Approach
Administrative Origin	HE Studies – School of Education
Certification	None
Formality	Formal Credit bearing
Intensity	High > 35 Credit hours
Leadership	Academic Leader: HE Studies
Required or optional	Prerequisite for degree
Timing/Duration	two semesters - Semester One o Introductory teaching seminar to meet & network (virtual/physical) o Theory courses administered online o Classroom observation (virtual/physical) o Synchronous virtual/videotaped teaching critiqued by peers /facilitators o Faculty mentoring o Teaching Practice (informal - virtual/physical) - Semester Two o Classroom observation (virtual/physical) o Faculty mentoring o Teaching Practice (formal -virtual/physical)
Content	Teaching & Learning philosophies / Theories Bloom's taxonomy; learning styles Active learning strategies including online approaches; Constructive alignment Principles in constructing assessment Alternative forms of assessments including online assessments Models of Curriculum; HE Curriculum Policies & Structure Designing Programme & Module Templates Forms & Structure of Research Supervision including online supervision Ethics & policies in Supervision. Classroom management strategies Feedback and Grading; Student motivation Developing teaching portfolio and philosophy / statement Class observations; Teaching practice (formal & informal) Reflective practices with peers & mentors Teaching assistantship, faculty mentoring Teaching seminars / conferences. Deliverables – • Teaching philosophies/statement • Teaching portfolio, reflective paper, • Teaching video, presentation • Course development

The scaffolding approach suggested by Pittaway et al. (2023) is adopted to allow students to build their teaching confidence gradually while transforming their behaviour and identity in their doctoral journey. Semester One commences with an introductory teaching seminar where candidates meet one another and develop networks, providing much-needed support in an otherwise lonesome doctoral journey (Ikyoive & Sheik, 2021). They also meet their mentors, who should be passionate

about teaching and can introduce them to varied teaching approaches. The seminar can be held virtually to accommodate students from different countries at minimal cost.

The model further advocates that all theory courses be administered online where practicable. Topics should include teaching and learning philosophies / theories; learning styles; active learning strategies, including online approaches; constructive alignment; principles in constructing assessment, models of curriculum; structure; designing programme and module templates; forms and structure of research supervision, including online supervision. The syllabus should also include classroom management strategies and developing teaching statement/philosophy. Active, hands-on pedagogical approaches should be embedded in it, including mock-teaching tasks that can be recorded and critiqued by peers and facilitators. Case studies, debates, individual and group engagements in breakout rooms, and plenary sessions are advised. Opportunities must be created for students to question, interrogate, and reflect on their experiences in the light of course materials.

Students should be scheduled to observe mentors and other academics to expose them to classroom interactions and administration in a safe environment. Teaching assistantship and informal teaching practice sections could commence by mid-semester. The mode of the teaching practicum should be determined by the prevailing mode of lesson delivery, which could be virtual, face-to-face, or hybrid. Summative tasks in Semester One could be limited to assignments on module development, teaching statement/philosophies development, and reflective papers. Mentoring meetings could happen every other week.

In Semester two, while classroom observation and faculty mentoring continue throughout the period, greater focus should be on the teaching practicum – formal and informal and other deliverables. In addition to formal teaching practice, the summative assessments could include presentations, the development of a teaching video, and a teaching portfolio. During the year, students should be aware of teaching seminars, workshops, and conferences that they could attend to enhance their engagement and exposure to the teaching fraternity. It would also help them to keep abreast with current debates on university teaching. Their portfolio could also include a reflective task on the seminar/conference experience. After the first year of teaching, doctoral students could be engaged to co-supervise others' research.

Ideally, the authors advocate that incorporation of the teaching component into the doctoral programmes should be initiated at the national level by SAQA or CHE as part of its curricular transformation agenda in response to societal/contextual demands (Department of Education (DoE), 1997; Le Grange, Du Preez, Ramrathan & Blignaut, 2020). Since the nationwide revision of doctoral programmes occurs infrequently – generally once in five years (Khan & Law, 2015), individual HEIs can reconfigure their doctoral offerings to accommodate a teaching component. After all, the standards described for NQF level 10 are "a threshold statement, establishing minimum criteria for the award of the relevant qualification" (CHE, 2018:4). Thus, the UTLO at the respective institutions, in conjunction with the doctoral programme coordinators, could integrate the teaching component into the doctoral curriculum using the proposed structure as a guide.

Conclusion

Stemming from the need to incorporate a teaching component into the doctoral curriculum, the article set out to conceptualise a model that would guide the process as minimal research exists on how to achieve this aim. An earlier study based on the current voluntary TDP echoed the need for comprehensive teaching in the doctoral programme. Using an integrative LR methodology, the considerations for creating a doctoral teaching programme (Marx et al. 2016) were employed in conjunction with the TDP structure in synthesising the model's key attributes. It proposes a 35-credit = 350 hours' formal module run over two semesters as a prerequisite for conferring a doctorate. The content includes core teaching and supervision topics, class observations, and practical teaching sessions, which should be assessed formatively and summatively. It is envisaged that the proposed model will benefit postgraduate programme directors and designers to enhance the quality of their programmes and graduates while fully attaining the purpose of the general doctorate. The model will also be helpful to the SAQA and the CHE to ensure that the doctoral programme is responsive and appropriate for attaining its intended purpose – training for an academic career.

Like any other research, this study has some limitations. Since HEIs run doctoral programmes differently, the proposed model may not fit the structure of every institution. Rather, programme designers can draw from or adapt it to suit their institutional demands. Also, the sample size (10 articles) may seem small, but it is within the threshold deemed adequate in a non-systematic LR study (Kraus et al., 2022). Further, as the literature interrogation progressed, more similarities than differences in content were observed. The variations noted stem from the approach, structure, and

deliverables. This is seen in the later 2023 articles, where the scaffolding and continuum approach made the difference. As such, we believe that we attained data saturation, which is the goal of a qualitative LR. Again, the proposed structure is likely to have some cost implications. Although the academic leader in charge of HE studies/higher degrees could co-ordinate the teaching development component, there may be a need for an assistant to be appointed on a part- or full-time basis to be directly involved in the facilitation. This would have cost implications, which may eventually be passed on to the students. However, we believe that the benefits enumerated in the preceding paragraphs far outweigh the costs for both the institution and the students. Further, the study is based on a review of previous studies and prior empirical research conducted by the authors, thus making it a theoretical analysis.

Nonetheless, experts in research methodology appreciate the review of literature not only in identifying knowledge gaps but also in comparing different investigations/outcomes as a basis for distilling a framework for future researchers and practitioners (Terraco, 2005; Snyder, 2019; Kraus et al., 2022). This study achieved this aim by conceptualising a framework for integrating university teaching and supervisory skills into the doctoral curriculum, thus enhancing the capacity of doctoral programmes to deliver their mandate – training for an academic career (CHE, 2018). Interested scholars could put the framework into practice as a guide to assess TDPs in doctoral and masters' programmes.

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