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Reflection on supervising Information Science and Technology postgraduate students at South African Universities: best practices for transformational learning

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Abstract

Supervising postgraduate students especially online supervision can be a daunting task that brings several unique challenges. This article reflects on my supervision experiences, the challenges faced by research supervisors in Higher Education Institutions (HEIs) and the strategies to improve the research supervision practices. The article draws upon my own experiences at both residential and distance learning universities and for the past four years as a research supervisor. My supervision reflection begins with my time at the University of South Africa (UNISA), where I cut my teeth as a Senior Lecturer, and have learned several valuable experiences and practices related to teaching undergraduate students, supervising postgraduate students (honours, masters and PhDs), writing research articles and be involved in community engagement or research projects. I have learned that students need to be prepared for postgraduate level and research supervision thus need to be treated with as much significance as teaching at undergraduate levels. I have also learned that the success of postgraduate education largely relies on effective supervision, however, the effective supervision is a two-way process involving both supervisor and student's commitment. more about humanizing pedagogy. In addition, I have learned that supervisors need to develop and maintain good and harmonious relationship with their student, for the successful completion of postgraduate study or research project. As supervisors we thus need to apply humanizing pedagogy in the supervision relationship. I hope that my reflective experiences and suggested strategies will assist in providing effective supervision and the highest standards of scholarship in Higher Education Institutions, globally and South Africa in particular.

Keywords: Postgraduate supervision, distance learning, research project, humanizing pedagogy, postgraduate students

Introduction

Research supervision plays a significant role in the success of postgraduate students and should thus be treated with as much significance as teaching at undergraduate levels (Sonn, 2016). Pearson and Brew (2002) describe supervision in the academic context as a process to facilitate the student becoming an independent professional researcher and scholar in their field, capable of adapting to various research arenas, whether university or industry-based. Supervision can be perceived as a series of tasks and responsibilities that can be clustered and operationalized (expert coaching, facilitating, mentoring and reflective practice) thereby, providing a rich array of the multifarious factors that are associated with effective supervision (Pearson & Kayrooz, 2004). Cryer and Mertens (2003) further described supervision as a process involving complex, academic and interpersonal skills including guiding postgraduate students towards sound proposal preparation, methodological choices, documenting and publishing their research, maintaining both supportive and professional relationships, as well as reflecting on the research process.

Supervision traditionally takes place in a private space involving an intense relationship between the supervisor as master and the student as apprentice, with the supervisor seen as an expert who transmits knowledge to an inexperienced student (Bastalich, 2017). The quality and success of postgraduate education largely rely on effective supervision, however, I have learned that effective supervision is a two-way process involving both supervisor and student's commitment. Abiddin (2007) stated that during the period of supervision both supervisor and student should fulfil their roles effectively and maintain a good relationship which often depends upon the characteristics of the persons involved, disciplinary differences in the way knowledge is advanced, and the different learning tasks students face. However, the study conducted by Morris (2011) on the power differential between a student and a supervisor found that the power dynamics in the student-supervisor relationship is perceived to be unequal and revealed that exploitative, aggressive and intrusive supervision result in study problems. Supervisors are tasked with the responsibility to support and guide students to identify feasible research topics and questions, develop

study protocols, provide oversight of the research process, complete their projects on time and to integrate candidates into academia (Kiley, 2011). Lessing and Schulze (2002) further described the supervisory role as a balancing act between various factors, namely: expertise in the area of research, support for the student, critique and creativity for research supervision. The most important factor that contributes towards the completion of postgraduate research project is therefore the relationship between supervisor and student (Wellington, 2010). Chiappetta-Swanson and Watt (2011) noted that the relationship between a graduate student and an academic supervisor is critical to the success of the learning experience, to the sense of satisfaction of both participants, to the development of research skills, and to the shaping of successful career trajectories of both the student and the supervisor. Piccinin (2000) further described the relationship between the student and supervisor starting from selecting a research topic, planning the research, identifying and acquiring the necessary resources, managing the project, actively conducting the research, carrying out the literature review, analysing and interpreting the data, writing the thesis, defending it and possibly publishing it. Armstrong (2005) observed that high failure rates for doctoral studies in the social sciences have been partly attributed to supervisees' dissatisfaction with supervision and poor supervisor-supervisee relationship.

