

# Innovations

## The Roles of Quality Supervision in the Attainment of Doctorateness

**Lovlyn Ekeowa Kelvin-Iloafu**

Department of Management, Faculty of Business Administration, University of Nigeria, Enugu Campus, Nsukka, Nigeria

**Wilfred I. Ukpere**

Department of Industrial Psychology and People Management, School of Management, College of Business and Economics, University of Johannesburg

---

---

**Abstract:** *This study considers the fact that, across the globe, and especially in Africa, the number of candidates enrolling for PhDs have increased, which means that there should be a corresponding boost in the number of quality supervisors to match this increment for doctoral candidates to achieve doctorateness. The study organizes supervisor tasks and responsibilities, according to the maturity of the followers (PhD candidates), using Hersey and Blanchard's situational leadership paradigm. Thirty experienced doctoral supervisors at the University of Nigeria, Nsukka, were interviewed to elicit their responses regarding the duties and obligations of supervisors and postgraduate candidates, and what they understood by doctorateness. Based on the results and the reviewed scholarships, the study recommended that the supervisory styles of telling, selling, participation, and delegation must be followed sequentially. The study concluded that 'the how is important; it is the how that determines the what', because quality supervision is an antidote to achieved doctorateness.*

**Keywords:** *Quality Supervision, Doctorateness, Supervisory Roles and Responsibilities, Doctoral Candidates and PhD*

---

---

### Introduction

Presently, many supervisors deem that the PhD is primarily the responsibility of the doctoral student, while the supervisor plays a minor role (to accept the student, to read the thesis, and to arrange the exam). There has not been a clear understanding of the crucial part of the supervisor to enhance doctoral student success, ensuring quality, helping the doctoral student to achieve doctorateness, and shortening time-to-degree, (ASSAF, 2010). Information about what and how supervisors perceive what they do is understood to be vital because it can enhance the supervision

experience and relationship between the two parties (Bastalich, 2017). Rendering the PhD journey a quality experience is not simply a matter of increased regulation, but instead must focus on the relationship between student and supervisory team. This is the key component of success.

This study considers the fact that across the world, and especially in Africa, the number of candidates enrolling for PhDs has increased, which means that there should be a corresponding boost in the number of quality supervisors to match this increment to achieve doctorateness. According to Trafford and Lesham (2009), doctorateness is the feature of a final research product, which may be expressed in a doctoral thesis or in a collection of publishable or published articles. Grant (2003, p.180) in Bastalich (2017, p.1152) contends that the supervisor is “not only to teach the student skills, but to teach the student how to be someone – a researcher, a scholar, and an academic”. Badley (2009) opines that the primary role and responsibility of supervisors includes guiding candidates on the selection, coherence, and quality of the published study that should be submitted, writing their critical appraisal (where one is required), and preparing for the oral examination, the viva (Powell, 2004).

To achieve doctorateness through quality supervision, PhD supervisors have crucial roles to play. Under the guidance of a subject matter expert, the principal goal of a doctoral program is for students to conduct original research that advances knowledge in a field of study of their choice (Cross & Backhouse, 2014, p. 157; Trafford & Lesham, 2009; Wellington, 2013).

This study reviews relevant literature that covers the duties and obligations of supervisors for doctorates, whilst x-raying the roles and responsibilities of doctoral supervisors in helping PhD candidates achieve doctorateness by using Hersey and Blanchard’s (1969) situational leadership framework.

### **Literature review**

Scholars have conducted studies on the roles and responsibilities of supervisors (Vilkinas, 2002; Franke & Aavidsson, 2010; Lee, 2008, 2013, 2018; Lee & Murray, 2015; Katz, 2016). Vilkinas (2002) avers that, similar to corporate managers, supervisors must be able to manage doctoral candidates much like a business manager manages his/her business, using the modified Competing Values Framework (CVF), which is a managerial framework developed by Robbert Quinn to explain the various administrative roles needed for an individual to be productive in a complicated business environment (Quinn, Faerman, Thompson & McGrath, 1996). Vilkinas and Cartan (2001) in Vilkinas (2002) added a ninth process role ‘integrator’ to the previous eight roles (innovator, broker, producer, director, coordinator, monitor,

