Advancing postgraduate research supervision and publication for the future of higher education institutions

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Abstract

Enhancing postgraduate research supervision and publication strategies for the future success of higher education institutions is fundamental to sustainable research development in universities. A study was conducted to explore existing challenges and strategies for improving postgraduate research supervision and publication capacity of the selected university in the Eastern Cape Province, South Africa. An in-depth case study was conducted for this study to reconstruct the reality shaped by the postgraduate students and research supervisors. 12 participants took part in the study, being nine postgraduate students and three research supervisors who had at least five years of research supervision experience. An analysis of the data was conducted using thematic analysis based on semi-structured interviews. Findings included that supervisor availability and competence had an influence on postgraduate throughputs as well as lack of supervisor capacitation. It was concluded that the nature of student and supervisor relationships influenced throughputs and publications.Also, supporting supervisors and postgraduate student through a competitive reward system was fundamental to boosting research outputs at the institution. Recommendations included the need to increase allocation of funds for conference attendance by supervisors and students as well as enhanced coaching through a supportive mentoring system to both supervisors and postgraduate students.

1. Introduction

The key activity in academic life is the publication of scientific findings based on postgraduate students' theses and dissertations, and without doubt, this is an important activity in academic life [1]. Further to that, [2]stipulate that for researchers to share their findings with the wider scientific community and to advance knowledge in their fields, they must actively participate in publishing in academic journals, books, and other forms of text literature as a way to disseminate their research findings. This process typically involves submitting a manuscript to a peer-reviewed journal or book publisher, where experts in the field evaluate it before being accepted for publication [3].

It is further argued that the peer-review process helps ensure the quality and accuracy of the scientific literature. It also helps to provide feedback to authors to help improve their research and writing [4]. This process is essential to advancing knowledge in any field. In contributing to advancing knowledge, publishing research findings can also have career benefits for academics. University research can also be transferred to private companies, encouraging economic growth [5].

To achieve sustainable research development in universities, postgraduate research supervision and publication strategies need to be enhanced [5]. Further to that, [7] concurs that for institutions to boost their research publishing output and productivity, research should be taken as

crucial for knowledge transfer and academic development. Research output for the selected university has been among the lowest in the research rankings.

Authorship of academic writing is growing [6]. This is resulting in more rigorous and innovative research, as well as greater opportunities for authors to get their work published. Davis [9] concur that the importance of research to universities cannot be underrated as it might produce new knowledge, encourages innovation, enhances teaching and learning, and strengthens an institution's research reputation and financial status. Moreover, universities contribute to a nation's functioning and knowledge-based economy by providing a centre of learning, research, and scholarship. Agreeing with this, [7] state that one of the most significant advantages of a university academic profession is that it must have an international, national, and provincial reputation for research.

However, in the selected universities there exists a lack of effective strategies to promote research publications among postgraduate students [8] hence in this study, strategies for enhancing postgraduate research supervision and publication capabilities are explored. This is a clear indication of the stagnation of research in the selected institution. As such, the need to evaluate the research framework and policies is paramount. To address this, universities must invest in research support services and create an environment that attracts and retains qualified professors [9]. The supportive environment has the potential of uplifting student's morale [10]. This might help to ensure that the university is

producing the highest quality of research output and contributing to the knowledge economy of the university and of the country.

2. Postgraduate Model of Student Supervision and Research Publication

A study conducted in China by [11], established that discussions between the student and supervisor about the supervision process had an impact on the effectiveness of the communication. Additionally [12] at the University of Beijing concur that the success of the research thesis and dissertations is determined by the interaction between the supervisor and the student, and postgraduate research supervision and publishing play a crucial role during and after the thesis preparation and supervision activity.

Both the DHET report [16] stipulate that the research output for the institution during any funding year is defined by the genuine totals of research graduates and research publication output. DHET also requires research output to be monitored and evaluated to ensure research quality is of a high standard. Institutions are also expected to report their research output to DHET promptly to ensure accurate data is collected. As such, institutions need to be aware of the DHET regulations. Institutions must also ensure that their research output is reported accurately and on time. Failing to do so could have serious consequences such as penalties or funding cuts. Therefore, it is important for institutions to be familiar with DHET's regulations and to comply with them. The University of Pretoria, in accordance with [13], monitors the rate of dropout between programmes that last different amounts of time, enabling better

assessment of the process. The institution has adopted various measures to solve the high rate of dropout. These measures include flexible learning, employing tutors, offering programmes at extended, running summer/winter schools and foundation courses.