Saleem and Mehmood (2018) identified some hallmarks of most successful supervision relationships including good communication, agreed standards, professionalism, consideration of the needs of the other party and ethical behaviour. It is therefore evident that supervisory relationships and the quality of supervision are significant determinants that contribute to the success of the postgraduate study. Supervisors must therefore recognise the importance of maintaining a harmonious relationship with their students (Orellana et al., 2016). Good supervision relationship is central to successful postgraduate research, yet it is a poorly understood teaching-learning process (Mapasela & Wilkinson, 2005).

Postgraduate supervision experiences

My supervision experience evolved from four years of supervising honours and Masters students at University of South Africa (UNISA), University of Zululand and one year at Durban University of Technology. My journey as a supervisor started in 2017

with Honours students (who were engaged in face to face) in the School of Computing at University of South Africa (UNISA). I was supervising four students who were enrolled for honours degree in Information Technology in the School of Computing at UNISA, specializing in mobile technologies in teaching and learning. My journey continued in 2019-2020, whereby I was supervising both Honours and Masters students in the Department of Information Studies at University of Zululand. Honours students were working on research project for the first time and were therefore underprepared for postgraduate studies, with limited research skills and inadequate academic writing capacity. Students had little knowledge on how to conduct a research and they adopted a culture of cutting and pasting work from other sources without citing the sources or backing and supporting their statements. I have therefore learned that research supervision needs to be treated with as much significance as teaching at undergraduate levels and students need to be prepared for postgraduate level. As educators, we need to ensure that teaching and learning is linked to research and encourage a research-based assignment or assessments at undergraduate level as a way of preparing students for postgraduate level.

As part of our teaching practice, we also need to ensure that undergraduate modules are linked to community engagement projects whereby students get opportunities to address community or societal problems. Our teaching philosophy should thus grounded in research-based and service-based learning approach whereby students use academic knowledge and skills to address community needs or societal problems. We also need to offer students an opportunity to solve problems in group settings which is an essential skill in today's multidisciplinary work setting. These approaches build collaboration among students and connect them with community members beyond the academy and equipped them with knowledge and skills needed to compete and succeed in the outside world.

As noted by Winberg, Ntloko and Ncubukezi (2015), postgraduate students, particularly in South Africa do not have the necessary capacity to conduct research projects, for example, students are unable to search information and reading materials that relate to their studies. As a result, some students developed anxiety as they perceived research as an enormous and complicated project. However, Manathunga and Goozee (2007) observed that universities traditionally assume that research students are already able to conduct research independently by virtue of being

postgraduate students. My role as a postgraduate supervisor was therefore to develop students into a competent researcher by teaching them research from a beginners' level until they become knowledgeable about research practices. Inadequate academic literacy is also a significant challenge that dominates in Higher Education Institutions (HEIs) in South Africa, especially among students from disadvantaged academic backgrounds. It is therefore HEIs' responsibility to provide an enabling environment that facilitates the development of academic literacy of students, for instance, by providing access to writing centre services for both undergraduate and postgraduate students (Grossman, 2016). The students at UNISA were engaged in a distance learning and the nature of this learning system provided them with little opportunity to engage in face-to-face social interactions such as in group sessions with fellow research students on campus, research-related workshops that are often offered for free to university students, the writing centre's academic literacy workshops and regular meetings with their supervisors. Therefore, lack of social interactions and support systems of the campus exacerbated the situation as they developed feelings of loneliness, isolation and exclusion from academic and research community. Reeve and Partridge (2017) argue that research isolation is often experienced by researchers who are not integrated with their research communities, who are being physically isolated from the campus and unfamiliar with the field of research. This lonely journey of conducting a research project may result in a high level of student dropouts, withdrawal and low rate throughputs rate. As noted by McKenna (2016) withdrawal cases are a universal challenge attributed to the fact that students are expected to embark on the research journey without being structurally linked to other scholars or other scholars' projects.

