Research capacity development needs for postgraduate students at South African public universities

Fulufhelo Malamatsho*

Abstract

Supervisors are the cornerstones of successful postgraduate studies. Once registered, a postgraduate student is allocated a supervisor to oversee research and mentor them. Some universities allocate supervisors and mentors separately depending on their capacity. Although postgraduate students need to lead their academic journey, their supervisors are also responsible for their success. The throughput rate for postgraduates focuses on ensuring that students fulfil the requirements of their degrees within the expected time frames. Challenges may arise in the postgraduate student journey, including emotional, psychological, financial and health – and even the loss of interest in their research. The supervisors are expected to help the students to overcome these challenges through various means, including referral to professional services. Some universities may offer incentives to supervisors should their students graduate on time. However, it is not entirely clear what students would want from their supervisors or universities in order to feel supported. This quantitative study surveyed postgraduate students who were studying at South African public universities from 2010 to 2020 in order to determine who played a role in their studies and what kind of support or research capacity development activities helped them to complete their studies. Cooke's Framework (2005) was applied in the questionnaire to evaluate the development of the students' research capacity. The findings highlight the reality that supervisors are key to postgraduate support and throughput rates and that activities such as research workshops and dissertation writing sessions are beneficial to postgraduates. The study recommends adopting Cooke's Framework at public universities so as to evaluate research capacity, replacing the principle of sustainability and continuity with emotional support and conducting needs assessments, ongoing monitoring and year-end evaluations, while ensuring that supervisors are suitably equipped to meet student needs.

---

* University of South Africa. ORCID: https://orcid.org/0000-0002-7195-670X Email: fulufhelohope@gmail.com

1.   Introduction and background

Education is the key to advancement and success the world over. In countries such as Indonesia, 'universities as educational institutions are expected to be able to produce graduates who can compete and defend Indonesia from academic invasions and foreign workers' (David, Tewal, Sendow, Trang & Lumintang, 2022: 142). This expectation is no different in other countries, including South Africa. Building a knowledge economy is crucial to development. In Lwakabamba (2011), the author states that a continent relies on its higher education and participation in research to develop. In higher education, the journey to becoming a researcher begins when a student enrols to pursue postgraduate studies. Therefore, in order for universities to contribute towards building a knowledge economy, student support and possessing the capacity to engage in postgraduate supervision cannot be overemphasised.

In South Africa, most of the postgraduate students are registered at public universities. Data on the DHET statistics for post-school education and training in 2019 indicate that 1 094 808 students were enrolled at public higher education institutions (HEIs) as compared to 219 031 at private institutions. There are generally high enrolments of students at public universities, which is the reason this study focused on South African public universities. In 2019, for instance, the number of students registered in doctoral programmes more than doubled compared to the previous year, with a growth of 124%, or 13 059 students, while master's-degree registrations saw a growth of 37,5%, or 16 409 students. Of these, there were 1 383 master's graduates and 42 doctoral graduates (DHET, 2020). Therefore, there is a need for postgraduate support so that these students can complete their studies satisfactorily. Moreover, the throughput rate is not just about completion: the students must complete their studies on time according to the university's regulations. The more students there are who complete their degrees, the more students who can be enrolled to begin their postgraduate studies.

Apart from the matter of space and supervision capacity, each student who graduates on time yields a monetary subsidy for the university. In the data extracted in 2021 from the Higher Education Management and Information System (HEMIS), the DHET reported that the graduation rate for postgraduate students below the level of master's degree was 52, for master's degrees it was 21,5 and for doctoral degrees it was 15,1 (DHET, 2020). These rates seem to be rather

low, nationally. This means that more universities must maximise their efforts to balance enrolments and their throughput rate for postgraduate studies. Besides the monetary gains, a university with students who pass on time gains a good reputation, which serves as a marketing strategy to increase enrolment, attract funding, enter into collaborations, gain high university rankings and attract quality staff members.

The present researcher and author of this article is aware that it is not only student support that will increase a university's reputation, but the overall governance of the university plays a significant role too. In a study conducted at an Indonesian university, Halmahera, it was learned that good governance in universities positively affects reputational risk (David et al, 2022). Also in Indonesia, another study indicated that the decision to study at a university is influenced by word of mouth and the reputation of a university (Harahap, Hurriyati, Gaffar & Amanah, 2018). This view is also supported by (D'Uggento, Petruzzellis, Piper & Gurrieri, 2022). In South Africa, a good university reputation directly enhances students' confidence in their chances of employability (Pitan & Muller, 2019). It is therefore crucial to ensure that universities enjoy a positive reputation in society.

Producing more postgraduate students is another way of increasing the capacity for future teaching and research (Malamatsho, 2021); therefore, investing in building capacity for postgraduate student support is crucial in higher education. This is the main reason for conducting this research. The study aimed to ascertain the support systems and activities that are in place at universities to ensure that they are relevant in meeting postgraduate students' needs. To achieve this, the study objectives were these:

(a) Identify the main role-players in research capacity development for postgraduate students at public universities in South Africa.

