

# COVID-19: AN ALTERNATIVE APPROACH TO POSTGRADUATE SUPERVISION IN THE DIGITAL AGE

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## ABSTRACT

Universities globally are facing enormous governmental pressure to increase postgraduate output, and in turn, contribute to the knowledge economy. This pressure is transferred to research supervisors, who have to navigate the complexities of research supervision to not only meet postgraduate output targets set by the university in particular, but postgraduate output targets set by government in general. Before the COVID-19 pandemic, research supervision mostly followed the traditional apprenticeship or group model approach to supervision, where engagement took the form of face-to-face interactions. With the COVID-19 pandemic came social distancing, which forced research supervision to move to online platforms. The core objective of this article was to peruse selected research supervision models or approaches to determine which model or approach would be most suited to an online supervision context, if any. This article advances a re-imagined view of research supervision in higher education. The author proposes an argument for an alternative approach to research supervision, most appropriate to the online supervision environment. The ontological stance, from the perspective of constructivism, underpinned the interrogation of selected research supervision models or approaches with the view to engender a different understanding of what the core components of a research supervision framework could be in the context of COVID-19, with due regard to the “pedagogy of supervision”. This article will be of value to emerging South African research supervisors and scholars in the higher education realm.

**Keywords:** research supervisors, research supervision models, online supervision, COVID-19, pedagogy of supervision

## INTRODUCTION

The twenty-first century comprises a knowledge economy dependent on high-level skills focused on the “reinvention” of goods and services or the production of “new” goods and services. Accordingly, higher education institutions face enormous pressure from government to increase the throughput of postgraduate students to contribute to the knowledge economy (Swartz et al. 2019, 567). Universities are thus seen as key to developing a nation. The South African government proposed a number of drivers to increase the number of postgraduate

students. One of these drivers is captured in the National Development Plan (NDP) (National Planning Commission 2011), where Chapter 9 in particular emphasises the importance of postgraduate studies. Specific targets were set for doctoral graduates to move from 1 500 to 5 000 per year. To increase postgraduate output, the quality of postgraduate supervision is critical. However, even under the most optimal conditions, effective postgraduate supervision remains a concern at universities globally (McCallin and Nayar 2012). Currently, the new constraints imposed by COVID-19, quarantines and social distancing, place an additional layer of complexity on postgraduate supervision. The question is whether postgraduate supervision approaches proposed by various authors are still appropriate and applicable in the context of the current COVID-19 pandemic, or whether reimaging existing approaches, would be better suited to the current research supervision context. This article adds to the pedagogy of supervision by extending its scope to the idea of involving greater connectedness, creating communities of practice, collaboration and more intense relationships, where the research supervision process considers the uptake of new technologies. Whilst recent published papers (Mhlahlo 2020; Grossman and Crowther 2015; Sefotho 2018; Muraraneza, Mtshali, and Mthembu 2016; Cekiso et al. 2019), focused on research supervision practices and models in general, not all research studies found movement away from the traditional form of supervision dyads. Gumbo (2020) in an article published in the South African Journal for Higher Education, purports that the vast burdens faced by supervisors could be lessened, if advantage is taken of online information management systems.

The core objective of this article is to examine purposely selected approaches to postgraduate supervision to determine which approach, if any, is most appropriate to online research supervision. It should be noted that the concepts, “approaches” and “models” will be used interchangeably. First, the national postgraduate policy context is outlined. Thereafter, theoretical notions of supervision and its implications for higher education are considered. This is followed by a presentation of approaches to postgraduate supervision. The specific roles and responsibilities of the research supervisor, the postgraduate student and the university, are explored also. A discussion to determine which approach is most appropriate during COVID-19 and for online research supervision specifically, concludes the article.

## **THE NATIONAL POSTGRADUATE CONTEXT**

Prior to discussing the theoretical notions of postgraduate supervision, as well as models or approaches to postgraduate supervision to establish which model or approach is most appropriate to higher education in the current COVID-19 context, it is important to explore the South African national postgraduate landscape in general, in which postgraduate supervision

functions. According to Essop (2020, 35), the academic staff are key to maintaining and enhancing quality in higher education. It thus was crucial for the South African government to accelerate policy imperatives in higher education, in particular in postgraduate studies, where the improvement of academic staff qualifications is also key. In the absence of highly skilled, competent and trained academic staff, with appropriate postgraduate qualifications, high postgraduate outputs will remain elusive.