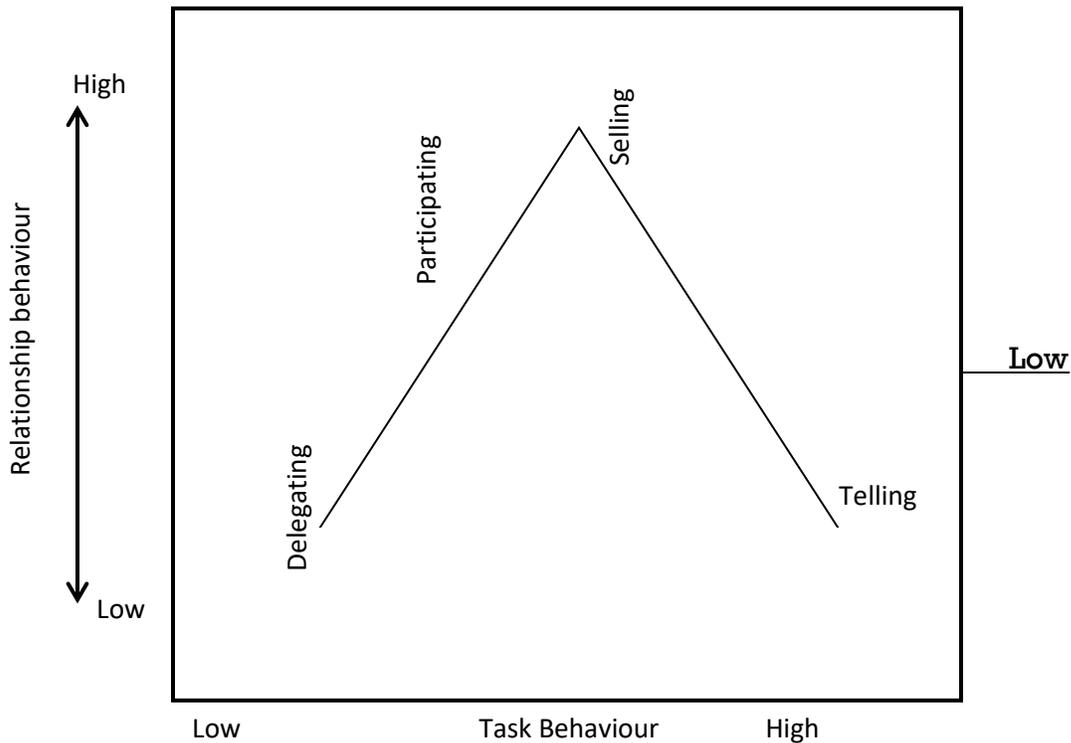
facilitator, and mentor) to aid in choosing the proper CVF role for the company manager and the supervisor.

Franke and Aavidsson (2010) examined various ways in which research supervisors experienced supervising doctoral students and the implications of this relationship - or lack thereof - with the supervisor's research for supervision and the supervisor's role. The study's findings presented two models of supervision, namely research relation-oriented supervision and research practice-oriented supervision.

Furthermore, Lee (2008, 2013, 2018; Lee & Murray, 2015) argues that primary useful supervisory frameworks that have been identified include: a functional approach; becoming more culturally aware; exercising critical judgment; becoming independent; and building strong bonds. However, a study conducted by Katz (2016), similar to the one of Vilkinas (2002), showed that the process of acquiring a research project was compared with project management skills, because project management has a definite starting and endpoint, as well as an objective, much like a doctoral research project. Katz (2016) states that basic research project management skills should be taught to doctorate candidates to equip them with tools to manage their research studies better. The current study will expand on all these scholarships by systematically applying the roles and responsibilities of supervisors, using Hersey and Blanchard's (1969) framework.

### **Primary roles and responsibilities of quality supervision using Hersey and Blanchard's (1969) framework**

There is no one ideal leadership style, according to the Hersey-Blanchard situational leadership model, while effective leaders modify their approaches depending on "follower maturity" (Hersey & Blanchard, 1969). The model promotes flexible leaders; in this context, supervisors, who are capable of adapting their approach to the skills and expertise of those that they lead, namely doctoral candidates. Four different leadership philosophies emerge from this relationship, which are telling, selling, participating, and delegating.



**Figure 1: Hersey-Blanchard(1969) Situational Leadership Styles**

**Telling:** When the subordinate (PhD candidate) lacks the necessary skills or willingness to engage with the assignment, the supervisor must function as the leader and deliver instructions. This is when the telling leadership style is used. Here, the supervisor exhibits directive behavior, which entails low interpersonal behavior and high task behavior. Supervisory roles include participating in selection of the candidate, guiding them to sign the MoU, and applying reading methods.

**a. Selection:** Students, as well as their supervisors should participate in the selection process. Bitzer (2016) **posits** that a prerequisite for high-quality supervision is the thorough screening and selection of PhD candidates. As a result, the supervisor’s expertise must be aligned with the doctoral candidate’s expectations.