(b) Identify activities and tools for research capacity development for postgraduate studies in South Africa.

(c) Recommend guidelines or tools for postgraduate support at public universities in South Africa.

This study aimed to answer the following questions by means of a survey issued to the student cohort:

1. Who are the main role-players in research capacity development for postgraduate students at public universities in South Africa?

2. What activities and tools are useful to ensure research capacity development for postgraduate students at South African public universities?

3. What guidelines or tools can enhance postgraduate support at south African public universities?

The trend towards producing research projects is a significant indicator of the improvement in research capacity-building at higher learning institutions (Bosire Onyancha & Jacobs, 2009). However, the more students are enrolled, the more capacity is required to ensure they are supported and that they complete their studies as expected. For instance, regulation time of a master's degree's is two years. Each postgraduate student is allocated at least one supervisor. In some cases, a supervisor and co-supervisor(s) are allocated, depending on the research topic and the capacity required for support. Supervisors are faculty staff who as a rule engage in teaching and research. However, universities usually have policies on who should supervise which students: for instance, a supervisor with a doctoral degree can supervise a master's or an honours student, while a supervisor with a master's degree can supervise an honours student only.

There is a high demand for postgraduate degrees worldwide. According to Schulze (2016), scholars are under pressure to obtain doctoral degrees because such qualifications enable them to gain full membership of university faculties. Based on the 2020 data, there were 20 309 teaching and research staff members in public universities in South Africa (DHET, 2020). Having qualified staff members in a faculty also boosts the quality of education and research. When the university has more academic staff and researchers with higher qualifications, this also increases the capacity for postgraduate supervision and mentorship for early-career researchers. It also increases the profile of the university by strengthening its credibility in society. In a study conducted in Rwanda, it was indicated that the increase in undergraduate enrolments demands an increase in academic staff members with master's and doctoral degrees (Lwakabamba, 2011). The same is expected of postgraduate supervision in South Africa.

As mentioned above, when postgraduate students register at universities, they are allocated supervisors to teach, guide and mentor them until they complete their studies. Supervisors are academic staff members and researchers at that university and they are crucial to managing students' research experiences and to ensuring that students know what is expected of them and that they complete their research and theses in good time in preparation for examination. However, according to Ngulube (2021), challenges exist regarding the lack of focus on supervision and supervisors, and therefore a gap exists in the training of supervisors. This article aims to contribute towards closing that gap by identifying postgraduate students' needs so that supervision can be tailored to respond to these needs so as to ensure that students meet their completion and throughput rates.

A study at a South African HEI identified numerous supervision challenges, including communication breakdowns, inadequate feedback, the absence of supervisors and a failure to uphold ethical

standards (Cekiso, Tshotsho, Masha & Saziwa, 2019). Another study conducted on nursing supervisors suggested that to ensure that supervision is efficient and accessible, supervisors need to attend a research supervision module and adopt online research supervision in order to accommodate both part-time and full-time postgraduate students (Muraraneza, Mtshali & Mthembu, 2016). However, it is crucial first to understand postgraduate students' needs by merely asking them what their needs are.

2.   Problem statement

Postgraduate supervisors are expected to play a substantial role in supporting postgraduate students in universities (Malamatsho, 2021). Their support should include teaching research, supervision, mentorship and providing emotional, financial and publication support. In essence, supervisors are expected to provide holistic support that enables postgraduate students to progress well with their studies. Although supervisors are expected to provide this support, it is not clear how universities support them so that they can perform all these duties. The demand for supervision support may have increased during Covid-19; however, there is no research which focuses on postgraduate supervision (Chigona & Sosibo, 2024). Therefore, the well-being and capacity of postgraduate supervisors need to be studied. Some of the postgraduate supervisors are still furthering their own postgraduate studies; for instance, a supervisor may be a PhD candidate supervising several honours students. According to (Ngulube, 2021), master's and doctoral students rely on supervisors so that they can participate in the knowledge economy, a phenomenon this study has confirmed (Malamatsho, 2021).

Participation in research increases innovation, which is a key catalyst for advancing technologies, products and processes (Marques Santos & Coad, 2023). Producing postgraduate students contributes to an increase in innovation in a country. This makes this study crucial to understanding students' supervision needs during their studies if they are to perform well, complete their studies on time and eventually contribute to the knowledge economy.

Apart from postgraduate support, supervisors also need to be well equipped to meet their students' needs; for this reason, apart from their supervision roles, they must also conduct independent research themselves. Some of the challenges that render it difficult for them to engage in research include their teaching responsibilities, the lack of time to conduct research, increasing administrative workloads of their own, scarce funding opportunities, and increased administrative work involving university matters. For early-career researchers, their challenges include a lack of confidence in conducting research,

a lack of mentorship, and the demands of research collaborations (Department of Science and Technology (DST), 2018). The needs of both postgraduate students and supervisors require closer investigation to ensure synergy and the well-being of both. This study focused on learning what postgraduate students expect in a supervisor and in being supervised. The findings should be able to create a foundation for research capacity development for postgraduate students, but also to ensure that the training of supervisors is relevant in responding to students' needs. The study also acknowledges that students' needs are dynamic and that needs assessments should guide universities.