The White Paper 3: A programme for higher education transformation (Department of Higher Education 1997) speaks to research in general, and not postgraduate output in particular. The White Paper (Department of Higher Education 1997) contends that for higher education institutions to maintain and strengthen their pre-eminent role in the national research system and contribute to reconstruction and development, they have to broaden their capacity for traditional or basic research, application-driven research, strategic research, and participation-based research, in partnership with stakeholders in the national research system. Strengthening the role of higher education institutions in the national research system is encouraged, and requires an upturn in and enhancement of research capacity and sourcing research funding.

The National Plan for Higher Education (Department of Education 2001) on the other hand, is more focused on the restructuring of higher education in South Africa in general, with a particular emphasis on redressing past inequalities of the legacy of apartheid. The Plan does not explicitly focus on postgraduate studies per se.

The NDP (National Planning Commission 2011, 278), makes specific reference to postgraduate outputs at universities. According to McKenna (2020) in a YouTube video posted on 9 August 2020, the NDP (National Planning Commission 2011, 278) recommended the following relating to postgraduate output. It called for an improvement of doctoral qualifications of South African higher education academic staff from 34 per cent recorded in 2011, to 75 per cent by 2030. Essop (2020) reported that by 2017, a slight improvement in academic staff with doctorates was noted, from 34 per cent in 2011 to 46 per cent in 2017. Of the aforementioned 46 per cent, 60 per cent of permanent academic staff with doctoral qualifications were employed at research-intensive institutions and 26 per cent at universities of technology. The National Planning Commission (2011) indicated that 100 doctoral graduates per one million of the population were required by 2030. This implies the production of more than 5 000 doctoral graduates per annum. It was envisaged that most of these doctorates should be in science, engineering, and technology. Furthermore, 25 per cent of university enrolments should be postgraduate students (National Planning Commission 2011). A controversial call at the time was that universities with an embedded research culture should be strengthened, as these institutions historically produced the most doctorates (McKenna 2020). Performance-

based grants were also introduced to develop centres or networks of excellence (National Planning Commission 2011).

The Academy of Science of South Africa (ASSAf 2010, 15) produced a comprehensive report on PhD training in South Africa. According to the report, “There is a broad consensus in the science community in South Africa, that not enough high-quality PhDs are being produced in relation to the developmental needs of the county”. One of the report’s recommendations was strengthening and elaborating the relationship between universities and industry, as well as science councils, so that large numbers of doctoral students are trained and supported through learning in practice while at the same time supplementing academic supervision on campus with those working in the field.

In light of the aforementioned, to facilitate the increase in postgraduate output (the production of master’s and doctoral qualifications) at universities in South Africa, it is imperative to investigate postgraduate supervision to determine which approach is most appropriate in the current COVID-19 era, where online supervision prevails, from necessity, but not necessarily by choice. However, theoretical notions of research supervision are first considered.

## **THEORETICAL NOTIONS OF RESEARCH SUPERVISION**

Postgraduate research is an integral part of higher education in South Africa, as alluded to earlier, but formal training in research supervision is seldom included in any standard teacher training curriculum, hence the development of research supervision courses, such as the one entitled “Strengthening Postgraduate Supervision” on offer at the Centre for Higher Education, Teaching and Research at Rhodes University. While some universities have capacity and well-established (even accredited) research supervision courses and programmes, which they are able to draw upon in an attempt to address the PhD and research supervision endeavour, many higher education institutions in South Africa draw on external consultancies as well as supervision programmes offered at fellow higher education institutions to fulfil this need (Maistry 2017, 124). Still, research supervisors usually depend on their own experiences of how they were supervised as postgraduate students and so every research supervisor builds his/her own model of supervision. Conventionally, research supervision has been “treated” like research. The assumption is that if a research supervisor can undertake research, he/she is able to supervise as well. “This view of research supervision which is focused on the content knowledge and research expertise of a supervisor ignores the pedagogical content knowledge of research” (Qureshi and Vazir 2016, 95). Fataar (2013, 113) concurs that “the focus has to shift to an explanation of the pedagogical engine of supervision, that is, the nature and

complexity of the pedagogical or knowledge transfer practices involved in supervision”. The author therefore re-imagined “the relationship between knowledgeability and relationality as key to supervision pedagogy” (Fataar 2013, 113). Furthermore, “a ‘pedagogy of supervision’ involves working with scholarly identity processes, based on an acute awareness of, and sensitivity to, the ontological dimension of doing research, involving being and becoming, alertness to the student’s conceptual capacities, learning styles and modes of intellectual processing” (Fataar 2013, 113). Gray’s (n.d.) notion that constructivist teaching which fosters critical thinking, and creates motivated and independent students, compliments Fataar’s (2013) “pedagogy of supervision”. Fataar (2013, 133) contends that the approach he forwards “has a chance of generating a perspective on how supervision can enable students to produce theses that make a knowledge contribution, thereby securing the university as a site for quality academic work”. The foregoing imbues constructivist philosophy of teaching and learning and helps create quality “theses” as tangible proof of the mutual efforts on the part of the research supervisor and postgraduate student (Qureshi and Vazir 2016, 98). The theoretical notions forwarded, have significant implications when considering approaches to postgraduate supervision, in the South African higher education landscape.

