RESEARCH ARTICLE

Challenges in Doctoral Supervision in South African Universities

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Abstract:

This article addresses the challenges encountered by doctoral supervisors as they interact with their doctoral students in the contexts of South African universities. In a qualitative study of seven doctoral (PhD) supervisors and six PhD students, data was collected using interviews to examine the challenges supervisors experience as they supervise doctoral students. The PhD students were included in this study because their responses would confirm or refute supervisor's views/opinions that emanated from their experiences in a social, cultural, and political context. Data analysis showed that doctoral supervisors experienced multiple challenges including overworking, time, and a set of academic characteristics of PhD students. Overall, the results of this study suggest that certain aspects among doctoral students who have completed doctorates in South African context, and their supervisors in different parts of the world would provide a starting point in the understanding of the implications of these aspects and their effect on the selection of doctoral students and the ongoing research in doctoral supervision in the South African context.

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Introduction

This article addresses the challenges encountered by doctoral (PhD) supervisors as they interact with their PhD students in varying social, cultural, economic, political, and other contextual forces in South Africa. It addresses the question: what are some of the challenges experienced by doctoral supervisors in

selected universities in South Africa as they supervise doctoral students? By 'challenges', the study refers to some of the varied experiences that research supervisors entertain as they supervise PhD students. According to this view, doctoral supervision encounters are not only affected by personal, interpersonal, intellectual, institutional factors but also national, social, economic, cultural, and political factors that form part of the context. As such, PhD supervisors' experiences have become either a blind spot in current supervision encounters or an object of knowledge formation full of diverse, and silent challenging learning experiences.

The failure by the local university management to attend to supervisors' experiences with regard to increased workload and other learning experiences may be attributed to the nature and context of doctoral education. For instance, the period after 1994 witnessed massification and heterogeneity in higher education and undergraduate degrees, as well as the increase in the number of postgraduate degrees [1, 2] in South Africa, thus attracting researchers' attention. Thus, the massification of higher education has resulted in large numbers of postgraduate students with varied levels of capabilities3. This variability in postgraduate students' ability has seen PhD student-supervisor ratios in South Africa increase from 1.3 students per supervisor to 1.9 between the years 2000 and 2007 [2, 4, 5]. In addition, doctoral supervisors have to contend with the tensions of equity, redress, race, gender representation and issues of global competitiveness and development[6] prevalent in a post-1994 South Africa. However, a report commissioned by Academy of Science of South Africa (ASSAf) in 2009 reported on the challenges of PhD students[7] leaving out the research supervisory experiences of PhD supervisors. Besides, although most of the empirical studies on the experiences of doctoral supervisors are qualitative and in-depth interviews in nature [8,9,10,11], they have not investigated the supervisors' context with a view of establishing their main challenges.

Heath [12] observes that the role of research supervisors is to guide research students throughout their study by providing them time, expertise, and support that will foster their research skills and attitudes and ensure production of high-quality research. Yousefi, Bazrafkan and Yamani13 further state that graduate supervision involves creating a professional relationship, selection of a research topic, preliminary design research, assisting students in their personal and general problems, and ensuring that good quality guidance is provided. To achieve these standards, Koen, and Bester [10] acknowledge the need to engage in professional development in order for PhD supervisors to update their professional development, in regard to teaching, research and learning. Thus, PhD supervision includes numerous formal and informal competencies that supervisors are expected to focus on as well as other individual student dispositions (social, political, emotional, cultural, and economic) in South Africa. But as doctoral supervisors engage in supervision, their experiences vary, depending on experiences each supervisor is exposed to and the meaning attributed to PhD supervision, thus creating some challenge that will always be influenced by context of research supervision.

Besides, doctoral supervision as pedagogy is not well understood as a teaching method, yet it plays a central role in postgraduate research [14]. Further to this observation, Charmaine Williamson, a research fellow at the College of Accounting Sciences at the University of South Africa, said that it is through 'personalized one-on-one work (that) ..., doctoral education is able to achieve the quality of knowledge generation'[15] . Doctoral supervision may not '...include or even imagine the variety of possible situations that may arise between a

supervisor and a candidate'[16]. That is partly why Johnson, Lee, and Green [17], describe it as a space 'more private than any other scene of teaching and learning'. This view is made even as some fields like clinical supervision in psychology, counselling, and social work experience group supervision [18]. Doctoral supervision is, however, an engagement that carefully blends personal and pedagogical skills in a unique [19] social way allowing research supervisors to nurture acceptable social, research and intellectual skills. Issues like time may lead to power imbalances and individual feelings of responsibility for the work done as reflected [19] by the participants in doctoral supervision. Thus, an important and often underdeveloped aspect of PhD supervision is about the broader challenges related to individual supervisor experiences in South African socio-political context as they supervise PhD candidates.

Even with supervisors' supervision experiences, PhD students have often raised some pertinent issues related to their supervisors during supervision that influence the completion of their studies. Students experience problems related to research design, data collection and processing, and /or thesis writing [20] in addition to their personal issues. Smith, Brownell, Simpson, and Deshler [20] observe that the problems may be attributed to poor knowledge and guidance skills of the supervisor among other things. However, these skills may also include a clear understanding of PhD supervisors and their students' experiences and relationships that exist in a supervision encounter. For instance, Smith, Brownell, Simpson, and Deshler [21] point out that 'a successful dissertation experience occurs only through significant efforts by both the advisor and the student.' Therefore 'teaching and learning are constituent practices of co-operative, shared human activity, which like friendship, rely on time and familiarity' [22]. This observation underscores the need to foster understanding between and among the participants.

PhD supervisors in South Africa have indicated from workshops on doctoral supervision that many PhD candidates are not well prepared for doctoral studies [7]. Problems are manifested in their inability to write scientifically, search the literature, inadequate quantitative and qualitative skills to do proper data analysis for the specific demands of doctoral studies [23]. This inadequate preparation seems to result partly from the student desire to continue with education on one hand and unexpected level of study or a new playing field of doctoral education whose rules and regulations are unfamiliar [24] to most of the PhD students. Under preparedness also seem to stem from the quality of students exiting the school system, undergraduate, problems in graduate and postgraduate pipeline2,3 as well as the context of doctoral supervision in South Africa. Besides this, Green, Bowden, and Andrew [25] and Sussex [26] observe that PhD supervision remains a global challenge at universities, even under the best conditions, where PhD candidates attend full-time. As such, a fairly good PhD supervision experience pays attention to the student's academic tasks and social relationships with the supervisor [27]. However, information on the academic and social challenges of doctoral supervisors in South Africa is not comprehensively attended to. Studies in the faculties of education in South Africa have not also been conducted to ascertain the view that PhD supervision is a challenging encounter.