This article raises this matter for discussion in the hope that our public universities will pay more attention to the capacity and expertise of supervisors. This study does not imply that supervisors are not capacitated or cannot supervise students; however, the study is concerned with whether or not supervisors have the ability to provide 'holistic' support to postgraduate students as they are required to have the passion, knowledge of research, supervision and mentoring skills, scientific writing skills, and also knowledge of the management of the emotional and psychological challenges faced by postgraduate students. The reality is that supervisors are human, too, and the data indicate that postgraduate students regard supervisors as their first line of support (Malamatsho, 2021). As indicated above, the DHET has reported that the graduation rate for postgraduate students below a master's degree was 52, for a master's degree was 21,5 and for a doctoral degree was 15,1 (DHET, 2020). South Africa therefore needs to work at increasing the number of doctoral graduates.

3.   Materials and methods

It should be emphasised at the outset that supervisors are the cornerstone for postgraduate studies at public universities in South Africa (Malamatsho, 2021); however, it is crucial first to know that postgraduate students need to understand what is required of supervisors to be well-equipped and what other supervisory activities can assist postgraduates.

Before undertaking this research, ethical clearance was obtained from the University of South Africa's College of Human Sciences Ethics Committee. A quantitative study was conducted to assess the role of research capacity development at public universities in South Africa. A survey was used as the data-collection tool. The participants were postgraduate students who were enrolled for honours, master's and doctoral studies at public universities of South Africa between 2010 and 2020 and were exposed to some research activities such as completing a research protocol, collecting data and writing a thesis or a dissertation. The study chose this group of students because they

have had an opportunity to undertake the research journey and may be able to share their postgraduate experiences.

The snowball method was used to recruit the participants; this is where those participants who completed the survey would be asked to refer their former postgraduate classmates to the researcher. The researcher would then conduct the screening according to the inclusion and exclusion criteria as per Table 2 below. If candidates were eligible, the researcher would then explain what the research is about using an information leaflet. Those who were not interested in participating were excused from the study; if interested, a link to complete the survey was sent to the participant. The participants were treated with respect and dignity by ensuring that they had the information they needed; they had some time to think and decide about their participation, were allowed to ask questions and voluntarily chose to participate in the study.

Data were collected from a total of 73 participants (24 honours, 25 master's and 24 doctoral) as per Table 1 below. Data were collected using a Google form which enabled the researcher to populate the data in an Excel spreadsheet. This approach facilitated easier filtering and analysis of the data. Former postgraduate students were asked questions such as who supported them during their studies and how they were supported. Those who completed their studies on time were asked questions about what had enabled them to do so; and those who stated that they were unable to complete their studies on time or had to drop out were also asked questions about what led them to those circumstances. Cooke's Framework for Evaluating Research Capacity-Building was deployed to formulate the survey questions. The survey questionnaire was therefore developed in alignment with Cooke's principles for research capacity-building. It was also used to evaluate research capacity development for postgraduate students.

Table 1: Study population

Former postgraduate students registered between 2010 and 2020 at South African public universities	
Study level	**Number of participants**
Honours	24
Master's	25
Doctoral	24
Total	**73**

Table 2: Inclusion and exclusion criteria

Former postgraduate students registered between 2010 and 2020 at South African public universities	
Inclusion criteria	**Exclusion criteria**
Participants must be 18 years and older	Participants should not be younger than 18 years of age
Postgraduate students who registered for honours, master's or doctoral studies between 2010 and 2020	Postgraduate students who were not registered for honours, master's or doctoral studies between 2010 and 2020
Must have registered and studied at a public university for at least 12 months	Previously registered postgraduate students at private universities and other institutions of higher learning; or former postgraduate students who studied for less than 12 months
Participants must be willing to sign a consent form by ticking a 'yes' box to indicate they agree to participate	Participants who are not willing to sign a consent form by ticking a 'yes' before completion of the survey questionnaire
Participants must have been exposed to some research element during their studies (eg developing a research proposal, data collection)	Participants who were on coursework and did not work on a research project

4.   Theoretical framework

4.1   Cooke's Framework for evaluating research capacity-building

The Framework was used to determine which research capacity development activities worked and which did not work for postgraduate students (Malamatsho, 2021). Assessing postgraduate students' needs helps universities to stay relevant in what they offer. This ideology relates to the 'customer is always right' philosophy, which should also be applied in academia as universities are also business entities. And, as business entities, they should know what their customers need, how and when.