## **APPROACHES TO POSTGRADUATE SUPERVISION**

Bitzer and Albertyn (2011, 875) contend that “the multiple transformations in contemporary society and changes in the conceptualization of knowledge production have spurred the debate regarding the use of different approaches to postgraduate supervision”. Research supervisors therefore need to be aware of various approaches to supervision and the need for a systemised postgraduate supervisory process (Bitzer and Albertyn 2011, 876). Lee (2010) asserts that much of the literature pertaining to doctoral supervision in particular, is centred on describing the ever-lengthening list of functions or the systemised planning alluded to by Bitzer and Albertyn (2011). The author advocates for a different paradigm or conceptual approach towards supervision “which might make it easier for supervisors to look at the underlying themes of how they could approach different situations” (Lee 2010, 18).

In the context of the current COVID-19 pandemic, postgraduate supervision in general, and remote postgraduate supervision in particular, proves challenging. Online supervision is more difficult than in-person research supervision, for a number of reasons. For one, it is more difficult to read the moods and attitudes of people through a remote connection, and assumptions of what steps to take next in the research process become strained. Supervisors tend to be less compassionate, empathetic and understanding when there is separation through distance.

Opportunities like running into one's students in the corridors at university for a quick update or an exchange of ideas in a spontaneous manner are lost. Engaging with peers to bounce off ideas, is now no longer available (Nacenta 2020). How then, will prevailing supervision approaches or models be effective during this unprecedented COVID-19 sojourn? This article, as alluded to earlier, attempts to answer this question, and purposely selected approaches to or models of research supervision are elucidated to ascertain which tools and strategies linked to each model or approach are most applicable to remote research supervision.

Literature consulted uses the terms "approaches" and "models" interchangeably. To reiterate, this article applies the same principle, and uses the aforementioned concepts, in an interchangeable fashion. In the next section models or approaches to postgraduate supervision are explored.

### **Traditional approach**

According to Wood and Louw (2018, 284) postgraduate research supervision is most often distinguished as a one-on-one relationship between a proficient and a novice researcher. An instructional approach tends to govern, where the supervisor(s) prescribe(s) the content and process, with a narrow focus on the outcome of degree completion, rather than a more all-inclusive approach to the development of postgraduate candidates. The traditional model of supervision prepares the student for independent research (McCallin and Nayar 2012, 68). Manathunga (2005, 17–19), affirms this notion and states that supervision is often regarded as a "private pedagogical space" where the pedagogy is focused on a "transmissive approach to education". Here, as alluded to by Wood and Louw (2018, 284) earlier, the student is tapping into the superior knowledge and expertise of the supervisor. Usually, one or two research supervisors work with a student, meeting on a regular basis to discuss and record progress (McCallin and Nayar 2012, 68). Burnett (1999, 46) describes the traditional approach as the Apprentice–Master Model (AMM), where the supervisor adopts the role of "master" with the student considered the "apprentice". Lessing (2011, 923) adds that a large amount of time is spent guiding and mentoring the postgraduate student. This comprises assisting the student in activities ranging from selecting a research topic and research design, to attending to administrative functions and the like. While the whole process appears highly organised on the surface, closer analysis suggests that supervisors engage in mentoring, sponsoring, progressing and coaching (Pearson and Kayrooz 2004, 99). The quality of postgraduate research supervision, according to Kam (1997, 81), depends as much on the student's expectations of her or his own responsibilities in relation to those of the supervisor. The traditional model of supervision appears to be more suited to intelligent, self-directed postgraduate students who are

capable of becoming independent researchers with the least input from their supervisors (Manathunga and Goozee 2007, as cited in McCallin and Nayar 2012, 68). While there is criticism of the traditional approach to supervision, the value of the interpersonal aspect should not be overlooked. A range of scholars has noted the central role of the supervisor as a critical mediator and mentor representing the broader scholarly community and embodying its conventions (Bitzer and Albertyn 2011, 879). The aforementioned authors contend that research supervisors may cling to the traditional way of research supervision because they may lack knowledge of and exposure to alternative approaches to supervision.