Even as the supervision pedagogy appears challenging, literature in higher education in South Africa reveals different things. For instance, the number of PhD graduates in South Africa has been rising steadily particularly after the National Research Foundation (NRF) Funding Framework started rewarding universities for the number of doctoral graduates produced per year [7]. It is

acknowledged that this approach has been fruitful since doctoral graduates' production has risen from 977 in 2004 to 1878 in 2012. Also, the South African government is applying pressure on universities to produce more quality graduates within a shorter period of time than it was previously thought possible3. Furthermore, a report by Statistics South Africa reveals that the number of graduates has doubled between 2000 and 2016 with significant growth being realized in 2009, 2013 and 201628. Increased number of postgraduate students according to research done in Brazil improves the economy of a country among other things, leading to general development of the country [29]. Although some studies [30, 31,32] have reported on the nature of PhD supervisors', they have not focused on PhD supervision in the faculties of education in the South African context.

Along with these developments, some articles and thesis on doctoral supervision and supervisors have been published. For instance, PhD students' experiences in their encounters with their PhD supervisors in South Africa have been published [33,34]. Some studies have focused on models of doctoral supervision [35,36]. Other studies address varied research supervision experiences of postgraduate students in South Africa [3,37]. On models of supervision, for instance, a study by Samuel and Vithal [38] aimed to establish how the 'cohort models of doctoral research teaching and learning pedagogy could address the challenge of under-productivity of doctoral gradua[te]s' in South African higher education. Although most of these studies are qualitative7, they do not explore the opinion of doctoral supervisors and how they present themselves as challenges of doctoral supervisors in South Africa's higher education. Besides, a quantitative survey by Mouton, et al [7] mainly focused on throughput, nature of the doctorate (PhD), selection of doctoral candidates, and supervisory styles among PhD supervisors. Although this study involved PhD supervisors, it was not profound enough to reveal the challenges of individual PhD supervisors.

In addition, not much research has been conducted on the challenges of PhD supervisors in South Africa. Most of the existing studies focus on postgraduate students' experiences in South Africa [7,3, 2, 23], with minimal attention accorded to postgraduate supervisors and the challenges they experience. In fact, the South African government sends conflicting messages when it discourages universities from admitting academically under-prepared South African students while urging the same institutions to produce more PhD graduates [7, 37] without making clear understanding of postgraduate supervisors' supervision challenges. This calls for studies that focus on PhD supervisors' private space with a view of understanding supervisors' challenges and perspective.

It is important for all stakeholders to understand the challenges and perspectives of research supervisors at PhD level in South Africa for some reasons. First, it is important because of the appreciation of the complex nature of this PhD pedagogy by most stakeholders, including PhD candidates despite its vital role as a teaching method14. Second, South Africa has in the recent past experienced increased enrolment in higher education and undergraduate degrees, hence altering the nature of learning as well as the increase in the number of postgraduate degrees [1, 2] that may present new dynamics for PhD supervisors. Third, Carter, Miller, and Courtney [39] acknowledge that 'supervisors are under more pressure to produce outputs – faster and in greater numbers', a factor that can affect their performance in South African context. Fourth, the thought that perceived challenges lie in supervisors' experiences with their various research epistemologies, ontologies, methods, and tribal rituals (Becher & Trowler, 2001) as cited by Carter, Miller, and Courtney [39], as well as PhD candidates' beliefs

and tribal rituals. Besides, the importance of a clear focus on challenges supervisors experience in doctoral supervision in South Africa also relates to the complexity and tensions of equity, redress, race, gender representation and global competitiveness and development [6] prevalent in a post-1994 South Africa. Thus, having similar perspectives with PhD supervisors' knowledge about the challenges they encounter and the diverse perspectives they follow is significant because all the stakeholders will understand supervisors' experiences and perspectives and why it takes time to complete this level of studies. The varied opinions and perspectives will not only expose the challenges experienced by PhD supervisors in general, but also fill in the needed literature on challenges of PhD supervisors in South Africa.

Conceptual framework

As a social engagement, the concepts of habitus, cultural and social capital, field [40] and public management [41] of education have been deployed as a frame to understand the challenges in doctoral supervision in South Africa. Habitus refers to 'the way society becomes deposited in persons in the form of lasting dispositions, or trained capacities and structured propensities to think, feel and act in determinant ways which guide them' [42]. It ensures that 'social action is performed in an organized and routine fashion .... exclud[ing] interests and modes of acting which do not harmonize with the cultural and social legacy of the collective to which one belongs'[43]. An individual's habitus is thus a product of intersection between a community, peers and schools which influence his/her decision-making process [44]. For example, the decisions PhD supervisors and their PhD candidates take are subject to their respective past and present habituses in relation to the needs of the department, the faculty and at times, the national educational management policy. This process is anchored in sets of dispositions or attitudes, making habitus to presents a 'rich interlacing of past and present, individual and collective'[45] experiences that determine individual's place and how they perceive and understand the world [46]. Thus, habitus is one of the most essential aspects in understanding the challenges of PhD supervisors, in their supervisory encounter in South Africa.

Cultural capital - is reflected in the nature of education or professional knowledge one has. It therefore refers to the type of knowledge, skills, education, ... and the merits a person possesses that raises his or her status in the society40. In the field of education, cultural capital inclines research supervisors towards a pattern of thoughts and behaviour [47] that stems from their training and experience48 and enables them to traverse the process of supervision. Specifically, Bourdieu and Passeron49 p.187 point out that 'academic qualifications are to cultural capital what money is to economic capital.' In discharging their duties, supervisors interact with people and institutions that either enable or stifle their working. Cultural capital helps supervisors and institutions in protecting their positions and toppling the existing distribution of capital [47] as a form of regulation (exacting their knowledge and being protected by the existing).