Cooke's Framework is presented as an evaluation tool; it acknowledges that capacity development is not possible in isolation (Malamatsho, 2021). In a study by Ngulube (2021), it was found that most of the supervision for postgraduate students follows an individualistic model by which one supervisor is allocated to a postgraduate student; however, the study highlighted the benefits

of team supervision, which includes an opportunity for increased collaboration or integration of knowledge, methods, or perspectives, and also the concept of multidisciplinary research in which various disciplines are involved.

In Cooke (2005: 4–8), six principles can be used to evaluate research capacity-building. These are:

> developing skills and confidence, ensuring that the research is close to practice, supporting linkages, partnerships and collaborations, developing appropriate dissemination, investing in infrastructure, and building elements of sustainability and continuity.

This study implemented this framework by asking questions according to these principles. Figure 3 below indicates Cooke's Framework for research capacity-building. The study achieved this by developing questions based on the themes below (Malamatsho, 2021):

1. Role-players, tools, benefits and beneficiaries of research capacity development
2. Activities and tools for research capacity development
3. Building kills and confidence (Principle 1)
4. Research that Is 'close to practice' (Principle 2)
5. Support linkages, partnerships and collaborations (Principle 3)
6. Developing appropriate dissemination (Principle 4)
7. Investment in infrastructure (Principle 5)
8. Building elements of sustainability and continuity (Principle 6)
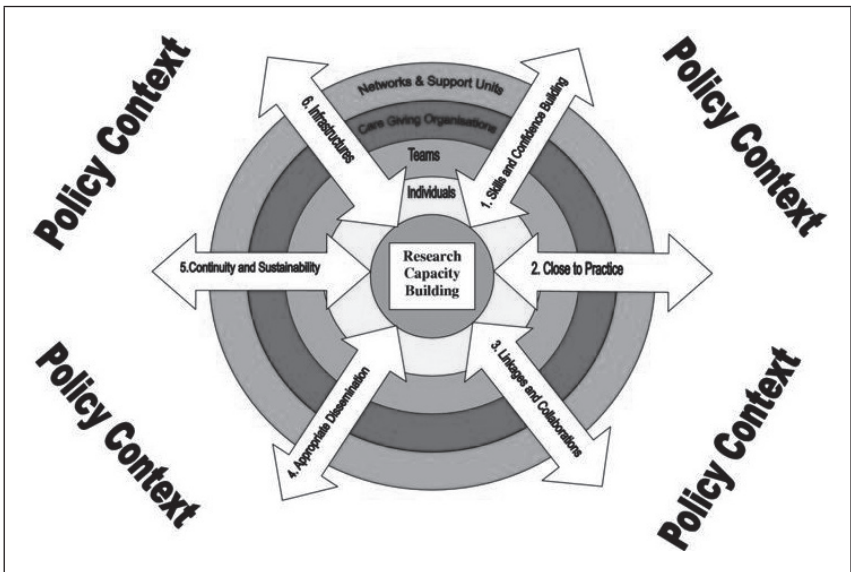
Figure 1:   Research capacity-building: a framework for evaluation (Cooke, 2005: 3)

In applying Cooke's Framework for research capacity-building, this study learned that the Framework can be used in research capacity development for postgraduate students at public universities but it requires to be adjusted first to fit postgraduate students by removing principle 6, which is about building elements of continuity and sustainability. Such a principle, it is suggested, should be substituted with psychological and emotional support.

The adjusted research capacity development framework can be used better if it is standardised by the DHET or the Council on Higher Education (CHE). Universities may derive their own policies and standard operating procedures from this Framework. Universities will also need to complete a needs analysis for postgraduate students regularly as new students join the university every year. Below is an explanation on how the six principles of the Framework can be implemented in the evaluation of research capacity development for postgraduate students in public universities.

5.   Summary of findings

The study initially wanted to find out whether universities were implementing research capacity development for postgraduate students. We learned that they implemented it by offering various activities, as indicated in the chart below:
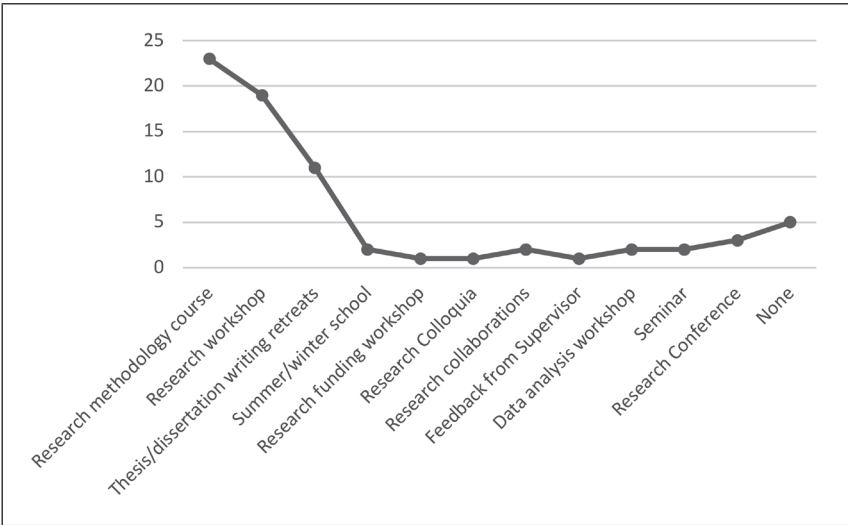