Upon reflecting on my approach in supervision of students at UNISA, I realised that I focused more on coaching than mentoring students. Coaching is oriented towards assisting a learner to perform certain tasks for a project within a specific time-frame by setting the target goals, observes the performance and provides feedback. During this process, a coach is in the position of authority over the students. On the other hand, mentoring focuses on developing the capacity of the students by assisting them in discovering their own wisdom to pursue career and other goals (O'Neil 2018). I have learned through my past supervision experiences that a good supervisor needs to understand how students construct and transform their own knowledge. I therefore

focused more on mentoring and student skills development as a priority than coaching the students at University of Zululand and DUT and also allow them to be more creative and innovative. In face-to-face learning environment, I am therefore able to provide students with access to periodic learning spaces that are conducted through social interaction among fellow research students and the supervisor, and had a contact session with each student at least once per month. My role as a supervisor include referring students to reading materials that relate to their research interests, guiding them while writing research papers, linking students to appropriate researchers who work in fields similar to theirs, and encouraging them to write and submit research papers to journals. I also realised that I had not made attempts to encourage my students at UNISA to consider publishing research papers from their projects and present their papers at national and international conferences and submit them to journals. I therefore encouraged Honours and Masters students in the Department of Information Studies at University of Zululand to consider publishing research papers from their projects and dissertation. as I believe that can enhance student's independence in the process of conducting research. Presenting research papers at conferences will also expose students to various sources knowledge while helping them to develop more knowledge in their fields of study and improve their presentation skills. Some of the students presented their papers at national conferences while two students (one honours and one masters student) published their research papers or articles in accredited journals.

I am currently supervising masters and PhD students at Durban University of Technology (DUT). I have learned that all my students at both universities struggle at the beginning of a research project because of a fear to develop and operate in a new learning environment or a fear of unknown. This has negative impact on their confidence in conducting research. As a supervisor, I have seen my role as a facilitator in transforming the scholarly research identity of my students, so that they can realise their potential. Therefore, understanding students' challenges and how these result in withdrawal and self-exclusion played a big role in determining how I relate to my students. I have also realised that the context I work in has a significant influence on how I supervise. DUT holds vision, mission, values, principles and 2030ENVISION goals that they believe should be incorporated into postgraduate supervisory process. This self-reflection exercise could thus be used to support the future students that I

supervise and contribute to the Durban University of Technology's 2030 ENVISION goals, available at www.dut.ac.za/ENVISION2030.

“To impact our society or communities in a transformative way through innovative solutions to their challenges”.

“By 2030, our people will be creative, innovative, entrepreneurial and adaptive to changes in the world and will participate productively in the development of our region, country and the world.”

A reflection on my supervision experience will also help to improve my supervision skills and provide me with a framework and way forward by understanding:

- What I do in (research and mentorship role)
- Why I do it (in context of DUT's mission and Envision2030)
- How I do it (delivery and outputs)
- Why I do it in this way (theoretical perspective)
- How well I do it (feedback and evaluation)
- How I could do it better (self-reflection for improvement)

I also acknowledge that one of the core missions of higher education institutions (HEI) is to teach and train and specifically to add to the sustainable development and holistic improvement of society (UNESCO, 1998). Supervisors in Higher Education Institutions should also be aware of UNESCO's mission, as this may affect the kind of postgraduates we produce for society. As supervisors, we need to encourage and empower our students to participate in research development and society, without being constrained by factors that hinder them to become competent researchers.