### **Group approaches to supervision**

The isolation of the traditional approach to supervision could be mitigated by using group supervision (Wisker, Robinson, and Shacham 2007). Group supervision constitutes research supervision in which a relationship exists between supervisor and student, and between student and student. Informal peer support from postgraduate students complements the formal supervision process (McCallin and Nayar 2012, 68). Burnett (1999, 46) contends that the reason for many postgraduate students failing to complete their degrees can be attributed to, among others, personality and motivational factors, feelings of isolation, family demands, and financial constraints. While some of these factors are beyond the control of the university, provision of support may be one way to enhance completion rates. The group approach to supervision, such as the Collaborative Cohort Model, is proposed as an innovative way to assist postgraduate students (Burnett 1999, 46). According to Valentino, LeBlanc, and Sellers (2016, 320),

“there are a number of unique characteristics associated with learning experiences that occur in a group setting. These characteristics offer certain benefits that cannot be obtained through individual supervision alone. These characteristics and associated benefits include peer feedback, social networking, having multiple listeners for the same event, observational learning, developing empathy, modeling and rehearsing positive and productive discussion, practicing public speaking and presenting, and developing professional *repertoires*.”

Burnett (1999, 48) reports on a pilot study conducted at an Australian university using the Collaborative Cohort Model for supervision. The author expounds on the role of the student in the cohort being required to attend cohort meetings, whether in person, via teleconferencing or by written submission of progress reports. During these sessions, students had the opportunity to discuss their dissertations and all related issues. In these settings, advanced students were able to assist newcomers with insights into the dissertation process. A “buddy system” was introduced. The faculty also played a specific role and was required to organise and structure meetings; act as facilitator working from a set agenda; produce two or three cohort newsletters

per academic year; establish communication instruments; teach editing and constructive feedback skills; and structure links between students, “buddies” and reviewers.

The following advantages and disadvantages of the Collaborative Cohort Model were recorded (Burnett 1999, 49). See also Imel (2002).

### **Advantages**

- Some students felt less isolated. The model gave them the opportunity to meet or communicate with peers within a collaborative framework to discuss common concerns and issues.
- The model offered an encouraging structure and students were more likely to complete owing to support provided by a faculty member and peers.
- The scope of the students’ knowledge was expanded as each student had to read the research of at least four other students.
- Students expanded their knowledge on research methods and design.
- Writing, editing and critical feedback skills were developed.
- Workloads, in some instances, decreased for some research supervisors.
- The quality of the students’ research proposals and dissertations improved.

### **Disadvantages**

- As one faculty member was assigned to coordinate this model, the workload of other faculty members increased.
- The potential existed for conflict between faculty members, especially in the instance where the coordinating faculty member gave opposing advice to that of the research supervisor.

The above advantages of a cohort model of supervision, or group supervision, are supported by Lovitts (2008, 296) who asserts that interacting with peers assist students in producing higher quality dissertations. Warhurst (2006, 111) notes, “learning through interaction (participatory learning) is valued and facilitated through the group processes, as it involves participation in authentic practice. Meaning that underpins practice is constructed through discussion and shared language within the practice community – this is a social interaction process.” While group supervision is an effective way to enhance the throughput rate of postgraduate students, the role of the research supervisor should be paramount. One is cautioned not to employ group processes exclusively, as the research supervisor still has a central role to play.



## Online supervision

Traditionally postgraduate students studied on campus, and apart from conducting fieldwork, were in close proximity to research supervisors throughout their postgraduate journey (Kumar, Kumar, and Taylor 2020, 4). In recent years, there has been a sizeable growth in the number of postgraduate students engaging in most of their studies off campus. This development was facilitated by a proliferation of information and communications and technology (ICT) tools, which enable students to communicate with supervisors and others (Maor, Ensor, and Fraser 2016). According to Loureiro et al. (2010, 154), online research supervision is understood as a virtual or a blended-learning engagement, characterised by the postgraduate student and the research supervisor working at a distance. The key benefits of online supervision reported by Kumar et al. (2020, 5) are:

- It facilitates access to doctoral education which may have been out of reach for a range of students. In this way, students will remain in their families, communities and jobs.
- It allows for under-presented or minority groups to enter the fray of postgraduate education.
- It enables highly qualified academics to supervise a cohort of students from anywhere in the world provided that the relevant technical infrastructure is in place.