Figure 2:   RCD activities that benefited postgraduate students the most

The figure above shows that universities have been implementing research capacity development for postgraduate students. Activities such as the research methodology course, research workshops and

thesis or dissertation workshops or retreats were considered more useful in their postgraduate studies. In support of this, it was mentioned that when students attend research courses, workshops and seminars, they learn more about research, aademi writing, and so on (Manabe et al, 2011; Marjanovic et al, 2017).

## Principle 1: Developing skills and confidence

This study learnt that principle 1 for developing skills and confidence can be applied by equipping postgraduate students with additional skills which complement the research skills; these also assist the supervisor(s) of the postgraduate students. As students gain confidence in their studies, their performance is most likely to improve. However, data for this principle did not show much significance as most postgraduate students (n = 9) were offered training on presentation skills, followed by project management (n = 4), and computer training for doctoral students (n = 2). The rest of the skills training, such as monitoring and evaluation, using research tools such as Mendeley, library training etc, were offered to a few students in each study level. There is no skill which was significantly high in response to this question. However, as indicated in Figure 4 above, research training is crucial to postgraduate studies.

Principle 2: Research that is 'close to practice'

This section of the study aimed to determine whether the research conducted by postgraduate students was improving or was envisaged to improve the lives of clients (ie, students, staff, and the broader community). Moreover, the section wanted to explore students' perceptions of the research culture in universities to understand whether research is valued and encouraged (Malamatsho, 2021).

The study learned that most participants focused their research on improving the lives of communities in local government (16%), enhancing health and farming solutions (11%). An equal number of the participants indicated that their research deals with environmental challenges and social support for the elderly (7%), and also land-reform solutions and social development (5%). Community development, technology improvement, teaching and learning advancements and indigenous knowledge systems were also mentioned equally (4%). Other areas of 'close to practice' research, which were less frequently mentioned, include food safety policies, international relations and human resources development. These responses indicated that postgraduate students understood that research is aimed at improving the lives of members of society.

Regarding the research culture at universities, the following figure illustrates the results, where 79% of the participants believed that research was valued and encouraged at their universities. This principle can be implemented by ensuring that research is in fact promoted. Some universities appoint research capacity managers or coordinators to ensure that research is promoted and embraced, thus changing the research culture of the university. This may increase the morale of postgraduate students too.
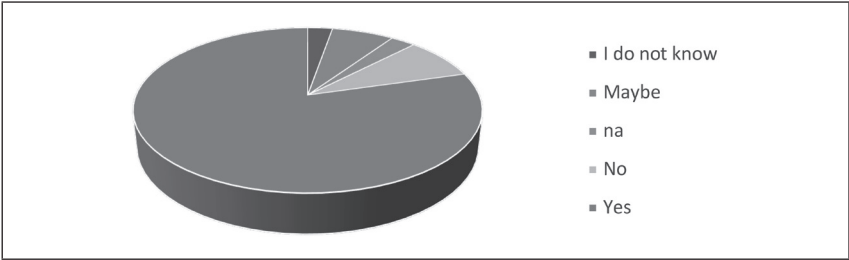
Figure 3:   Is research promoted?

Principle 3: Support linkages, partnerships and collaborations

Under this principle, the former postgraduate students were asked if they were part of research groups or if they were collaborating with others during their research. Some 53% indicated that they were part of a group or a collaboration; 42% were not involved in group work or collaborations, while 5% did not respond to the question. Those who indicated they were part of a research team or collaborations indicated that these collaborations helped them to work in teams and receive support from others.

Principle 4: Developing appropriate dissemination

In this study, this principle was achieved by asking the postgraduates whether their universities had a policy, strategy or plan in place for the dissemination of research results, if there were platforms available for disseminating research results, and if there were funding opportunities to support the dissemination of results.

The survey questionnaire first asked the participants if their university had a dissemination strategy, plan, or policy in place. Most of the doctoral students (75%) and the master's students (60%) reported that their universities had research dissemination strategies, plans or policies. The next question was whether the universities offered platforms for research dissemination and, finally, whether universities had funding opportunities for the dissemination of research. Similarly, those postgraduates also mentioned that there were also platforms for research dissemination at their universities. With regard to the honours

students, 38% of them mentioned that their universities had research dissemination strategies, plans or policy dissemination platforms and that there was funding to support the dissemination of results.