**b. Memorandum of Understanding (MoU):** The current study recommends using an MoU, which is a written statement that describes supervisors’ responsibilities and functions with the doctoral candidate, including how they plan to work together. An MoU between a student/s and the supervisor/s is particularly useful to clarify all related matters from the start, but it is also important to revisit the document regularly and possibly revise it during the doctoral process. It is imperative to contextualise the MoU to a particular university because every

institution has different norms and procedures that relate to doctoral studies and processes.

**c. Reading:** It is essential for supervisors to support a doctoral student to locate her/his work in a field of study. Supervisors are experts in their fields, so guidance from them is critical for a student, which is why supervisors need to expose the students to using a reading map. A reading map helps students to identify different positions in a field of inquiry literally by getting students to map their readings (Lotz-Sisitka & Wilmot, 2015). Students can also use a piece of free writing or a reading journal for this purpose.

**Selling:** Students with a moderate level of maturity who are highly motivated but still not skilled enough should consider employing selling leadership styles. Students in this situation need guidance as well as assistance, marked by high task and high relationship behaviour. In other words, the supervisor should apply flexibility, relationship, and integration roles at this stage.

**a. Relationship:** The knowledge, experience, and disciplinary specialization of supervisors and students differ when they first start interacting with each other (Tuner, 2015). To establish a positive and fruitful relationship that facilitates ethical consideration and emotional intelligence, they must imagine one another's perspectives, known as *compassionate imagining* (Grant & McKinley, 2011; Nussbaum, 1998; Waghid, 2006; & Vilakazi, 2016). Li and Seale (2007) claim that it takes a team effort to manage criticism well between supervisor and student, which eventually culminates in the emergence and maintenance of a friendly, mutually beneficial partnership. The supervisory relationship can either "make or break" the doctoral candidature (Katz, 2016, p. 107), since an unhealthy relationship with one's PhD advisor will, regardless of any or all other factors that might support it, sabotage a decent PhD project (Jones, 2013, in Katz, 2016, p. 107). Furthermore, Frick, Albertyn and Rutgers (2010, pp. 77-102) postulate that student empowerment or independence should be possible in a supervisory relationship. Safe relationships foster open problem-solving, creativity, and learning, since the same words can be interpreted as help or punishment, depending on how the relationship is experienced. A doctoral student's emotional stability and self-confidence may be seriously impacted by the frequent stretching and challenging of their perceptions and intellectual responses to novel experiences that accompany the program (Savage, 2013).

**b. Flexibility:** The current study advises the use of flexibility in the operation, considering Gatfield's (2005) framework of "support" and "structure"; hence, four supervisory management styles were proposed: pastoral - low structure and high support; *laissez-fair* - flat structure and low support; contractual - high structure and high support; and directional - high structure and moderate support. Gatfield (2005,

p. 324) advances that adopting a single favored supervising style could be problematic, as it might not be in line with the needs of the project or the applicant during the study period.

**c. *Integration:*** Introducing the doctoral candidate to a research/academic community (Keefer, 2015; Samuel & Vithal, 2011) is a crucial supervisory role to help the student achieve doctorateness (McKenna, 2017). This is so because a scholarly environment is the key to success. When students are introduced and belong to an academic setting, their work is made more comfortable because they can share ideas (and gain new perspectives); support one another; decrease the inevitable sense of loneliness and isolation; build strong communication skills; share challenges, experiences, and progress; and, above all, it helps them to cross the research or conceptual threshold and the period of liminality (Kiley, 2014; Keffer, 2015).

***Participating:*** Doctorate candidates who are moderately to highly mature and capable, but not motivated to conduct research, are good candidates for the participative leadership style. Hence, they need strong external motivation. For this participating style, a high relationship and low task behaviour would fit best. In this case, the supervisor will guide the student in terms of academic writing skills and becoming independent, whilst providing prompt feedback, and developing a quality relationship with the candidate.

**a. *Writing:*** Supervisors should encourage doctoral candidates to use generative writing strategies (free emails, free writing, free reading, and free research journals) as a learning tool, exploring ideas and arguments. It is essential to write because documentation helps to clarify what has been agreed upon (Kiley, 2009). Supervisors should insist that students write throughout their doctoral journey, because learning happens when we write, using three stages in the writing process, namely general writing, drafting, and editing.