In a study exploring and highlighting the problems faced by research supervisors while supervising theses in a distance or online setting conducted at the Virtual University of Pakistan, the following issues were recorded. Time constraints, official restrictions, irregular contact, and issues with technology. Further issues such as student-supervisor interaction, diversity, perceptions, virtual communities, and academic collaboration were noted in the case study of academics as well (Zaheer and Munir 2020). Kumar et al. (2020, 6) expanded on supervision challenges from the perspectives of the research supervisor and postgraduate candidate. They contend that online supervision varies considerably, depending upon the contexts and individuals involved in the process. Mainly, problems constitute:

- Connecting – navigating different time zones and the technologies needed to communicate and collaborate from a distance.
- Communicating – in an online environment, the focus on the research and the dissertation can be hindered by the need for both supervisor and student to learn how to use

technologies appropriately, communicate effectively online, manage the online environment, and contribute to the creation of a comfortable atmosphere.

- Building a relationship – embarking on a supervisory relationship in the virtual space necessitates the building of trust and personal connection that is difficult to establish in the absence of non-verbal cues and informal interactions. Social and cultural differences may influence the way in which communication takes place as well.
- Understanding expectations – supervisors who are tasked with communicating information and knowledge on, for example, academic processes, ethics, intellectual property rights, accepted academic practices, research processes and writing, as well as supervision at a distance, may find all these endeavours overwhelming.
- Undertaking the research project – postgraduate students may not possess the necessary experience, knowledge and skills needed for research.
- Supervisors are tasked with providing support at a distance, and this proves challenging in the absence of peer modelling and support, and the on-campus environment.
- Producing writing – postgraduate students may have less experience in writing long pieces of academic work. In the absence of face-to-face support and accessing writing groups in a physical space, this undertaking proves more challenging. It is even more challenging for the supervisor to provide guidance and assistance in an online space only.
- Giving feedback – research supervisors may find it challenging to provide feedback in a written form only, unaccompanied by verbal feedback, in an online context. The absence of verbal or non-verbal response cues of postgraduate candidates' confirming their understanding of feedback is crucial, and absent in an online environment.
- Isolation – postgraduate students in an online environment are not surrounded by peers, professors, and research activities, and lack opportunities for sharing, collaborating and interacting with peers and experts. On the part of research supervisors, the absence of formal and informal engagement with peers on postgraduate candidates, policies and so on, can engender a sense of isolation.

Clearly, research supervision models are changing. According to Loureiro et al. (2010, 153), “supervision focused on the individual, centred on private top-down relationships between the supervisor and the student and on dialogical communication contexts, which are increasingly being criticized, can be considered obsolete”. Kumar et al. (2020) in the above discussion on the challenges of online supervision, demonstrate that supervision, be it face-to-face or in an online context, still proves challenging. Wisker et al. (2007) contend that the collegial research supervision process must involve research students, guardian supervisors and the constitution


of online communities in order to enrich and enhance the research supervision process and to provide opportunities to develop collaborative work. It would appear that Wisker et al. (2007) advocate integration or a combination of in-person supervision and online supervision. Guidance and structure are required to coordinate research supervision activities in general. Accordingly, Kumar et al. (2020, 10–27) provide a guide to online supervision specifically focused on how to connect, how to communicate, how to build a relationship, how to understand expectations, how to design and implement the research project, how to produce writing, how to provide feedback, and lastly, on how to address isolation.

### A framework for approaches to research supervision

Lee (2010, 19) argues that supervisors familiar with the strengths and weaknesses of various approaches to research supervision, as discussed above, will be able to combine aspects of different approaches successfully. Supervisors may automatically blend supervision models or approaches, as the need arises. However, it was felt that a framework underpinned by a particular knowledge base would better facilitate this process. Accordingly, Lee (2010, 19) devised such a framework. The framework is integrative in that it includes organisational, sociological, philosophical, psychological and emotional dimensions. Lee (2010, 19) emphasises the importance of engaging with a conceptual approach to supervision, which comprises five concepts: “functional duties”, “enculturation”, “critical thinking”, “emancipation”, and “relationship development”. Hutchings (2017, 538) contends that while the framework devised by Lee (2010, 19) is focused on the individual supervisor–supervisee relationship in particular, it can act as a valuable benchmark against which to compare what happens in group supervision as well.

Lee’s (2010, 19) framework is shown below in Table 1, underpinned by a wide range of relevant literature.