Principle 5: Investment in infrastructure

Under this principle, the study was mainly interested in discovering whether the participants had the essential resources to complete their research projects, their participation in other research projects, issues related to the mentorship and supervision of postgraduate students, and how matters of authorship and co-authorship were being managed at universities (Malamatsho, 2021).

Although the study was quantitative, there were a few questions which allowed the participants to write their views instead of choosing from the options provided. Data on the matter of resources indicated that 95% of the postgraduates had the resources they required to conduct research; however, 5% did not have enough resources, citing that

- 'the university denied access to funds even though I had funding';
- 'the University gave limited access to data-analysis tools such as SPSS and STATA';
- 'no funding was available';
- 'I applied for various funding opportunities but did not get any'.

Regarding participating in other activities, 58% of the doctoral students indicated that they were involved in other work such as tutoring, writing for publications, laboratory work and managing research projects in the office. The rest of the participants did not participate in different work apart from their studies.

Under this principle, the study also wanted to focus on the questions of mentorship and supervision. The former postgraduate students were asked questions such as who their source of support was during their studies, what they understood about mentorship and supervision, and their experiences with mentorship and supervision during their studies. The figure below indicates their responses when asked who supported them during their studies:
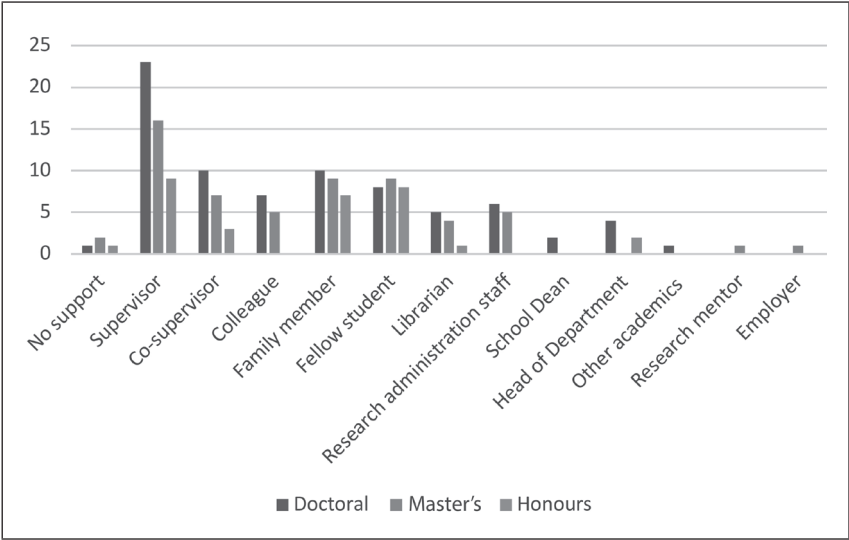
Figure 4:   Support system for postgraduate students

At all the study levels, most students indicated that they were supported by their supervisors (Malamatsho, 2021). However, co-supervisors, family members and fellow students have been identified as sources of support to varying extents.

Principle 6: Building elements of sustainability and continuity

This principle focuses on matters relating to skills transfer to ensure continuity and the sustainability of the university, particularly in the area of research. The former postgraduate students were asked if they were aware of a policy on sustainability and continuity. Most of them did not know or were not aware, while 47% indicated there was such a policy at their universities.

Postgraduate students' needs for research support in public universities of South Africa

The last question asked in this study was this: 'What would make their postgraduate journey easier and successful if they were to register at a South African public university in future?' This question underpins the entire study as it is a direct question assessing the needs for postgraduate support. Most of the participants identified the following as their greatest needs: having a committed supervisor, an effective mentor and access to funding. The figure below is a snippet of the findings for this question.

What would make postgraduate studies easier?	Doctoral	Master's	Honours
Identifying a committed supervisor	7	10	19
Improvement of access to funding	12	8	10
Allocation of effective mentors	2	2	5

Figure 5:   What would make a postgraduate journey easier?

Although other factors were identified as needs, such as access to resources, most of the participants mentioned that their studies would be successful if they had committed supervisors, effective mentors and access to funding.