**b. *Feedback:*** Constructive feedback by supervisors will help students take their thinking and writing further. "Inappropriate feedback, especially when delivered inappropriately, can cause humiliation and anger" (Aitchison, Catterall, Ross & Burgin, 2012, p. 442). Regular meetings and feedback on written work provide for a higher probability of a degree being completed and a student feeling satisfied with his/her supervision; this is why it is important to give the doctoral candidate written feedback after each submission or consultation. Hyatt (2005) and Kumar and Stracke (2007) argue that this practice plays a significant pedagogical role, performing more than mere evaluation of the candidate's work, as it also facilitates learning.

**c. *Independent:*** It is the supervisor's responsibility to assist the doctoral candidate to become an independent researcher by asking reasonable and leading questions to activate the student's mind to think both critically and creatively. Building

a powerful researcher identity is the basis for good and quality supervision (ASSAF, 2010; Cleote, Mouton & Sheppard, 2018; EUA, 2017) because good supervisors are active researchers, whilst they possess organizational, interpersonal, and research-related skills (Beasley, 1999, in Vilkinas, 2002, p. 130). Hence, supervisors must be resourceful, creative problem solvers, innovative, focused on their task, technically proficient, decisive, and trustworthy.

**Delegating:** When students are matured they depend less on leadership support, as they have the capacity and willingness to work independently. In this case, a low-relationship, low-task leadership style would be most appropriate. Delegating involves the last stage, when supervisors' roles include mentoring the candidate, guiding him/her through facets of the responsible conduct of research, meeting timeframes until degree completion, helping candidates prepare for examinations, and providing them with support.

**a. Mentoring:** Supervisors should encourage their doctoral students to use computer software programs to check their document's spelling and grammar. According to Teitelbaum (1989), in Titus and Ballou (2014), research mentors are essential role models to assist students to develop research standards; therefore, ethical research conduct is a mentoring issue rather than a lecture course (National Academy of Science, 2009, in Titus and Ballou, 2014, p.233). Mentoring is one of the roles that Vilkinas (2002) mentions of the nine CVC roles of supervision; the author perceives a mentor to be someone that helps to develop students, whilst demonstrating empathy when listening to them and showing each student compassion.

**b. Responsible Conduct of Research (RCR):** Supervisors have an essential responsibility to guide doctoral students towards responsible conduct of research (Edwards & Roy, 2017; Titus & Ballou, 2014). RCR is defined as avoiding fabrication, falsification, or plagiarism in research proposals, studies, reviews, or findings reports (Titus & Ballou, 2014). To avoid the grave consequences of research misconduct, doctoral supervisors should introduce students to the Singapore Statement on Research Integrity (2010), which entails official policies, guidance, and regulations relating to research integrity. Titus and Ballou (2014, p. 233) suggest that "more attention and action was needed to ensure that all PhD students receive adequate research mentoring so that our future scientists know how to behave ethically". Breet, Botha, Horn and Swartz (2018) opine that postgraduate programmes needed to include training on authorship guidelines and the practical application of those guidelines.

**c. Time to degree:** There is a strong correlation between degree completion and supervisor satisfaction. Supervisors should ensure that doctoral candidates complete their doctoral theses within the allotted time (Cross and Backhouse, 2014), so that they do not incur excessive costs. It is, therefore, imperative that they work to achieve timely completion of their degrees by returning their drafts on time.

**d. Support:** Supervisors have an obligation to mentor and assist doctorate candidates throughout the degree journey, guiding students not to publish articles in a predatory journal (Ando, 2016; Mouton & Valentine, 2017), and to attend conferences. The supervisor can co-author a paper with a doctoral candidate (Oberlander & Spencer, 2010; Breetz et al., 2018; Dance, 2012), but it must follow authorship criteria, in general, and, more specifically, relate to co-publishing issues with postgraduate students (Welfare & Sackett, 2011).

**e. Doctoral examination:** Experienced supervisors help their doctoral students by selecting an examiner who has empathy and understanding, whilst also maintaining quality, integrity, and standards for their candidates (Kiley, 2009). Rules for the viva voce are different for different universities, but the most important aspect is the presence of the doctoral supervisor during the examination. In this respect, Watts (2012, pp.374-375) claims that “the supportive presence of a supervisor has both psychological and practical elements and can help moderate the mood”.