Apart from cultural capital, social capital refers to 'the sum of resources, actual or virtual, that accrue to an individual or group by possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'[46]. Bourdieu as cited by Field50 points out that the value of an individual ties is determined by the number of links that they can assemble, and

the volumes of other capitals possessed by each connection. In this case, supervision is regarded as a social activity, ensuring that a social relation exists among all the participants. In fact, a social relation in this encounter partly determines the participant's relationships and their success [21]. Thus, the participant's dispositions that are mainly social are reflected in their interaction experiences which can at times reveal power imbalance relationships.

Field as used in this study refers to 'the various arenas in which people express and reproduce their dispositions and where they compete for different kinds of capital'[51]. Within the field are tangible and intangible structures that determine how people function in such spaces. In doctoral supervision, for instance, tangible structures include ministries of education, universities, faculties, departments, national agencies, and industries [52]. Depending on the perspectives we take, there is tension generated by the rules and regulations (policies) on one hand and supervision and administrative structures on the other hand. Tensions may arise from the divergent understandings of the goals and contexts of doctoral supervision, how supervisors envision their roles and institutional leadership. In the case of doctoral supervisors, some will have to think of government policy on doctoral education and supervision, others consider their social context at work and in the wider society and how it influences PhD supervision, the political situation, yet others will supervise as they constantly think of the market forces beyond the university as they prepare students for life in that environment.

Thus, looking at the challenges encountered by PhD supervisors, the article focused on the participants' varied levels of habitus and cultural capital and the nature of their interaction in the field of PhD supervision. The challenges presented in PhD supervision encounters revolve around the various levels of capital and varied perspectives as participants enact the entire idea of doctoral supervision in the field of PhD supervision.

The paper also draws from literature in public management of education. Public management refers to a range of issues as explained below.

Organisational development; open-systems approach; value-oriented public management; responsiveness; public participation in decision making; free-choice of public services; responsibility for programme effectiveness; social equity; corporate management; economy, efficiency and effectiveness; flexibility and change management; sustainability and consistency; accountability, responsibility and transparency'[41].

In looking at the issues related to supervisor accountability and the general understanding of participation in doctoral education in South Africa, issues related to new public management were discussed, focusing on institutional management, accountability, and PhD production at national level. New public management originated from various considerations in public administration and management. Hence, Denhardt and Denhardt cited by Hope [53], argue that instead of focusing on controlling bureaucracies and delivering services, public managers like deans of faculties and Heads of Departments (HOD) are now responding to the desires of ordinary citizens and politicians to be 'the entrepreneurs of a new, leaner, and increasingly privatized government.' How is this perspective a challenge to PhD supervisors given their cultural capital and habituses?

In South Africa, doctoral supervision context encounters are formally structured at various levels. The first level away from the institution is the Department of Higher Education and Technology (DHET) which oversees doctoral education, PhD graduates and doctoral supervision [2]. As this happens,

it remains clear that the doctoral degree itself is regulated by the standard produced by the Council for Higher Education (CHE) and later shared by the DHET. Within the university, departments/divisions are guided by faculties of education that guides supervisors and the disciplines that merit doctoral education [54] and the admission of PhD students. At the department, supervisors guide and supervise their PhD students. Thus, the context of supervision involves people, external and internal organizational spaces, and diverse disciplinary areas in education that provide the structural elements in the field of doctoral supervision in South Africa.

Levels of guidance as presented in this article represent relatively permanent structures strengthened by unequal power relations55. Within this framework, supervisors react differently to each of the layers and issues, depending on how they interact and intersect with their supervisory functions (i.e., the PhD students, the industries, the society etc.). They can alternatively comply with the contextual requirements or stay on the periphery and observe things happen or resist what they think is counter to their established norms, traditions, and practices. Thus, 'the unity is hidden under the diversity and multiplicity of the set of practices performed in fields governed by different logics and therefore including different forms of realizations' [56] that are witnessed during the supervision encounter.

An interaction between habitus, cultural and social capital, the field of doctoral supervision and the nexus of public management need to be understood clearly by all the interested parties in order to enhance quality and patience in the PhD supervision triangle. However, understanding supervisors and the challenges they experience from their perspective becomes a breeding ground for contests, misunderstandings and tensions with stakeholders that may hold different views about the practice and products of PhD supervision.

Data collection and analysis

This section presents a brief discussion of the methodology that was followed in this study, followed by an analysis of the findings. A research permit from the ethics approval committee was granted by the University of Johannesburg. The ethical approval factored the participation of both PhD supervisors and PhD students. While PhD supervisors were to narrate their academic supervisory experiences as aspects of habitus, social, their cultural capital, field and public management, PhD students' perspective on these experiences aimed at confirming or refuting the supervisors' experiences. The ethical approval permit allowed participants time to review and safeguard themselves against any potential harm [57]. Face-to-face open-ended interviews [58] with seven doctoral supervisors and six PhD students were administered. Attention was given to the supervisors' general workload, time, some characteristics of PhD candidates admitted, institutional management vis-à-vis supervisor motivation, and building of PhD students and supervisors relationships.

The interviews involved education professors working in the University of Johannesburg and The University of the Witwatersrand, faculties of education, and PhD education students in these universities. The universities were selected specifically for their having departments/divisions of education, availability of PhD programs in education, their closeness to each other and to the researcher. Faculties of education were also selected because of the similarities and academic

practices in areas of education. These institutions provided the required field of education with a focus on doctoral supervisors and PhD candidates. The study purposely sampled- 'information-rich cases'[59] of doctoral supervisors in the faculty and school of education who had supervised to completion, at least three PhD students and had been PhD supervisors for more than ten years. The profile of interviewees varied in terms of age, race, gender, and supervisory experience – 'setting the boundary for the study' [60]. With regard to age, PhD supervisors were aged between 55 and 65, with three White female, three White male South African professors and one Black male South African professor, while PhD students were aged between 35 and 48 comprising five Black males and one Black female. PhD supervisors were permanent members of academic staff, with six being professors of education and one holding a doctorate degree in education. PhD students were also purposively sampled from the two institutions. Some were (being) supervised by the participating supervisors while others were not. The study was more interested in their comments regarding supervision experiences. Although there is a racial mix of Black and White people in South Africa, students who participated in this study were Black. All the participants were invited to take part in the study via email. In their response to the request, they each gave the date, time, and venue of the interview.