**Table 1:** A framework for approaches to research supervision

					
	Professional				Personal
	<b>Functional</b>	<b>Enculturation</b>	<b>Critical Thinking</b>	<b>Emancipation</b>	<b>Relationship Development</b>
Supervisor’s activity	Rational progression through tasks	Gatekeeping	Evaluation, challenge	Mentoring, supporting constructivism	Supervising by experience, developing a relationship/team
Supervisor’s knowledge and skills	Directing, project management, negotiation	Diagnosis of deficiencies, coaching	Argument analysis	Facilitation, reflection	Integrity, managing conflict, emotional intelligence
Possible student reaction	Obedience, organised negotiation	Role modelling, apprenticeship	Constant inquiry, fight or flight	Personal growth, reframing	A good team member, emotional intelligence

Lee's (2010, 10) conceptual approach to supervision might make it easier for supervisors to examine the underlying themes of how they could approach different situations in the supervision process, as mentioned earlier. This framework incorporates different modes of supervision in addition to pedagogy (McCallin and Nayar 2012, 67). Furthermore, in engaging with this framework, Hutchings (2017, 540) asserts that "effective facilitation of 'relationship development', appears a fundamental prerequisite for stimulating critical thinking and effective emancipation, whether the context is a direct supervisee-supervisor relationship or group supervision". McCallin and Nayar (2012, 67) echo this sentiment, contending that the framework integrates research project management with enculturation into the disciplinary community, critical thinking development, emancipation, and quality relationship development. Multiple demands of research supervision are thus addressed. The framework proposed still places the relationship between the supervisor(s) and the student at the centre of the student's learning experience.

## **THE POSTGRADUATE EDUCATION ENVIRONMENT**

Postgraduate research is located within a specific education environment, where the research supervisor, the postgraduate student and the university have very specific roles to play. While each proposed model, approach or framework was more focused on the role of the research supervisor, the duties and responsibilities of the postgraduate student and the university should not be underplayed. The next section discusses the role of the research supervisor during the supervision process, followed by the role of the postgraduate student and university.

### **The role of the research supervisor**

According to Grant, Hackney, and Edgar (2014, 44), supervision practices are not straightforwardly prescribed by institutional policies. They consider research supervision to be malleable and determined by continuity and change. Todd, Smith and Bannister (2006), cited in Grant, Hackney, and Edgar (2014, 44) acknowledge that "how supervisors will interpret the traditions of the academy and the notions of how to do 'good' disciplinary-based research is based on academic disciplinary traditions, customs, and practices based on their own ontological, political, epistemological and ideological background". A good research supervisor is an individual likely to cultivate and nurture a positive relationship with his or her student(s) and is able to sustain such relationships. This individual does not only know what his/her roles are as a research supervisor, but is also someone who has the wisdom to discern how and when to take on which role (Masembe and Nakabugo 2004, 4; Mouton 2001, 7). There are a number of core functions that characterise the nature of research supervision to which we

now turn our attention.

Mouton (2001, 17) contends that the word “supervise”, literally means to “oversee”. He assigns at least four different responsibilities or roles to the supervisor. The supervisor:

- advises the student in the management of the postgraduate project (advisor);
- guides the student through the research process (guidance);
- ensures that the required scientific quality is achieved so that the student has the necessary opportunities to pass (quality control);
- provides the required emotional and psychological support when needed (“pastoral” role).

Symonds (2009) postulates that research supervisor roles are either administrative or academic. Manathunga (2005) alludes to change in focus from administrative functions to postmodern understandings of supervision related to interactional processes. Still, the supervisor may act concurrently in many roles, from being a coach, teacher, friend, colleague, good role model, trainer, and guide (Robertson 2009). Furthermore, a good research supervisor requires leadership skills in particular, as well as technical, human and conceptual skills to ensure that the postgraduate candidate produces the best possible outcome (Northouse 2010).

### **The role of the postgraduate student**

It is important to note that postgraduate students have certain responsibilities and duties in the research journey as well. According to Mouton (2001, 21), the research supervisor can realistically expect the following from the postgraduate student:

- The postgraduate student should at all times adhere to the “research contract” or memorandum of understanding established between him/herself and the research supervisor. The postgraduate student, as far as practically possible, must adhere to key agreements such as the research framework to be followed.
- Postgraduate students are required to initiate contact and request meetings with the research supervisor. Initial meetings may be focused on the achievement of particular milestones in the research process.
- The postgraduate student is required to familiarise him/herself with all institutional and formal requirements and rules relevant to his or her studies. For example, issues on ethical matters, matters of intellectual property rights, format and style of the thesis, and so on.
- The postgraduate candidate is expected to maintain acceptable levels of interest and

commitment to his/her studies throughout their degree.