Summarily, these roles are not rigid but could be interchangeable as the need arises, especially in terms of relationship, flexibility, feedback and support, which can be applied in all four styles. Gatfield (2005) posits that switching positions during the study is one of the most important duties of supervisors, with the goal being to assist the applicant to transition from a dependent, inexperienced researcher to an expert, independent researcher. “There is no gold standard model of graduate supervision, which can be applied in all situations, across all disciplines” (Egan, Stockley, Brouwer, Tripp and Nathalie, 2009, p.338); therefore, since different students, programs, and administrative structures have distinct demands, supervision must be a dynamic process that focuses on satisfying those needs (Benaquisto, 2000, in Egan et al., 2009, p. 338).

### **Methodology**

Thirty experienced doctoral supervisors at the University of Nigeria, Nsukka, were interviewed to elicit their responses regarding the responsibilities and roles of supervisors and doctoral candidates, and what they understood by ‘doctorateness’. The responses shown below were generated from one-on-one interviews that were conducted with an opportunistic sample of five experienced doctoral supervisors. The rest of the study’s respondents’ contributions have not been included in the current article owing to space and time limitations.

### **Findings**

#### **Roles of doctoral students**

The findings revealed that a significant function of the doctoral student is to generate a researchable topic that is original and can contribute to knowledge. A supervisor said:

*“...the responsibility of the doctoral student is to research related discipline in order to open a new frontier of knowledge, which will eventually result in contributions to education”.*

Two other supervisors maintained that the selected topic must be one in which the student is interested. They made the following utterances in this respect:

*“The student should generate the problem with the guidance of the supervisor. It is good for the student to choose a topic in the area they have interest”.*

*“Doctoral students are expected to demonstrate scholarly finesse and mastery of an area of interest in research activities”.*

Another major role of the student that a supervisor mentioned is acceptance of responsibility from the supervisor and searching for literature to write the draft proposal. The supervisor reported:

*“The doctoral student should be willing to accept responsibility from his/her supervisor; follow instructions; be eager to go an extra mile in sourcing research materials”.*

*“...the students have to do the literature search and the draft proposal”.*

Meanwhile, two supervisors opined that the student has to solve a problem with their research under the guidance/tutelage of a supervisor. They mentioned the following:

*“The student’s role is to research a topical issue. That is, to find an existing problem, probe the matter and produce findings to solve the problem with the supervision of the supervisor. The student does the research; the supervisor merely guides him/her”.*

*“...candidate is expected to be under the tutelage of senior academic staff in his or her department”.*

### **On the meaning of ‘doctorateness’ and how it informs their supervisory practice**

The supervisors conceived doctorateness to be:

- i. *‘Achieving a common quality for all doctoral awards’;*
- ii. *‘Adherence to corrections and advice of the supervisor’;*
- iii. *‘Expanding frontiers of knowledge’;*
- iv. *‘Contribution to knowledge that is novel’;*
- v. *‘Research on a pertinent topic’;*
- vi. *‘Using attainable parameters to measure variables’;*
- vii. *‘Using the defined sample frame’;*
- viii. *‘The problem statement must clearly show the analytical assertion’;*
- ix. *‘Creating time for the pursuance of research works’;*
- x. *‘Knowledge-driven, and not certificate driven’;*
- xi. *‘Sound understanding of key theories of practice in the field of study’;*
- xii. *‘Enhanced writing skills’;*
- xiii. *‘Detailed study and proffering solution to an existing problem’; and*

xiv. *'Systematic/procedural investigation'*.

One of the supervisors summed up the meaning of doctorateness by stating that 'doctorateness is all inclusive', while another said that 'the how is very important, it is the how that determines the what'.

**On specific roles of a supervisor that can support students to achieve doctorateness**

Two of the supervisors provided constructive feedback in this regard, stating:

*"... To support students, achieve doctorateness, the supervisor should devote time to read the work of the student and be thorough with it. He has to cross all the T's and dot all the I's and make the necessary corrections and ensure that the required corrections made are well reflected so that sound quality work could be achieved"*.

*"...prompt reading of drafts and making necessary corrections"*.

Most of the supervisors reported that the supervisor should guide and support students. A few of their comments are presented below:

*"...the supervisor's job is to mentor and advise the pupil in achieving the objectives of the project.*

*...on the other hand, the Supervisor should do the following: Be there for his research supervisee. Give him assignments relevant to the supervisee area of interest"*.

*"...the supervisor should do proper supervision through guidance. Ensure that limitations are taken care of through genuine support"*.

*"...the rigour/procedure needs to be mastered by the student through the guidance of the supervisor"*.

Meanwhile, three supervisors reported mentoring as a way to help students achieve doctorateness by stating:

*"...mentor him. Share his own experiences with him"*.

*"...the supervisor needs to mentor the student"*.

*"...mentor him properly"*.