In order to improve the rate of success at the University of Western Cape, several measures have been implemented, including the use of a system to identify students at risk [13]. In a South African study at one university, Researchers [14] found that participants seldom attended research workshops. In addition to being a time-consuming exercise, research also demands a high level of effort, and determination. According to the [13], "managing under preparedness is time consuming". There are instances when an institution can assist underprepared students, but there are others where it cannot help them.

3. Theoretical Framework

The study utilised the Scaffolding Developmental Learning Theory. Lev Vygotsky, a social constructivist, did not use scaffolding, but another idea around learning is that of being involved with Vygotsky's theories. The scaffolding development approach is built on the premise that learning is doing and doing is learning, which fits well with the aim of advancing postgraduate research supervision and publication output as experience for sharing scaffolding as learning tool **[19]**.

This research uses framework of Scaffold, a six-step strategy, to help people learn and grow within their zone of proximal development [3].

An individual's general understanding, information, abilities, and past experiences form the framework for any possible progress. At this level, kids work collaboratively with adults and/or peers to finish a job that they couldn't do on their own. According to Toncish [19] for scaffolding to be implemented successfully, the advancement of research supervision and research publication is necessary.

The ideal role of the research supervisor is that of providing scaffolding or collaborative participation to assist postgraduate students on tasks within their zones of proximal development, which fits well with the goal of the study.

According to [3] explanation of how Vygotsky's findings suggest methodological procedures for the advancement mentoring of research from a Vygotskian perspective. Once the learner is engaged the provided

job should be made simpler by being divided into smaller subtasks. The research supervisor must maintain the student's attention during this activity while focusing on the project's key concepts.

4. Research Objectives

The following research goals were established to direct the study based on the aforementioned issue and its area of study.

1. To explore challenges that hinder postgraduate students and their supervisors towards research publication at the selected university
2. To discover possible solutions to the challenges hindering postgraduate students and their supervisors towards research publication at the selected university.

5. Methodology

Research methods used to carry out the study are covered in this section. The study paradigm, research design, participants, instrument, data analysis, and ethical issues were all covered,

5.1 Research paradigm and approach

The study adopted an interpretive paradigm to be the lens for the study. It count on the participants' views of the situation being studied [15]. Information will be acquired utilising an interpretive paradigm to address the research objectives provided for this project and uncover approaches to increase postgraduate research supervision and publishing output [16].

Singh [17] claims that based on how their proponents answer interpretive questions, key assumptions that constitute research paradigms can be summarized. Moreover, Polkinghorne [18] claim that interpretivism is an approach to qualitative and interpretive research. They place a focus on a constructivism-interpretive strategy that rejects the idea of objective reality in favour of several realities that people socially construct from inside their contextual interpretation [17]. In terms of tactics that can be urged for the progress of postgraduate research supervision and publishing in the chosen university, research supervisors and postgraduate students may have diverse experiences. Since the study focuses on improving postgraduate research supervision and research publication output, the researchers felt that using an interpretivism strategy was appropriate.

Through open-ended and engaging dialogue, the qualitative research technique is   intended to aid researchers in better understanding their subjects [19]. The researcher's engagement with participants is significantly emphasized by all variations of this technique. The researcher's engagement with participants is   significantly emphasized by all variations of this technique [15]. However, because it enables researchers to modify their procedures to obtain the best accurate results, it is   viewed as being more flexible and personal than other forms of research. Such adaptability allows for participant observation, focus groups, and in-person interviews.

5.2 Research design

The case study was particularly useful as it allowed the research to be investigated fully within a limited time frame [19]. (CHE) [17]further states that a case study is a methodical investigation into a single event or a series of connected occurrences with the goal of describing and explaining the phenomena of interest. A "case study"'s scientific qualifications and its evidence foundation for professional applications are its essential characteristics. Case studies are in-depth analyses of a single individual, group, event, or community, according to (CHE) [17], it was for such reasons that the case study research design was adopted.