When asked about their experiences with supervision, the following were the responses:
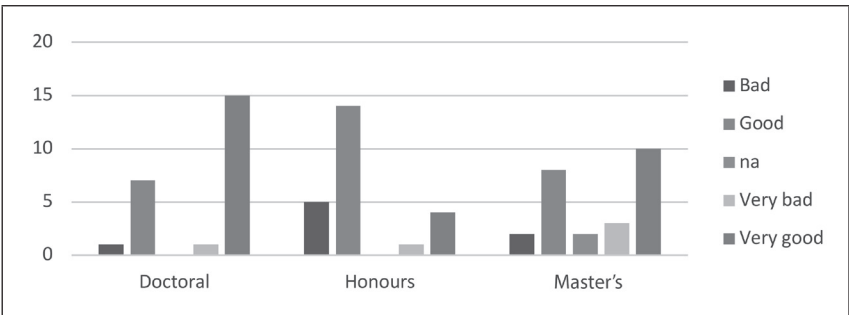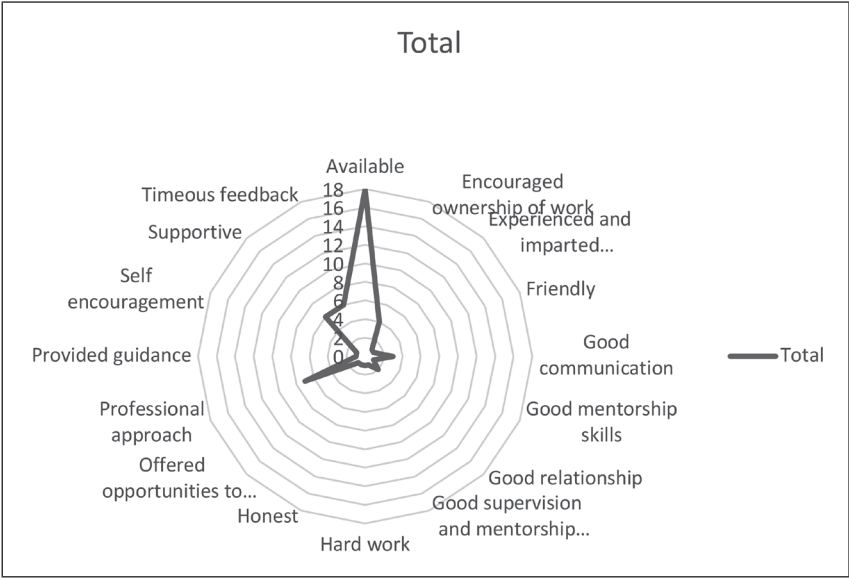

Figure 6:   Supervision experiences

In general, the majority had positive experiences with their supervision. The figure above indicates that most of the postgraduate students at the doctoral (63%) and master's (40%) levels had very good experiences with their supervisors; however, there were still more students who were dissatisfied. At the honours level, more students (58%) had a good experience with their supervisors. Although there are students who had very good and good experiences, there are still those who experienced challenges with their supervision. The data suggest that there remains a lot to be done to improve the supervision experiences for postgraduate students at South African public universities.

This study finally asked the former postgraduates to explain briefly their experiences with their supervisors. The figure below indicates that those who had very good or good experiences in supervision benefited from supervisors who:

- were available for them;
- gave them timely feedback;
- supported and encouraged them;
- imparted knowledge; and
- were friendly and professional.

Figure 7:   Explanation of positive experiences with supervisors

6.   Summary of recommendations

This study learned that Cooke's Framework for evaluating research capacity development can be implemented in the case of postgraduate students, except principle 6, which focuses on sustainability and continuity. We found that such a principle is not significant for postgraduates but can be applied when evaluating research capacity development for academic researchers. This framework presupposes that should these principles be applied in a research environment, research capacity-building can be achieved. For universities to be able to offer support to postgraduate students, there must be interaction between these principles. For example, if students have effective supervisors but have no funding for their studies, they may still not complete their research.

Since Cooke's Framework is for evaluation purposes, this study suggests that a monitoring tool for research capacity development be developed. This is because evaluations often take place at the end of a project to determine whether it was successful or not. During the implementation of the programme, monitoring should take place. This will ensure that progress is measured 'along the way' and not only in the end. Kasprowicz et al (2023) indicate that the literature on the monitoring and evaluation of research capacity development is scarce, so this is an area that needs to be researched.

The study calls for universities to pay attention to aspects of supervision, mentorship and funding for postgraduate students. Challenges may also be experienced when a supervisor resigns or passes

away; this may slow a student's progress if it is not handled well. The figure above has indicated some of the positive experiences postgraduate students have benefited from their supervisors. Universities may use these experiences to plan for improving postgraduate supervision. For instance, they may focus on ensuring that supervisors are trained in soft skills so that they can be able to motivate their students.

This study found that most universities are implementing research capacity development for postgraduate students through various activities such as the research methodology course and thesis and dissertation writing workshops and retreats; however, there seem to be challenges in accessing funding and other resources.

7.   Conclusion

The study found Cooke's Framework for Evaluating Research Capacity Development useful in measuring the nature and extent of support for postgraduate students at South African public universities. Principle 6 of the Framework can be substituted by offering emotional and psychological support which could be offered by supervisors, mentors, student support departments and the university's referral system. The former postgraduate students highlighted the reality that supervisors are their main source of support during their studies. Therefore, identifying effective supervisors and mentors and ensuring that supervisors can supervise postgraduate students proficiently and personably should be the focus of universities.

This study acknowledges the uniqueness of each university; however, the data above show that if effective supervisors and mentors are deployed and there is funding for research, postgraduate students will progress well with their studies. This will also improve the throughput rate for universities, which in turn benefits the universities with regard to gaining government subsidies and good reputation, which attracts more students to the university.