Also, one of the supervisors said that the supervisor should maintain a good relationship with the student:

*"...supervisors should have a good interpersonal relationship with supervisees, thereby creating a platform for learning"*.

Another supervisor said that the student should be mindful of citations and research culture (integration):

*"...work must have a firm citation grip and inculcate research culture in the student"*.

Another supervisor reported time to degree as a responsibility of the supervisor by saying:

*“...the supervisor guides the students to make sure that it falls within the scope and to be accomplished within the time allotted for the studies”.*

One supervisor went further to report that the student must be guided when choosing a topic and with the literature search, and another supervisor spoke about the standard of the research work (reading):

*“...guide him to choose a research topic that can address a very pertinent problem; guide the student to where he/she can access relevant literature”.*

*“...then the supervisor should ensure that the proposal reaches the minimum scientific standard”.*

Lastly, a supervisor reported an understanding of research methodology (independent) as a way to help students achieve doctorateness, as shown below:

*“...ensure that the students not only understand but follow the research methodological process/methods in the course of doing the work”.*

### **Discussion and conclusion**

In respect of the roles of doctoral candidates, the interviewed supervisors highlighted responsibilities for these individuals, including originality, contribution to knowledge, acceptance of responsibility from the supervisors, solving problems, searching the literature to write a draft proposal, maintaining a good relationship with the supervisor, and demonstrating scholarly finesse.

Moreover, from the responses of the supervisors on their roles and responsibilities that will help doctoral candidates to achieve doctorateness, all four leadership situational styles, proposed by Hersey and Blanchard (1969), were represented. This relates to telling (selection and reading); selling (relationship, support and integration); participation (feedback, writing, and independence), and delegating styles (mentoring and time to degree), which were all present in this study. However, data from the responses suggest that some of the interviewed supervisors understood their roles to some extent, but the details, sequence, and style of the application of these responsibilities is what this particular study has uncovered. Although the functions could be interchangeable as the need arises, especially relationship, flexibility, feedback and support, these may be applied in all four styles. Gatfield (2005) suggests that one of the most important duties of supervisors is to switch roles during a study with the goal of assisting the applicant to

transition from a dependent, inexperienced researcher to an expert, independent researcher.

Furthermore, different meanings were ascribed to 'doctorateness' by the interviewees, as in Wellington (2013, p.1495), but one supervisor summarized the meaning of doctorateness by stating that 'doctorateness is all inclusive', which concurs with the notion of synergy by Trafford and Lesham (2009, p.308) and Bitzer (2016), who argue that "doctorateness is a jigsaw puzzle that can only be fully appreciated when all the components are present and fitted together". Theory and originality by Wellington (2012), as significant ingredients of doctorateness, also appeared in the supervisors' responses. Furthermore, Baptista et al. (2015) explored the meaning of originality in doctoral studies and how this relates to innovation and creativity as a way of adding insight into doctorateness. Baptista et al. (2015) posit that originality does not only depend on the outcome or product, but also on the overall process of producing the result.

The current study examined the roles involved in quality supervision that will enable doctoral candidates to achieve doctorateness; nonetheless, it is not a conclusive study, as PhD students could not be interviewed to elicit their views owing to a lack of space and time. Hence, further studies should be conducted in this regard, while an extension in the study area is also recommended.

To conclude, for quality supervision that will help doctoral candidates attain doctorateness, the supervisory styles of telling, selling, participation, and delegation must be followed sequentially. One of the supervisors aptly remarked that 'the how is very important, it is the how that determines the what' because quality supervision is an antidote to achieved doctorateness.

## References

1. Aitchison, C., Catterall, J., Ross, P., & Burgin, S. (2012). *Tough love and tears: learning doctoral writing in the sciences*. *Higher Education Research & Development*, 31(4), 435–447. [www.tandfonline.com](http://www.tandfonline.com)
2. Andoh, H. (2016). *The Uptake of doctoral thesis research in Ghana*, PhD dissertation, Stellenbosch University.
3. Badley, G. (2009). "Publish and be doctor-rated: the PhD by published work", *Quality Assurance in Education*. 17(4), 331-342,
4. ASSAF (2010). *THE PHD STUDY: an Evidence-based study on how to meet the demands for High-level skills in an emerging Economy*, Consensus Report of 2010. [www.assaf.org.za](http://www.assaf.org.za)
5. Bastalich, W. (2017). *Content and Context in knowledge production: a critical review of doctoral supervision literature*. *Studies in Higher Education*, 42(7), 1145-1157.