Individual, open-ended interviews58 of about forty minutes were conducted, recorded, and transcribed. The interview transcripts collected were analysed using thematic coding to identify key areas and patterns across the sample [61] about supervisors' experiences. Patterns of themes that emerged reflected individual reactions to various but similar experiences with regard to interaction between PhD supervisors and the PhD students. At the same time, segments of meaning from the codes were identified from this data. The study utilised Strauss and Corbin's62 method of open coding, axial and selective coding – a means of moving from massive data to more specific themes that are more abstract but meaningful in representing and describing the collected data. The coded data was repeatedly modified to refined set of codes61. This experience represented the height of axial and selective coding because at times, the researcher failed to realise the back and forward movement associated with this kind of coding. For ethical reasons, pseudo names were used in reporting the findings of the study.

Discussion of findings

The changing nature of academic work

The interview established that the main challenge in doctoral supervision was caused by the changing nature of academic work supervisors are required to do. In this context, it refers to the issue of mass admission of students [1, 2] and its effect on teaching and learning. In South Africa, and particularly after the democratic dispensation in 1994, this supervisor notes that the amount of work to do as a supervisor increased thus changing the nature of academic work.

Well at one stage I was Vice-Dean in the faculty, and I was also a chairperson, and I don't want to do anything like this again because I am not a mummy and am not a daddy.... Then, the workload became too much...(Charisma).

Administrative responsibilities not only mount pressure on PhD supervisors and researchers but also doubles their roles – by demanding that they play a 'parental' role to other supervisors and PhD students in the department. Besides, some supervisors are the only ones who can supervise PhD students. This suggests that qualified people to supervise PhDs are scarce.

There was a time when I was supervising eleven students as a Head of the Department because I was the only one who had a PhD, and that was heavy .... So, it depends on how many students you have, ... how good they are, how many you can manage. ... But I do lots of other work. You know I teach, ... I am on committees; I have been Head of the Division...! So, the thing is that we have got a lot of work to do ...(Hilda).

As a PhD supervisor, this participant engages in other noble teaching and administrative roles. This social engagement makes it typical of a field of higher education, characterised by a lot of work in South African context.

The staff actually are overburdened ... but sometimes you say to yourself you know you owe these students ... the provision of the best kind of environment, one of the best kinds of intellectual stimulation.... I do supervise PhD students on this campus, but I also supervise PhD students ... [abroad]...., I am the chair of the research degrees committee (Famous).

In spite of there being a lot of work, the participant acknowledges the need to sacrifice and provide a conducive supervisory environment to students. Thus, the field as an element of cultural production presents this participant's view and the entire field of higher education as one that can make sacrifices and forge on to achieve success in the midst of a lot of work.

I have been the director of strategic planning of this university for 12 years. And as I was working in the faculty, ..., perhaps .... And then I was director of planning, ... I have been involved again as a researcher and supervision of research. Am also the head of the research committee of the faculty ... because I was much involved in research and of course undergraduate and postgraduate teaching and I serve at a couple of university committees (Gaja).

Clearly, the various roles played by this participant reveal that PhD supervisors are overworked. Some supervisors, as mentioned in the conceptual framework, have for some time developed the capacity to engage in such a field from their peers and communities.

Yes, previously I was Head of Divisions, I had administrative responsibilities because... I taught, supervised and I had to do my own research and I had to go to schools because in teacher education we also have teaching experience. It is impossible, impossible! I think ...everything else depends on the university you are working for, but our university is particularly interested in your writing and your publication and I think those other responsibilities are time-consuming they are reports ... (Leah).

I do research and teach postgraduate students, B.Ed. Honours ....and I do a masters programme as well.... Administratively am the chairperson of the

research funding of the university and am a member of the faculty higher degrees committee... (Jarem).

Managerial responsibilities and teaching in this era of increased number of students has significantly altered the duties of PhD supervisors. This engagement to certain extent affects individual's accountability. Another supervisor notes that,

The normal university job description, teaching ...., you see all the mark sheets and the queries about marks so that is the normal workload... A lot! Of course, a lot. ... I have to read emails, proposals (Gurus).

All these supervisors claim to be overworked. Effects of an overworked supervisor are resonated in PhD students' experiences and expectations. Those students who cannot cope with an overworked supervisor, consider changing the supervisor or even dropping out of the system. In such a case, the field becomes a battlefield between the PhD supervisor and the student as they exercise the existing power55. One PhD student commented as follows on his supervisor, who was also a Head of Department.

I know that there was a time when [my] supervisor had over-enrolled PhD students. .... Some fell by the wayside because of the going which was getting tougher but I would feel supervisors don't need to take on more than what they can supervise (SPh 2).

Generally, working in academia is inseparable with engaging in other duties in the department, faculty, or the university. The allocation of administrative work to supervisors increases their workloads, leading to the minimization of time for everything, including supervision of PhD students. For instance, heading departments, being a member of a committee, supervising locally and abroad, and serving in other administrative capacities constitute what doctoral supervisors do. This is in addition to teaching at undergraduate, Honours and master's level for some of them. It certainly reveals an overworked PhD supervisor.All participating supervisors acknowledged that they are overworked, and this influences their work as researchers and PhD supervisors. For instance, most of them end up allocating lesser time to supervision or spread the duration of seeing PhD students over a long span of time. For example, seeing a PhD student once a month instead of twice a month. Such situations are also occasioned by an increase in the number of doctoral candidates65 thus posing a major challenge to higher completion rate. This is reiterated by Mouton 23 p.16 when he points out that at doctoral level of education, the 'average annual growth rate of 5.5% over the period 2001 to 2009' was recorded in South Africa. Mouton et al.7 acknowledge the increasing burden of supervision impacts[s] on the attention that supervisors give students. These authors note that at least 32% of supervisors do not give sufficient supervision attention to PhD students.

This increase does not match up the current supervisor student ratio thus confirming ASSAf's [2] findings of this study about an overloaded academic staff at the doctoral level. Surprisingly, universities, as pointed out by this participant, are more '*interested in your writing and your publication*' (Leah) thus pulling supervisors efforts to supervise in the opposite direction. Essentially, both habitus, individual supervisor cultural capital appear overstrained in supervision encounters in the field of higher education. Thus, the idea of being overworked as

part of supervisor experience among peers and students (habitus) is a result of the intersection between a community, peers and schools which influence the decision-making process.