Challenges to effective research supervision in Higher Education Institutions

A number of studies have focused on the challenges to effective or successful research supervision and identified numerous inhibiting factors such as inexperienced or overburdened supervisors, inadequate preparation of candidates, poor planning and management, methodological difficulties, personal problems outside research, insufficient financial support for students, poor relationship between student and supervisor and overall ineffective infrastructural support for postgraduate studies (Dell, 2010; Bitzer, 2011; Herman, 2011; Wadesango & Machingambi, 2011; Naim & Dhanapal, 2015). Bitzer (2011) further identified other challenges including the mode

of study (e.g. full-time or part-time, in close proximity or at a distance), the level of financial support, the availability and quality of infrastructure, the challenge of gaining research independence, student diversity, academic isolation, the quality of supervision, and the effectiveness of institutional research and monitoring systems. As also noted by Ndlangamandla (2017) HEIs in South Africa thus have the challenge of increasing academic personnel who have the capacity to supervise research projects, mostly at Masters and Doctorate level. Academics in HEIs are under immense pressure to meet their responsibilities as supervisors and are leaving postgraduate students unattended to and as a result, postgraduate students suffer due to lack of time invested in the supervision process.

The study conducted by Chireshe (2012) revealed that postgraduate students are experiencing problems related to the following critical issues: the supervisor is too busy to be effective in his/her role; students complained of receiving too little feedback from the supervisors and others raised the concern that supervisors tend to give feedback which conflicts with previous feedback; tensions and conflicting perspectives within the supervisory role; poor communication and disagreements about the research project; selfishness and disrespectfulness and limited knowledge and expertise in the field of study. The quality of the graduate has thus been put into question as the students who experienced poor supervision may lack the ability to realise their full potential as researchers or be competent researchers. Most of academics in HEIs are also not well trained and not equipped with supervision skills, and are unable to provide quality supervision. Mapasela and Wilkinson (2005) also argue that some supervisors have little training on the process of supervision.

As stated by Guerin, Kerr and Green (2014) many supervisors rely on their own experiences of being supervised to guide them through the supervision process. This often results in supervisors unconsciously inheriting the mistakes and unfair practices they were subjected to by their own research supervisors and imposing them on their students (Vereijken et al., 2018). Maistry (2017) noted that obtaining competency and capacity in supervising research projects remains an obstacle in the country. However, Grossman and Crowther (2015) observed that there are many universities in South Africa that have a backlog in research training and supervision. According to Tangen, Borders and Fickling (2019) the field of research supervision tends to have insufficient protocols to guide novice supervisors or researchers and their students. We therefore

need protocols that guide research supervision in HEIs to avoid the difficulties that often develop in student-supervisor relationships. Students are also faced with the challenge of completing the research part of their studies within the stipulated timeframe (Sonn 2016) and this results in supervisors having large workloads. An understanding of postgraduate students in research supervision may highlight some challenges perceived to be contributing to low throughput rates and poor-quality products in South African universities (Chireshe, 2012). The study conducted by Nkosi and Nkosi (2011) about the experiences of PhD students revealed that students who got extra support from their supervisors experienced fewer challenges than students who were limited to the support of their supervisors and institutions.

The study by Chireshe (2012) found that supervisors had a very busy schedules, many other students to supervise, heavy lecturing obligations while also required to attend numerous academic meetings. Poor communication between supervisor and student has also been identified as negatively affecting the progress of postgraduate studies (Wadesango & Machingambi 2011; Chireshe 2012; Yousefi, Bazrafkan & Yamani 2017). In their study on postgraduate research experiences, Wadesango and Machingambi (2011) also identified poor or delayed feedback was also identified as a challenge. Poor or delayed feedback can affect student's progress and can lead to drop out and inability to complete the degree within stipulated time frame. Naim and Dhanapal's (2015) asserted that that students demonstrate higher levels of intrinsic motivation when they are provided with constructive and informative feedback. The majority of HEIs are now working towards expanding their research supervision in an attempt to achieve rapid supervision competency among young academics, and have also implemented interventions to improve completion rates.