Lessing and Schulze (2002, 140) corroborate Mouton's (2001, 21) views, affirming that postgraduate students should have the ability to select a research topic, understand and apply appropriate research techniques, and present their findings in an accurate fashion. During their postgraduate sojourn, students should acquire specific technical competencies. Furthermore, postgraduate students should take responsibility for their studies. Mouton (2001, 21) concurs with Phillips and Pugh (2000, 1) who contend that postgraduate students are responsible to determine what is required for their research and to carry it out. At doctoral level, the expectation is that discussions between a postgraduate student and the research supervisor should be initiated by the student. Students are expected to ask for assistance when required, and they should forward arguments with regard to what they should be learning.

### **The role of the university**

The inaccessibility of information and services provided by departments, faculties or universities contributes to low quality postgraduate studies. The core responsibility of higher education institutions is to ensure that facilities and information provided are of the highest quality (Abiddin, Ismail, and Ismail 2011, 207). The University of Waterloo (2011, 3) in Canada, as cited by Hendrickse (2015, 11) perceives the department and faculty's role as the nucleus of any postgraduate research programme. The university insists that each department, school and faculty has written details on the role, composition and duties of the research supervisor and the research advisory committee. Departments and postgraduate officers in particular are expected to provide adequate information to all postgraduate students on all aspects of programme admission requirements, funding, procedures and deadlines. It is expected that orientation sessions be held where postgraduate students are informed of key policies related to intellectual property and integrity in research, and other matters of importance. Postgraduate students should also be informed in various ways, of a range of services available to them, in particular those dealing with sexual harassment, discrimination, and the like. Departments and postgraduate officers are further mandated to evaluate the performance of supervisors of doctoral candidates every five years, to ensure that policies, procedures and regulations in respect of postgraduate programmes are accessible and adhered to. They must further ensure that departmental regulations for the selection of research supervisors are consistent with university requirements, and communicate these regulations to potential research supervisors and postgraduate students.

In addition to the aforementioned, it is important for universities to consider, how

information management systems, could be made available in order for the supervisor and postgraduate student to work more collaboratively. Globally, according to Maor and Currie (2017, 3) “a wide variety of technologies are now being used in supervision: Skype, Elluminate, Wimba, Second Life, telephone, MSN messenger, Wikis, Microblogging, Social Bookmarking, email, ePortfolio, Microsoft Office Share-Point for collaborative writing and WebCT. There are also technology changes that are rapidly affecting research techniques, including predictive analytics, software and data management tools such as: Nvivo, CAQDAS, QDA Miner and MAXQDA.” Availing online technology propagates a movement away from a less traditional to a more participatory pedagogy, where the skills postgraduate students would require in the 21<sup>st</sup> century, are augmented (Cumming 2010, 36).

The above discussions confirm that the postgraduate research journey is a complex undertaking. The models/approaches/frameworks pertaining to research supervision all attest to the need for synergy and coordination between various role players to endorse quality, accountability and sustainability. The roles and responsibilities of the research supervisor, postgraduate student, and university are imperative as well. To avoid a haphazard approach, with a particular focus on distance/online supervision, it is important to reflect on the merits of each approach to discern if one approach or an alternative approach to research supervision is more desirable.

## **DISCUSSION**

Amid the COVID-19 pandemic, higher education institutions globally are re-examining how they teach, research and provide services to students, alumni and staff. What is imperative for South African higher education institutions, in the context of research supervision, is to learn from various research supervision approaches to ascertain whether adopting an alternative mode of supervision is appropriate in the current situation, where online engagement prevails. It is noted that the approaches or models discussed in this article centre on the roles and responsibilities of the research supervisor. The core focus of the traditional model of research supervision is on the supervisor as “master” and the postgraduate student as “servant”. A transfer of knowledge occurs mostly in a face-to-face setting from supervisor to student. The group model of supervision is premised around a cohort of students and a supervisor or supervisors. Here peer learning takes place, be it in a face-to-face setting or via an online platform. The supervisor remains key in this supervision model and is the knowledge expert in the field of study. Online supervision occurred as a result of the proliferation of various information management systems and tools, and the need for citizens globally to access education from anywhere in the world. This facilitated distance education in general.

Engagement in this context occurs among geographically dispersed students and supervisors online. Lee's (2010) conceptual approach to supervision on the other hand, encompasses different modes of supervision in addition to pedagogy. This approach is premised on face-to-face engagement and online interaction.