Limited time

Although PhD supervisors acknowledge that they are overworked, they single out time as a resource that is not adequately accorded to PhD students. This is partly because the changing nature of academic work is grossly affected by reduced time. Again, the element of time and how it is spent by supervisors should not only be a concern for them but also to the government, universities, and other interested parties. This is also captured by Carter, Miller, and Courtney [39], when they observe that some supervision challenges are caused by tightening time constraints. For doctoral supervisors, time constraints constitute a challenge in several ways. First, when enrolment at graduate level rises, efforts are not made to examine the attention supervisors give to doctoral students in South Africa. *'The major challenge... I think it is time. ..., and the work becomes greater for supervisors' (Jarem). Second, doctoral studies take a long time: 'It takes a little longer and that is another reason the government isn't saying' (Jarem).* On the demand by the government to have more PhDs rolled out, time is a challenge:

It will take time [a PhD] that it needs to take, I think that I can't rush the process. I can't make somebody committed if they are not. I can't make somebody who is not committed working consistently if they have life pressures ... It takes a long, long time (Leah).

The PhD process takes even longer than what institutions advertise, creating tension between doctoral supervisors, PhD students and other stakeholders who hardly understand dynamics in research training and PhD process. Thus, the South African government through the department of education - ministry of education55 is concerned about the completion rate of doctorates, though with limited understanding of the time and challenge of supervising the doctorate.

The issue of time is further reiterated by PhD students.

Time, supervisors don't have time for their students, they prioritize their own growth more than the students' growth (SPh 3). They should have time, there should come a time where they should take account of their, ... being accountable and responsible, ... for bad mentoring and for bad ...leadership. (SPh 4).

Thus, the need to balance between personal growths, demands to research and publish on one hand and allocate adequate time to doctoral (post-graduate) students is evident and affects supervisors' accountability in the case of performance management [41]. Although supervisors seem to justify time as a major constraint to their work, some students have their own interpretation of these delays as they confirm this experience:

The constraints of doctoral supervision that ... you do not finish the time that you wanted to finish. ... It is like you are sort of kept at bay until you reach ... the right standards in quotes. ... In... developing countries it can take you a

lifetime and it can ends up frustrating you. So, I think they should really look at the need for time (SPh 5).

Prioritizing their own growth as a basic cultural capital element gained in a training environment, resonates with what some of the supervisors pointed out: that universities are more interested in research and publications and that means supervisors devote more time researching and writing for publication, rather than supervising PhDs. A PhD student observes that *'my supervisor is a busy man so he can email you the time that you can meet' (SPh 6).*

Thus, another challenge is that more time is spent on the personal growth of research supervisors. This contributes greatly to the late PhD completion in most faculties of education in South Africa. Generally, data shows that time has an effect on PhD student supervision and therefore a challenge on supervision in South Africa's universities.

The academic characteristic of students

PhD Supervisors also indicated that PhD students' abilities constituted a major challenge to their work. They felt that the kind of students admitted for doctoral programmes were not adequately prepared for PhD studies. In this case, their cultural capital, i.e., their knowledge, skills and schooling as obtained at the previous level is not adequate enough to foster PhD studies. Again, the field of higher education seems to them, irregular with very unfamiliar rules and regulations [49] that require them to adjust their past experiences and adopt the present challenges at PhD level. This situation presents diverse challenges to PhD supervisors. One supervisor noted that,

These are not people who are capable of working completely independent from day one.... some students are too weak to get there (Hilda). Supervisors are of the view that 'the big problem is ... the realization that we don't have the students that we used to have many years ago, these students need extra guidance' (Gaja).

Some PhD students were seen to be weak and lack personal initiative and their roles are taken up by supervisors.

Now that I am a bit old and I am wise [I know] it is difficult for some students because some students wait for you, some students expect you.... If the supervisor doesn't know that the student can't get back, then s/he might contact the student and say, 'have you made any progress?' (Gaja).

Such students are deficient of some kind of social and cultural capital40 that seem to be a basic requirement at doctoral level. Students do not only wait for supervisors to make them work, but some also struggle to put their work together.

Many students struggle ... in framing and ordering ideas. So, I find a lot of the time when I read the drafts, I tell them this does not belong here that belongs there this must be before that... (Leah).

Additionally, supervisors and PhD students' background i.e., their habitus, which ensures that social action is performed in a planned and predictable fashion excluding interests and ways of acting which do not synchronize the cultural and social legacy of the group to which individual supervisor belongs' [45] normally clash with regard to expectation. Thus, supervisors and PhD students in the field (faculty/school of education and university) influence each other's expectations in supervision encounters based on their past experiences. This happens even when supervisors are aware of the dynamics of education in South Africa.

Generally, the profiles and backgrounds of students who enroll for doctoral studies are brought to question. Data suggests that supervisors work with students whose abilities are below capacity. Although students meet the academic qualifications required by the university, the selection panel seems not to fully consider what Bourdieu [40] describes as individual habit uses as they proceed with admission. Essentially, admission criteria seem to either overlook some factors or that level of learning is designed to overlook some factors that are vital to both PhD supervisors and PhD students. The effect on PhD supervision is that supervisors and some PhD students may lack the rigor and stimulating environment that is expected from doctoral students in a research environment, thus making PhD supervision less challenging and thought-provoking as it should be. Again, PhD supervisors in this environment/field may question the criteria the university employs when admitting PhD students, on one hand, the mode of supervision adopted, and the context within which PhD students are drawn raises a lot of questions about the role of PhD supervisors in supervision encounters on the other hand. However, it is pointed out that supervisors can be responsible for this kind of challenge [63].

Although such suggestion is tenable, the field as expressed in social cultural theory40 presents some factors that determine the experiences one has to have. Some of these factors include the academic characteristics of students selected to undertake doctoral education. In fact, students selected for supervision determine the extent to which rules and regulations plus the policies of PhD supervision are enacted and observed.

Management vis-à-vis supervisor motivation

Experiences by doctoral supervisors within the administrative arrangements in the university can affect their motivation to work, introducing a very challenging working environment. For instance, the extent to which managers in high-ranking positions are experienced in supervising doctorates and publishing affect supervisors' motivation to work, thus posing a challenge. According to this supervisor, this does not only apply to departmental and faculty heads but also the entire university administration.