Strategies to improve research supervision practices

Several strategies can be adopted to improve research supervision practices. Supervisors need to focus more on mentoring and skills development as a priority than coaching the students. Research supervision process should begin by acknowledging the prior knowledge that students bring to the process in order to build their self confidence in the learning process. Donnelly and Fitzmaurice (2017) also noted that supervisors can also act as mentors to students and facilitators of learning, rather than only presenting themselves as experts. I have also learned that students need

emotional support and assistance as they develop their careers. It is therefore necessary to propose a research supervision model that encourages supervisors' caring attitude towards their students (Gumbo 2019). As supervisors, it is essential that we apply a humanizing pedagogy in the supervision relationship to launch our students into becoming mature, capable and competent researchers. Friere (2005) defines a humanizing pedagogy as an approach where the teacher is a revolutionary leader in establishing a permanent relationship of dialogue with the student in an effort to build confidence in students who may be alienate. We need to build confidence in students, and guide them towards a familiarity with the language of research and practical understanding of the skills of research within their discipline.

We also need to be sensitive to the students that we are supervising as they are often constrained by factors, including their disadvantaged past, cultural and social barriers. Supervisors' caring attitude towards students is very important in the supervision process. As stated by Gumbo (2019) in the absence of supervisors' care about students' personal circumstances, many challenges are more likely to erupt, such as unpleasant working relationships between students and supervisors, failure to complete research projects, and students feeling demotivated. These human aspects must, therefore, never be neglected while making diverse endeavours to achieving success in research supervision. Mouton (2001) also noted that some of the responsibilities of the supervisor is to guide, advise, ensure scientific quality and provide the required emotional and psychological support.

Mapasela and Wilkinson (2009) stated that supervising as a scholarly practice might be effectively promoted where academics themselves are closely involved in research, but also when they reflect, write and publish on their supervisory experiences, seek student feedback and allow peers to critique their work. Calma (2011) added that supervisors should ensure that they allow their students expertise, time, feedback, support, commitment and allotted working space. As noted by Ali and Watson (2016) timely and constructive feedback could also assist research students to manage their time effectively. Haksever and Manisali (2000) identified good communication between supervisors and their students as the most important element of supervision and they argue that without open and honest communication it is extremely difficult to identify the nature of challenges experienced by either student or supervisor. Mutula (2009) pointed out that postgraduate research is a form of apprenticeship taken under

the supervision of senior faculty members and those members must have the right expertise to fulfil the role of a supervisor. Many studies have therefore advocated the training of supervisors, in order to meet the challenging demands of the supervision process (Nkosi & Nkosi, 2011; Wadesango & Machingambi, 2011). Conboy and Fonseca (2009) highlighted that one simple technique of improving academic success is listening to the study experiences of students as the primary consumers of the education process and are uniquely positioned to understand the nature of their academic problems better and that their perceptions can be useful in formulating solutions

CONCLUSION

The outcomes of this reflection reveal that students who conduct research projects in a distance learning program have insufficient access to the University's face-to-face support systems. The students are unable to learn from their fellow research students through regular group work sessions, the writing centre on campus, or the research related workshops that are often hosted by the University free of charge to students. Therefore, pertaining to distance learning, it would benefit the supervision process if universities could devise research supervision models that include facilitating learning through enhanced periodic social interactions amongst fellow research students, and between students and their supervisors. Literature revealed that universities are experiencing many challenges as they strive towards developing research capacity through research supervision. These challenges include poor relationship between supervisor and student, inexperienced supervisors, lack of training, heavy workloads and ineffective infrastructural support systems. According to Gumbo (2019), less is known about developing an effective research supervision model, which emphasises the human aspects in supervision in the 21st century. Fataar (2013) further alluded to the need for an acute awareness of and sensitivity to the ontological dimension of doing research which involves the student's being and becoming a researcher, which implies an increased alertness on the part of supervisors to students' conceptual capacities, learning styles and modes of intellectual processing.

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