This research also revealed that monitoring and evaluating research capacity development at public universities may help to identify the research capacity development needs in postgraduate studies and also help universities to be proactive in responding to these needs.

References

Omwoyo Bosire Onyancha, O & Jacobs, D 'Capacitating national research: A review of South African natural sciences research projects, theses and dissertations, 1986–2006' (2009) 75(2) *South African Journal of Libraries and Information Science* 117–130.

Cekiso, M, Tshotsho, B, Masha, R & Saziwa, T 'Supervision experiences of postgraduate research students at one South African higher education institution' (2019) 33(3) *South African Journal of Higher Education*, available at https://doi.org/10.20853/33-3-2913

Chigona, A & Sosibo, L 'Research and postgraduate supervision during the Coronavirus-19 pandemic: Lessons learned' (2024) 38(1) *South African Journal of Higher Education*, available at https://doi.org/10.20853/38-1-6281

Cooke, J 'A framework to evaluate research capacity building in health care research capacity building in health care' (2005) 6(44) *BMC Family Practice* 1–11, available at https://doi.org/10.1186/1471-2296-6-44

David, J, Tewal, B, Sendow, GM, Trang, I & Lumintang, GG 'Good university governance, reputation risk, and public accountability private universities (Pts)' (2022) 7(2) *Jurnal Ilmiah Manajemen dan Bisnis* university governance, reputation risk, and public accountability private universities, available at https://doi.org/10.38043/jimb. v7i2.3831

Department of Higher Education (DHET) 'Statistics on post-school education and training post-school education and training in South Africa: 2019' (DHET 2020).

Department of Science and Technology (DST) *White Paper on Science, Technology and Innovation for public consultation* (DST 2018).

D'Uggento AM, Petruzzellis L, Piper L, Gurrieri AR 'In the name of the university: The choice to promote as a tool to influence decision-making' (2022) 57(4) *Quality & Quantity* 3151–3164.

Harahap, DA, Hurriyati, R, Gaffar, V & Amanah, D 'The impact of word of mouth and university reputation on student decisions to study at university' (2018) 8(6) *Management Science Letters*, available at https://doi.org/10.5267/j.msl.2018.4.027

Kasprowicz, VO, Waddilove, KD, Chopera, D, Khumalo, S, Harilall, S, Wong, EB, Karita, E, Sanders, EJ, Kilembe, W, Simani Gaseitsiwe, S & Ndung'u, T 'Developing a diversity, equity and inclusion compass to guide scientific capacity strengthening efforts in Africa' (2023) 3(12) *PLOS Global Public Health* e0002339, available at https://doi.org/10.1371/journal.pgph.0002339

Lwakabamba, S 'Initiative to build capacity in research and postgraduate training' (2011) 8(2/3) *World Journal of Science, Technology and Sustainable Development*, available at https://doi.org/10.1108/20425945201100012

Malamatsho, F *An assessment of research capacity development in institutions of higher learning: A case study of the former postgraduate students at the honours, masters and doctoral levels in South Africa* (University of South Africa 2021).

Manabe, YC, Katabira, E, Brough, RL et al. 'Developing independent investigators for clinical research relevant for Africa' (2011) 9(44) *Health Research Policy and Systems*, available at https://doi.org/10.1186/1478-4505-9-44

Marjanovic, S, Cochrane, G, Robin, E, Sewankambo, N, Ezeh, A, Nyirenda, M, Bonfoh, B, Rweyemamu, M, et al 'Evaluating a complex research capacity-building intervention: Reflections on an evaluation of the African Institutions Initiative' (2017) 23(1) *Evaluation* 80–101, available at https://doi.org/10.1177/1356389016682759

Muraraneza, C, Mtshali, F & Mthembu, SZ 'Research supervision: Perceptions of postgraduate nursing students at a higher education institution in KwaZulu-Natal, South Africa' (2016) 8(2) *African Journal of Health Professions Education*, available at https://doi.org/10.7196/ajhpe. 2016.v8i2.294

Ngulube, P 'Postgraduate supervision practices in education research and the creation of opportunities for knowledge sharing' (2021) 79(2) *Problems of Education in the 21st Century* 255–272. DOI:10.33225/pec/21.79.255

Pitan, OS & Muller, C 'University reputation and undergraduates' self-perceived employability: Mediating influence of experiential learning activities' (2019) 38(6) *Higher Education Research and Development*, available at https://doi.org/10.1080/07294360.2019.1634678

Marques Santos, A & Coad, A 'Suggestions for monitoring and evaluation of transformative innovation policy', (2023) 23 *JRC Working Papers on Territorial Modelling and Analysis*, European Commission, Joint Research Centre (JRC), Seville, available at https://hdl.handle.net/10419/283088

Schulze, S 'The disengaging and engaging experiences of postgraduate students with procrastinating behaviour' (2016) 14(3) *Journal for New Generation Sciences* 201–217.