6. Baptista, A., Frick, L., Holley, K., Remmik, M., Tesch, J., & Akerlind, G. (2015). *The doctorate as an original contribution to knowledge: Considering relationships between originality, creativity, and innovation. Frontline Learning Research, 3, 3 Special Issue (2015) 55-67.*
7. Beasley, N. (1999). *Staff development to support research supervision, in Wisker, G. and Sutcliffe, N, (Eds). Good Practice in Postgraduate Supervision Vol. SEDApaper106, Staff and Educational Development Association.*
8. Benaquisto, L. (2000). *Graduate supervision: Learning from experience. McGill Journal of Education, 35(1), 69–82.*
9. Bitzer, E. (2016). *Research into Doctoral Education: A Survey of Institutional Research Projects in Southern Africa, in Botha J & Muller N (eds). Institutional Research in South African Higher Education. Stellenbosch: SUN PRESS*
10. Breetz, E., Botha, J., Horn, L., & Swartz, I. (2018). *Academic and Scientific Authorship Practices: A Survey among South African Researchers. Journal of Empirical Research on Human Research Ethics, 1-9, 155626461878925. Available at: journals.sagepub.com*
12. Cloete, N. Mouton, J. & Sheppard, C. (2017). *Doctoral Education in South Africa: Policy, Discourse and Data Produced by COMPRESS.dsl | www.compressdsl.com.*
13. Cross, M., & Backhouse, J. (2014). *Evaluating Doctoral Programmes in Africa: Context and Practices. Higher Education Policy, 27, 155–174.*
14. Edwards, M.A., & Roy, S. (2017). *Academic Research in the 21st Century: Maintaining Scientific Integrity in a Climate of Perverse Incentives and Hyper-competition, Environmental Engineering Science, 34(1), 51–61.*
15. Egan, R., Stockley, S., Brouwer, B., Tripp, D., & Stechyson, N. (2009). *Relationships between the area of academic concentration, supervisory style, student needs, and best practices. Studies in Higher Education, 34(3), 337–345,*
16. EUA. (2017). *European University Association: Council for Doctoral Education Report (2017) Geneva, Switzerland. www.eua-cde.org info@eua-cde.org*
17. Franke, A., & Arvidsson, B. (2011). *Research supervisors' different ways of experiencing the supervision of doctoral students. Studies in Higher Education, 36(1), 7-19,*
18. Frick, L., Albertyn, R., & Rutgers, L. (2010). *The Socratic Method: adult education theories, Acta Academica Supplementum, 2010(1), 75-102 ISSN 0587-2405.*
19. Gatfield, T. (2005). *An investigation into PhD supervisory management styles: Development of a dynamic conceptual model and its managerial implications. Journal of Higher Education Policy and Management, 27(3), 311–325,*

20. Grant, B. (2003). *Mapping the Pleasures and Risks of Supervision Discourse. Studies in the Cultural Politics of Education*, 24, 175–190.
21. Grant, B., & McKinley, E. (2011). *Colouring the pedagogy of doctoral supervision:*
22. *Considering the supervisor, student, and knowledge through the lens of indigeneity. Innovations in Education and Teaching International*, 48(4), 377-386,
23. Hersey, P., & Blanchard, K.H. (1969). *Life cycle theory of leadership. Training and*
24. *Development Journal*, 23(5). Retrieved on December 29, 2018, from *businessjargons.com*
25. Hyatt, D.F. (2005). “Yes, a very good point!” *A critical genre analysis of a corpus of feedback commentaries on Master of Education assignments. Teaching in Higher Education*, 3, 339–353.
26. Jones, M. (2013). *Issues in doctoral studies – forty years of journal discussion: Where have we been and where are we going? International Journal of Doctoral Studies*, 8, 83-104. Retrieved from *ijds.org*
27. Katz, R. (2016). *Challenges in Doctoral Research Project Management: A comparative study. Journal of Doctoral Studies*, 11, 105-125.
28. Keefer, J.M. (2015). *Experiencing doctoral liminality as a conceptual threshold and how supervisors can use it. Innovations in Education and Teaching International*, 52(1), 17-23,
29. Kiley, M., (2009). ‘You don’t want a smart Alec’: *selecting examiners to assess doctoral dissertations. Studies in Higher Education*, 34(8), 889–903
30. Kumar, V., & Stracke, E. (2007). *An analysis of written feedback on a PhD thesis. Teaching in Higher Education*, 12(4), 461–470,
31. Lee, A. (2008). *How are doctoral students supervised? Concepts of doctoral research Supervision. Studies in Higher Education*, 33(3), 267-281,
32. Lee, A. (2013). *New development: Are our doctoral programmes doing what we think they are? Public Money & Management*, 33(2), 119-122,
33. Lee, A. (2018). *How can we develop supervisors for the modern doctorate? Studies in Higher Education*, 43(5), 878-890.
34. Lee, A., & Murray, R. (2015). *Supervising writing: helping postgraduate students develop as Researchers. Innovations in Education and Teaching International*, 52(5), 558-570.
35. Li, S., & Seale, C. (2007). *Managing criticism in PhD supervision: a qualitative case study. Studies in Higher Education*, 32(4), 511-526.
36. Lotz-Sisitka, H. & Wilmot, K (2015). *Supporting Academic Writing Practices in Postgraduate Studies: A sourcebook of academic writing support approaches and initiatives (Version 2). Rhodes University, Centre for Postgraduate Studies.*