I do support supervision of doctoral candidates but the tendency at this stage I think is not... if you look at..., who is the person heading a university, they haven't got experience. They can talk a lot about academics. They have got a lot of book knowledge about it. But training, they haven't got the basics, but they, ... don't come through the ranks. If you haven't published yourself, how can you tell me how to publish? ... If you haven't supervised masters' and doctorate students and experienced what the troubled persons they are, what their challenges are when these people try to [finish], how else can you tell somebody how to supervise? (Charisma).

From this supervisor, challenges in doctoral supervision can be attributed to how institutions are structured, particularly in leadership and also those charged with the management of the university, faculty, or department/school. Whereas cultural capital [47] advocates for knowledge, skills, and education as vital ingredients in the society and raises PhD supervisors to higher status, this perspective is not clearly observed when appointing university managers, chief executives, and some senior level managers in South African context. Thus, the issue of appointing inexperienced people to run the university is necessarily a challenge to PhD supervisors. On the contrary, the supervisor questions why people who have not adequately supervised doctorates or published (have limited cultural capital) can possibly manage supervisors (who are endowed with cultural capital). Nevertheless, he seems to be critical about the appointing authority in institutions of higher learning.

Apart from this, the issue of university in the globalised world comes up in the form of management. South African higher education literature points out that managerialism that is associated with neoliberalism in a globalised context limits supervisors' academic freedom by encouraging continuous monitoring of supervisory activities [64]. Adams [65] acknowledges that managerial practices in higher education have the potential to reduce academic autonomy and free expression because they rely on control to achieve their objectives.

Although these views may not directly be perceived as challenges of doctoral supervision, they impact negatively on the supervisors' motivation. In other words, supervisors are placed between their own intellectual power (cultural capital) and the administrative power, which is more to do with the context in which universities are situated. Of importance to the assumption in this study is the fact that the silent competition between the intellectual – cultural capital and the management, negatively affects supervisors' motivation, which constitutes a challenge to their supervisory function. This participant's reaction points at the tension caused by structured social space of positions that are governed by rules and regulations determined by the field [49]. Although entrance into these social spaces is subject to minimal qualifications [47] from the interview with this participant, social spaces in the ranks of management seem to operate differently from those in academics when it comes to appointment to administrative positions. The effect is that some of these structures can enable or delimit66 supervisor performance as they affect their levels of motivation. Consequently, it can be discerned that receiving instruction and being managed by people who hardly understand the dynamics in doctoral supervision can be upsetting.

The management requirements that performance management indicators are employed by the department to establish supervisor's performance has an effect on PhD supervisors. Despite the heavy workload, supervisors are expected to meet certain targets defined by these indicators.

To enhance supervision and enhance post-graduate studies on that level, ..., this specific faculty and I think that hasn't really taken place because we almost are overwhelmed with the performance management system... that is actually part of it, we are almost in the push for performance...[Gaja].

This reveals that doctoral supervisors' performance is scrutinized as the faculties and departments of education strive to meet their strategic objectives. While the exercise serves the right managerial purpose, Teelken67 observes that although these managerialist practices are considered useful, there is also evidence of detrimental effects on primary tasks of universities. As such, their effect on

supervisors' motivation is not known by those in management in the South African context. This is mainly because managerial practices are better viewed and utilized by those in strategic management positions that view education as a private commodity [68]. Davis, et al [69] note that the effect of public management on universities is supported and opposed by universities globally. However, the authors note that an increased global support for managerialism as practised in universities aims at instilling professionalism in supervision. For instance, some studies in public management in universities reveal that there is greater accountability of academics to their faculties particularly in teaching and research quality inspection [70]. However, although in most universities those serving in senior leadership positions are experienced academics, there is a need for more studies to determine the effect of managerialism and new public management approaches on PhD supervision and PhD supervisors in the faculties of education.

Increase the number of PhD graduates

It is not clear whether supervisors work with a view to increasing the production of doctoral degrees [64, 2]. PhD supervisors working with such views in a politically transforming South Africa may find it challenging to match the rate at which other countries train and produce PhD graduates. While what seems clear in South Africa is that doctoral studies take time and the context within which it occurs affect [2] the process of production, studies [71,72, 73] also reveal that the challenge involved in PhD completion is that it takes a long time to be completed. This challenge is partly attributed to an inadequate understanding of the dynamics that inform the process and the context of supervision. One supervisor pointed out that,

Because they want quick fixes. They... need people with PhDs. They need more qualified Africans. So, they think that they can do everything quickly. It can't change the curriculum and change the school in two years. It's going to take 25 years to change the school system, not 2 years. They 'wanna' do everything and you won't get such a great change in such a short time. And, the PhD is a growing period, people need their time to develop. It is not something you can do quickly (Hilda).

Citing change as a process, this supervisor believes that production of PhD in contemporary South Africa is partly a function of post-1994 transformation realities. In the transformational context of South Africa's kind, increasing doctoral graduates can be likened to a 'twisty and entwined chocolate bands running through a marbleized cake. Try to follow one of those bands. Better yet, try to extract one for a good look. It takes surgical skill' [74]. In fact, those in government, under the department of education, a field in higher education determine how PhD supervisors' function in this space. Some supervisors think of government policy on doctoral education and supervision as a significant aspect of the space in higher education. However, the view expressed by this participant contrasts to some extent, the issue of accountability as previously stated [69] and silently acknowledges the concept of professionalism in research by the PhD supervisor and the supervisee.

In fact, the issue of performance management, appreciated by the government militates against the spirit of growth in PhD supervision. While there is a need to

increase the number of PhD graduates, their quality which is reflected in their skills and research knowledge - cultural capital - should not be limited by managerial practices.

As far as increasing the numbers of PhDs is concerned, it is even more complicated when few native South African students enrol for doctoral studies:

Because there is a push for numbers, but the persons are not really there and how you should get there... and it is not a single answer I can say there are various ways they can get there but I can say it is a long process and one has to have a little bit of patience...(Gaja).