5.3 Selection of participants

In this study, participants were purposively selected in the context of research area . [20] proclaim that in purposive sampling the inquirer

selects individuals and sites for study because they can purposely inform an understanding of the research problem and central phenomenon in the study. Furthermore, (CHE) explicate on purposive sampling as it is used in special situations where the sampling is done with a specific purpose in mind and with participants who have a clear understanding and knowledge of the problem under study. The data was collected from nine purposefully sampled postgraduate students who had been registered with the university and three research supervisors who had more than five years of experience in postgraduate research supervision.

5.4 Data collection tools

The study used interviews to collect the data. [20], orate that conversations "as discussions that are more of an open, democratic, two-way communication, informal free-flowing process, and wherein people can be themselves and not feel bound by rules". Interviews enabled the participants to share their experiences.

5.5 Ethical considerations

When performing research, it's critical to follow all ethical procedures [21]. This entails getting participants' permission and making sure their rights are upheld. All subjects who took part in the study gave their informed permission. This indicates that they were informed of every detail of the study, including its goals, methods, and any potential drawbacks or advantages. They chose to take part in the study voluntarily, and they were free to withdraw or ask any questions at any moment. All of these actions are necessary to safeguard the rights of participants and

guarantee that the study is carried out ethically. Most crucially, over the course of the study, their identities were kept private and were represented by codes.

5.6 Method of Data Analysis

The data from the reflections was analyzed using thematic analysis. Written transcripts of interview replies and subjects, ranging from personal experiences to social challenges, can be analyzed using the qualitative research approach known as thematic analysis [20]. According to this approach, common themes that appear in the data are organized into categories after being identified [17]). [20], six-step theme analysis methodology was utilized. The process of becoming familiar with the data, creating preliminary codes, looking for themes, looking over themes, defining and labeling themes, and building the analysis are some of these. Making sense of the data required following these steps precisely.

6. Data Presentation and Discussion of Findings

The study's findings are presented in this part in accordance with its goals. It emerged that of the nine participating postgraduate students, six were at masters level while three were at doctoral level. Masters and doctoral participants were respectively coded as MP and DP, while supervisors were SP. Thus, MP1 referred to first masters student, DP3 referred to third doctoral student, whereas SP2 referred to the second supervisor. The study had two emerging themes.

6.1 Theme 1: Challenges faced by postgraduate students and research supervisors

Negative attitudes towards research by both supervisor and students need to be looked at, including commitment in working together in order to be able to publish. Responses below supported such views.

6.1.1 Lack of supervisors and supervisor competence

There were sentiments relating to supervisor unavailability and competence. For instance, SP1 said, "*Lack of interest in research interest and in ability to perform, [as well as] poor student/ supervisor relationships.*" MP1 agreed saying, "*Non-availability of supervisors due to other commitments affects negatively to us as students as it has financial implications.*" However, there exists a lack of effective strategies to promote research publications among postgraduate students (Johnson & Fankhauser, 2018).

6.1.2 Poor communication

DP2 was of the view that "*Lack of communication and information-sharing at any institution has the potential of decreasing the envisaged or desired goals of any project.*" SP2 echoed related sentiments saying, "*Increased drop-outs of postgraduate students without reasons given to the supervisors.*" According to [13]*, the University of Pretoria records dropout rates by cohort and makes a distinction between programs with varying lengths to better precisely measure the process.* The institution adopted few strategies to deal with the high failure rate, including flexible learning, tutors, enrichment courses, extended programmes, summer/winter schools and foundation courses.

6.1.3 Poor research mentoring

Participants also faced mentoring challenges. For instance, DP3 responded, "*Research mentoring should mainly be in the form of reviewing the dealt articles according to some stipulated criteria and various journals.*" MP5 emphasised: *"I have not yet noticed much support so far but the supervisor is checking on me and want me to submit but research need mentors and coaching."* This contradicts a study conducted in China by [11], which established that discussions between the student and supervisor about the supervision process had an impact on the effectiveness of the communication.