37. McKenna, S. (2017). *Crossing conceptual thresholds in doctoral communities. Innovations in Education and Teaching International*, 54(5), 458-466,
38. Mouton, J., & Valentine, A. (2017)., *The extent of South African authored articles in predatory Journals. South African Journal of Science*, 113(7/8).
39. National Academy of Sciences. (2009). *IOM report, on being a scientist: A guide to responsible Conductin research. Washington, DC: National Academies Press.*[www.nap.edu](http://www.nap.edu)
40. Nussbaum, M.C. (1998). *Cultivating Humanity: A Classical Defense of Reform in Liberal Education. Havard University Press.*
41. Oberlander, S.E., & Spencer, R.J. (2010). *Graduate Students and the Culture of Authorship. Ethics & Behavior*, 16(3), 37–41.
42. Powell, S. (2004).*The Award of the PhD by Published Work. UK Council for Graduate Education,Lichfield.*
43. Qiunn, R., Faerman, S., Thompson, M., & McGrath, M. (1996). *Becoming a Master Manager. 2<sup>nd</sup> ed. John Wiley and Sons, New York, NY.*
44. Samuel, M.,& Vithal, R. (2011). *Emergent frameworks of research teaching and learning in a cohort-based doctoral programme.Perspectives in Education*,29(3), 76–87.
45. Savage, B.M. (2013). 'Observations on quality in the PhD supervision experience', *Int. J. Information and Operations Management Education*, 5(2),190–204.
46. *Singapore Statement on Research Integrity. (2010). The Singapore Statement on Research Integrity.The 2nd World Conference on Research Integrity, 21-24 July 2010, in Singapore. Available at: [www.singaporestatement.org](http://www.singaporestatement.org)*
47. Teitelbaum, S. (1989). *Research integrity is a mentoring issue, not a lecture course, Federation of American Societies for experimental biology (FASEB) Paper, 1989. [www.faseb.org](http://www.faseb.org)*
48. Titus, S.L.,&Ballou, J.M. (2014). *Ensuring PhD development of responsible conduct of research behaviours: who's responsible? Science and Engineering Ethics*, 20 (1), 221–235.
49. Trafford, V.,& Lesham, S. (2009). *Doctorateness as a threshold concept, Innovation in Education and Teaching International*, 46(3), 305-316.
50. Turner, G. (2015). *Learning to supervise: four journeys. Innovations in Education and Teaching International*,52(1), 86–98.
51. Vilakazi, B. (2016). *Close encounters: Becoming resilient through compassion and imagination in Postgraduate study in South Africa: Surviving and Succeeding.Published by SUN Media Stellenbosch under the imprint SUN PRESS. Pp.61-65.*

52. Vilkinas, T. (2002). *The PhD Process; the supervisor as manager*. *Emerald Journal of Education and Training*, 44(3), 129-137.
53. Vilkinas, T., & Carton, G. (2001). *The behavioural control room for managers: the integrator Role*. *Leadership and Organization Development*, 23(4), 175-185.
54. Waghid, Y. (2006). *Reclaiming freedom and friendship through postgraduate student Supervision*. *Teaching in Higher Education*, 11(4), 427-439.
55. Watts, J.H. (2012). *Preparing doctoral candidates for the viva: issues for students and supervisors*. *Journal of Further and Higher Education*, 36(3), 371-381,
56. Welfare, L.E., & Sackett, C.R. (2011). *The Authorship Determination Process in Student Faculty Collaborative Research*. *Journal of Counseling & Development*, 8(0302), 479-487.
57. Wellington, J. (2013). *Searching for 'doctorateness'*. *Studies in Higher Education*, 38(10), 1490-1503.