When we look at the very specific roles the postgraduate student, the research supervisor and the university play in the supervision process, how do we discern which supervision approach is most suitable for the COVID-19 context where remote engagement reigns? Nacenta (2020) purports that it is useful for the postgraduate student and research supervisor to concede that working remotely requires additional "meta-work" to work efficiently. It takes time and work to establish how to work in unison more effectively. This can take the form of extra thinking about how best to schedule meetings, fathom support structures, or even spend some time learning and navigating new tools and technology. What Nacenta alludes to is taking the tenets of the traditional model of postgraduate supervision and imposing them onto a virtual setting. Group supervision can also be underpinned by various information management tools. Suggestions of Kumar et al. (2020, 6) on how to steer online supervision, also prove useful in the COVID-19 context, despite the authors' disclaimer that the guide is not intended for use in the COVID-19 situation of social distancing. Lee's (2010) conceptual framework for supervision contains valuable propositions, relevant to an online context. It would appear that no one of the approaches or models proposed in this article could be recommended solely for online supervision.

The prospect of forwarding an alternative perspective of research supervision informed by constructivist philosophy of teaching and learning proved daunting. Interpretivism, as an epistemological stance, allowed the researcher a softer and more subjective way in which to interpret literature explored. It is my view that each supervisor should establish which components of a supervision model are most appropriate, taking into consideration personal context, where access to technological tools may be inadequate, for example. It is imperative for research supervisors to reflect on their roles and duties in the supervision process. Once roles and duties are clearly identified, it is suggested that an assessment of various supervision models be made to determine which of the assigned roles and duties are best underpinned by any particular aspect of a range of supervision models, and in turn, by technology and the various forms of technological tools. The socio-economic conditions of postgraduate candidates should also be considered. Taking cognisance of their access to various forms of technological tools, one needs to question which component(s) of selected supervision models is best suited, so that students can assume the roles and responsibilities assigned to them in the supervision process.



Universities should revisit their policies to ensure that traditional ways of supervision which may have been inculcated and enforced in the supervision process in the past, are reconsidered to incorporate issues pertaining to remote supervision. Each supervision model or approach should be considered carefully and must be underpinned by effective technology. In this setting, institutional support is key. Postgraduate students should also be assisted in acquiring data or laptops to facilitate their continued learning.

What should be added to the above discussion is a focus on “how” knowledge is acquired by a postgraduate student, as the focus of the models forwarded centred (except for Lee’s (2010) framework which engaged with pedagogy) mainly around how knowledge is transferred from the research supervisor to the postgraduate student. In this context, the researcher suggests Fataar’s (2013) “pedagogy of supervision” as an additional lens through which research supervision in general and online supervision in particular, could be considered.

Irrespective of the supervision model applied, and the technology supplied to support such, the researcher suggests the inculcation of Fataar’s (2013) “3 moments” in the supervision sojourn. They are:

- *Moment 1:* Students are inaugurated into their work through socialising and individualising, where emotional and intellectual capital is generated. Here, students move from a normative or practical approach, to an analytical orientation, which informs the study’s knowledge contribution.
- *Moment 2:* Supervision as knowledgeability engagement refers to students’ scholarly or know-how acquisition. The supervisor’s authoritative mediation of personal approaches to the research thesis, is central to students’ intellectual capacity acquisition.
- *Moment 3:* Heightened supervisory engagement is necessary for getting students to recognise what the knowledgeability requirements are that would enable them to work through difficult issues. Awareness of students’ subjective orientations, on the part of the supervisor would allow for clues for robust interactive supervision that would get students to engage more effectively with the task at hand.

## CONCLUSION

Sustained pressure on academics globally to graduate more and more postgraduate students impacts quality, efficiency, and the sustainability of the postgraduate process and product. This article presented an overview of selected research supervision approaches with a view to suggesting an alternative approach suited to the COVID-19 context. However, instead of

prescribing one approach of research supervision over another, the researcher suggests that the explored research supervision approaches be extended to include Fataar's (2013) "pedagogy of supervision". Remote supervision is more difficult than in-person supervision, as alluded to earlier. Central to any supervision model or approach is human engagement. When we are separated by distance, it is very difficult for a research supervisor to remain empathetic and understanding, and even more difficult for the postgraduate student to remain committed, motivated and optimistic about his or her studies. Unfortunately, there is no one-size-fits-all supervision approach for the current global pandemic context, where social distancing may remain for some time to come. Whatever research supervision approach the research supervisor adopts should be supported by appropriate technology and financial support from the university specifically, and the state in general. Whilst the transfer of knowledge from the research supervisor to the postgraduate student remains crucial, it is imperative to be cognisant of how knowledge is acquired by the student, especially in the COVID-19 context.

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