6.1.4 Limited workshops and support

Participants expressed limited support to students due to overloaded supervisors. For example, DP1 responded, "Minimal support as my supervisor was always busy with lecturing." MP2 responded saying, *"Very limited as I attended workshop once in 2022,think my supervisor not yet shared any at moment."* MP3 agreed, *"Limited workshops once attended in 2022."* The challenge of workshops was also echoed by MP4 who said, *"I once attended proposal workshop and after that I thought my supervisor and I would push more but he seem to be busy and limited time for me, I need support on this research and workshops monthly."* Participants complained of intermittent and poor attendance to the research workshops, which [13] discovered was mostly caused by their workloads and conflicts with other responsibilities.

6.2 Theme 2: Solutions to challenges faced by postgraduate students and research supervisors

The responses indicated that there were many ways that research publication can be improved for the betterment of both students and research supervisors in order to enhance or increase publication output. Such responses were registered in the following section.

6.2.1 Research coaching and mentoring exposure

Participants were of the view that increasing research coaching and mentoring was relevant to boost postgraduate student throughputs and research outputs. A response by SP1, "*Sending researchers, postgraduates and supervisors to upskilling events on mentoring and coordination in the form of being engaged in co-supervision, with training on research processes*", confirmed the earlier view. A doctoral student also agreed that "*Training programmes be delivered on research publications and   importance of mentoring* " (DP1). In the same view, MP1 said, "*Train them [supervisors] so as to train others.*" [12] at the University of Beijing concur that the success of the research thesis and dissertations is determined by the interaction between the supervisor and the student, and postgraduate research supervision and publishing play a crucial role during and after the thesis preparation and supervision activity.

6.2.2 Increase writing retreats and conferences

Participants were of the view that access to writing retreats was paramount at the institution. As DP2 responded, "*Writing retreats should be conducted by universities to improve postgraduate students' exposure*

to research skills." Similarly, SP2 acknowledged, "*Research office should organize a minimum of twofold workshops a year on how to inscribe for publications".* The supervisor's final responsibility related to scaffolding is to model potential approaches of completing [14].

6.2.3 Boost the reward system

The reward system was indicated as having an influence on motivation to supervise and publish. Thus, MP2 said, "*They [supervisors] be given adequate incentives like advancement and incentives timeously so as to encourage them to publish."* Equally, SP3 said, "*Encouragement and motivation of supervisors by means of incentive scheme as well as promotions are required, including exposing them to supervisor workshops, mentoring and skills on basic research processes."* DP3 confirmed saying "*Research publication should be regarded as a core element of research."* Enhancing postgraduate research supervision and publication strategies for the future success of higher education institutions is fundamental to sustainable research development in universities [5].

6.2.4 Early registration, timely supervisor allocation and competent supervision

It was raised that there is need for postgraduate students to register early as each year begins, either as first-time entering or returning students. MP4 said, "*I would love to have time allocation especially at beginning of my research might assist, meet regularly and avail himself for this research, stress of not getting response from supervisor is frustrating."* Another participant said, "*Timely allocation of supervisor and be able to*

start research on time so to run away from delays, support is very limited, and I do not have funding which affects me too much" (MP5). In the same vein, MP6 maintained the need for "*Punctuality of submission and feedback from the supervisors, be available to their students to give guidance to the students",* while DP2 added saying that, "*Positive attitudes by students and supervisors towards research"* were crucial to improving postgraduate throughputs.

7. Conclusion

The study makes the following conclusions:

- Supervisor availability and competence has an influence on postgraduate throughputs.
- Deterents of publications also included the nature of student and supervisor relationships.
- Ongoing supervisor and student capacitation workshops were critical to ensuring improved postgraduate throughputs and research publications.
- Supporting supervisors and postgraduate student through a competitive reward system was fundamental to boosting research outputs at the institution.

Recommendations

- The university needs increased allocation of funds for conference attendance by supervisors and students.

- Promote the provision of research seminars to be initiated by faculties to assist novice researchers.
- Research supervisors and postgraduate students are supported attend writing retreats and related publication workshops.
- Enhanced coaching through a supportive mentoring system to both supervisors and postgraduate students.

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