Interestingly, these supervisors agree that it does not only take a surgical skill for them to produce a single PhD, but the process of PhD supervision requires patience. This aspect of a doctorate is rarely understood by most stakeholders and PhD candidates. In this regard, it seems reasonable and convincing to look at PhD experience as a ritual, which in most cases becomes psychologically painful, and disproportionately demanding [because] ... under current conditions, gaining a doctorate entails endurance of severe personal distress for a great many candidates and the output of successful PhD is achieved at the expense of a high toll in purely human terms' [75].

In relation to this statement, a participating PhD student notes that: '*PhD is about endurance, it is about perseverance, it is about ... loyalty ... in the sense that ... sometimes you must follow what you are told'* (SPh 5) not just to him but also a challenge to PhD supervisors. This view reveals the multiple and stressful instances in the field of PhD supervision as tensions rise among PhD students' divergent understandings of the objectives, contexts, and goals of doctoral supervision and PhD supervisors. As a result, PhD supervisors experience challenges related to the quality PhD supervision, the kind of students they have and the existing government and university [40] policies in the field of education.

Drawing on this extract and the view that doctoral studies are extremely demanding, the assumption that supervisors can facilitate the increase in the number of doctorates is inaccurate if the kind of doctoral candidates admitted are not fitting in Bottomley's description of what it takes to do and have a doctorate. At the same time, the idea of 'human toll' seems to include PhD supervisors' engagement in the process. PhD supervisors therefore operate in a field of unknown social context and in the wider society full of political challenges that influence PhD supervision. Thus, the increase in the number of doctoral graduates in South African universities is reflected by foreigners who enroll for PhDs studies in South Africa. This is echoed by this participant.

I do not know if once they (South Africans) get masters, they get money, they give up, they enjoy the money, I don't know but most of the PhD students I know are foreigners (SPh 1).

If you look at the number of postgraduates in South African universities, you may find that a bulk of them are from other countries.... (SPh 2).

This view further explains how the nature of the field influences the expectations of the government and poses a big challenge to doctoral supervisors.

Students' attitudes towards doctoral qualifications

Beyond personal attributes, some participants were of the view that things valued by the society constitute a challenge to the pursuit of doctoral supervision and the subsequent increase in PhD production. In fact, the participant's habitus seems to be informed by the attitudes attributed to PhDs.

...If you are materialist in nature, and you go for the money side, why should you do a doctorate? ... if you are in your attitude, materialistic and money directed....it is totally unaligned with a doctorate...? (Charisma).

The value a society and an individual person place on doctoral education poses a major challenge in doctoral supervision. For instance, the values of a society are implanted in its people thus determining how they regard doctorates [42]. As their habit uses, these values ensure that social action is enacted in an organized and routinized manner determining [46] the way people regard PhDs. Participants noted that teaching people whose love for knowledge is associated with monetary gains that accrue out of the doctorate is challenging. Furthermore, the values attributed to a PhD by those who complete their undergraduate and the fact that undergraduate qualifications provide very attractive income on the job market constitute a challenge in doctoral supervisors in South Africa and globally. For instance, changes in global perspective indicate increased participation at PhD level with demographic make-up of students from different segments of the society, the changing needs of society and of the education sector77. All these changes have an effect on the nature of supervision, the PhD supervisor and the credentials associated with the doctorate in and away from South Africa [73,74]. In South Africa, one participant notes that,

Because then people do not see, ..., the need to continue with their education because as soon as they get their first degree, they can get into employment which pays them quite a lot of money. So, they do not really see the need for them to be able to pursue ... PhD programs. But it may also be because the PhD or having a PhD itself does not always translate into significant financial gains in the employment sector. So, some people feel that it is just a waste of time. .... spend three years doing something and then the employer doesn't give you much after you have done that. So, the returns to your investments are minimal (Famous).

I do not know; they are not interested in furthering their studies. I don't know if once they get masters, they get money, they give up.... (SPh 1).

I think that is attributed partly to the fact that South Africa's economy is stable and if a person is a South African citizen and manages to get a diploma, ... and he starts enjoying the benefits. He can get a good car, a good house, ... and if it is a degree, the moment the person is qualified with a first degree, has a job and a degree, you know it's a bit of the economy. I think it is the economy that is partly to blame in the sense that it rewards basic qualifications (SPh 2).

This student sees the attitude of South Africans at diploma and undergraduate level in terms of material possessions that are associated with higher education. However, the society seems not to place much premium on the search for knowledge that is associated with PhD. In this case, PhD supervision

is a challenge for people who supervise PhD students who eventually go back to a field or society that values money compared to new knowledge.

The constraints that I said, fear, lack of funds, multiple responsibilities, ..., people and the responsibility would be .... And some of the things are professional jealousy. (SPh 4)

In a situation where universities rely financially on the state, people enrol for PhDs hoping to be hired by the state. Besides, literature elsewhere suggests that PhD graduates should be creators and not seekers of employment76. However, the South African government seems to overlook other pertinent issues such race, class, widening access to higher education, increased number of students who enter into the institutions of higher learning, disadvantaged backgrounds without the 'cultural capital' deemed necessary for success, and financial and other resources [77] as issues that indirectly affect enrolment and subsequent output at the doctoral level, yet the issues are challenging to those who supervise.

Knowledge and information communication technology

During the interphase between teaching and learning, supervisors experience challenges related to knowledge and use of information communication technologies. One supervisor was more particular about expectations of a PhD and what it takes to identify what eventually becomes the crux of a PhD: '*the most common difficulty is to find and understand what exactly is central to PhD. To understand where to focus, how to focus, what to read, how to frame*' (Leah). Issues raised by this participant about presentation of issues in PhD supervision encounter magnifies the challenging nature of doctoral supervision process as they highlight 'the way society becomes deposited in persons in the form of trained capacities and structured propensities to think, feel and act in determinant ways which guide them' [42]. The participant raises questions that evoke the dilemma that supervisors find themselves in. For instance, as they guide doctoral students, they engage in competition with their peers in the field and they need to guide students and convince their peers that what they are doing is worth not only in the scientific knowledge sense but also in the contemporary context of what a doctorate is and does in the knowledge economy. They also face the challenge of ensuring that PhD students present their thoughts in writing in a conversant and academic way. For some supervisors in this study, the issue of Information Communication Technology (ICT) emerged as a major challenge: '*I ... think that the information literacy and obtaining information and finding resources can also be improved' (Gurus).* More notable in this regard was the realization that some doctoral students had no idea of what Google and Google scholar is in information technology. This is illustrated by this supervisor.

... what is the difference between google and google scholar, for example. And some [doctoral] students will tell me, "I've not used google scholar before." How can you do a PhD and you do not know google scholar? ...., so that is about information literacy (Gurus).

While previous studies have identified some challenges with regard to PhD supervision, [55,79] this study suggests that the challenge of using information technology particularly in the realm of information literacy among some doctoral

students in South African universities need to be updated. It also recognizes the PhD students' context with regard to the spread and use of technology in the context of rural places in Africa. That is the home of most PhD students. Based on the data collected, most of the PhD students come from other countries whose ICT infrastructure may not be well developed. However, in cases where it is well developed, PhD students may not have been interested or knowledgeable in relation to use and purpose of google and google scholar.

Supervisor – supervisee relationships

Establishing a durable working relationship, based on the understandings of the dynamics involved in doctoral supervision poses a challenge to doctoral supervisors. Some participants indicated that establishing relationships was difficult. In pointing out the levels of difficulties related to relationship establishment, one supervisor noted:

They (supervisor and PhD student) should both be there after they have been exposed to each other for a couple of weeks so that they know about each other because this relationship is very important …, what is expected of them and should go … the role of postgraduate supervision and post-graduate studies involving both, that is actually one of the biggest needs that I would say that this country lacks at the moment (Gaja].

Supervision relationships should develop to the extent that both PhD supervisors and students are compatible: *'I think the other challenge is that you have to get on with the student. … the relationship has to gel'* (Leah). In other words, development of a working relationship becomes a point tension, 'that requires both part[ies] embodied capacity to assume the attitudes and actions required' [78] in the field of doctoral supervision. Failure to achieve this *'… could affect you. If you like the person, you spend a lot of time with them'* (Leah). Surprisingly, this participant's remarks are indicative of the discomfort supervisors have to endure in cases where the basic working relationships are not well developed. Thus, there is a need for PhD supervisors to establish pleasant relationships with their PhD students that can have a lasting positive impact on the students under supervision [79] .

Ultimately, the field of PhD supervision requires good relationships among participants for it to succeed. Doctoral supervision forms part of the many arenas in which participants express and reproduce their dispositions aimed51 at achieving enjoyable PhD supervision experience. This aspect helps PhD supervisors and institutions in protecting their positions as PhD students build their cultural capital and learn the rules and regulations that govern48 PhD supervision that eventually define their relations. These relationships ensure that social relationships exist among all PhD supervisors and PhD students. As such, the social capital of the participants in this encounter partly determines their relationships and their success50. Resultantly, maintenance of these relationships ends up sustaining and reproducing strong structures characterised by unequal intellectual power relations prevalent in the field [59] of doctoral supervision.

Conclusion

Doctoral students have raised issues related to the way they are supervised [20] at a time when PhD supervision space is described as a 'private' teaching space [17] in educational pedagogy. This study, therefore, aimed at showing that doctoral supervisors' supervision encounter is affected by numerous challenges. It was guided by the question; what are some of the challenges experienced by doctoral supervisors in selected universities in South Africa as they supervise doctoral students? In response, the study examined the interview transcripts with both PhD supervisors and students, paying attention to their interactions and reactions to the context of doctoral supervision. The study found that multiple issues that coalesced into challenges emanated from PhD students' and PhD supervisors' past experiences, the structures put in place to facilitate doctoral education and the intersection between these structures, PhD supervisors and the context of doctoral studies.

From the study, it is clear that doctoral supervisors experience multiple challenges as they supervise doctoral students. Such challenges include the structured nature of universities that allow most of the experienced, skilled, and knowledgeable academic members of staff to engage in multiple administrative responsibilities which increases their workload, the reduced amount of time available for PhD supervision and the fact that contemporary doctoral candidates need a lot of support in view of their weak academic abilities. Other challenges included increased production of doctorates, inadequate academic communications skills, use of ICT and challenges related to knowledge. Generally, challenges of PhD supervision are rarely the same for all supervisors. One supervisor will isolate one challenge, depending on the students s/he supervises. Accordingly, then, PhD supervision is likely to improve and limit the existing challenges if stakeholder play their roles while considering the act of PhD supervision.

This study contributes to the understanding of challenges of PhD supervision in South Africa in several ways. First, through literature review, the study reveals that there is a scarcity of literature available on challenges experienced by PhD supervisors in the course of doctoral supervision. Secondly, it provides a starting point in which the main challenges related to individual PhD supervisor experiences in South Africa's socio-political context will be understood. Nonetheless, thirdly, careful understanding of supervisor PhD supervision experiences will also have a positive impact on the envisaged stakeholders hence contribute to what takes place in the supervision encounter. Besides, studies by ASSAf2 indicate that PhD students learning experiences have been recorded, thus, the findings of the current study add to the challenges of PhD supervisors on the existing literature relating to PhD students learning experiences and therefore enriching the field of doctoral supervision. Finally, the findings here shows that challenges around writing, communication and ICT are experienced and can be ameliorated.

Universities need to fundamentally rethink what makes a doctoral student, PhD supervisor, a department, and a faculty to understand and start addressing the challenges raised by PhD supervisors. By doing this, Universities and faculties of education will reconsider the admission criteria and design ways in which PhD students will be admitted on a strict basis of academic qualification and the ability to adjust quickly to the playing ground in this level of academics. Universities and faculties of education will also re-examine the selection of

university, faculty and heads of department leaders based on their practical and academic achievements. This will serve to motivate PhD supervisors as it provides leadership by example. For instance, experienced professors should be active in appointing the leader of a university in South Africa.

However, the current study is limited in numerous ways to apply uniformly to South African universities. The findings of this study may not apply beyond faculties of education in which the study was carried out. There is also need for broader and detailed studies either in all faculties of education in universities in South Africa, and/or a general study of supervisor experiences in in all faculties and schools in universities in South Africa. In addition, an empirical study to establish the existing challenges in group supervision in South Africa should be carried out. Finally, there is need to conduct a study on students who have completed PhDs, along with those of the people who have supervised doctorates in different parts of the world in order to provide a starting point in addressing the challenges of doctoral supervision as envisaged in South African context.

Acknowledgements

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