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ENHANCING QUALITY THROUGH POSTGRADUATE SUPERVISION REMODELING IN HIGHER EDUCATION INSTITUTIONS

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Abstract. The demand for a postgraduate qualification in South Africa has increased due to the Department of Higher Education and training requirement for a Master's degree as the minimum qualification for teaching in universities. However, low completion rates and inferior quality dissertations and theses suggest that these ideals may not be achievable. This study juxtaposed research supervision models and suggested a framework envisaged to promote quality in the exercise. The world's countries, including South Africa, are paying far more attention than ever to supervising postgraduate students. This can be attributed to a variety of factors. For example, diversity and massification issues have put doctoral students' supervision at the centre. In response to these demands, some scholars have emphasised the relevance and suitability of supervision models. As part of the qualitative method, document analysis was used to analyse the supervision models most higher education institutions prescribed in their Policies around the Eastern Cape in South Africa. Among the findings, the policies and their Guide focus on two types of supervision: one-on-one and co-supervision. Regrettably, neither the Policies nor the Guide mention group supervision practices. The finding further revealed that no one ultimate model may guarantee optimal productivity. Hence, more is needed to assist supervisors in delivering excellent supervision. The partnership's efficacy and robustness in supervision rely on trust, commitment, and sound communication. Hence, the researchers developed and recommended the Triple C and Double T framework, a comprehensive and dynamic model, for higher education institutions to be considered for supervision. It is further recommended that the variables in the concept be used to develop the hypothesis and research objectives.

Keywords: One-on-one supervision; Co-supervision; Group supervision; Higher Education Institution; Postgraduate students

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1. Introduction

Over the last decade, some higher education institutions have been characterised as dysfunctional in research, which is one of the core businesses of their existence. The supervision of theses and dissertations plays a pivotal role in enhancing research output. This requires quality supervision, among other variables, to be prioritised by the institutions. Completing a dissertation or thesis is the pinnacle of a postgraduate qualification; thus, research supervision is critical. Postgraduate supervision, according to Dautel (2020), is the active participation of a supervisor in supporting students in establishing a path of study, specifying the project scope, and offering guidance for successful completion and dissemination of results. Based on the context and content of the research, this entails continual contact and dialogue between the student and the supervisor. Supervisor feedback significantly assists students' development throughout their academic journey (Hey-Cunningham et al., 2021).

Given the looming challenges in supervision and high rates of attrition among postgraduate students, South Africa, like other countries around the world, is paying much more attention than ever before to the supervision of doctoral students through the custodianship of the Department of Higher Education and Training, with the aim to maximising research output across the higher education spectrum (Masinde & Coetzee, 2023). According to the literature, there were no significant differences in supervisory models between the one-on-one model and team supervision. Even though supervisors and supervisees have different perspectives, conducting in-depth investigations involving both sides is essential to help establish a complete supervision model through which supervisors and students can be directed into established research communities, guided by a framework intended to increase productivity.

Co-supervision is widespread in South African universities but has received little attention in the academic literature. This article examines the experience of co-supervision from the lenses of supervisors and supervisees. Both parties consider co-supervision a learning opportunity, but the time to complete projects with multiple supervisors is a concern. Kerr & Green (2014) addressed aspects such as the diverse supervision of postgraduate students, the time it takes to complete their studies, and the countries' approach to fostering human capital. For instance, increasing the number of PhD students in South Africa is one of the goals of the National Development Plan (NDP): Vision 2030 (Grossman & Crowther, 2015).

The demand for PhD students is more comprehensive than in South Africa. Many African countries also face this demand. African countries are also looking for universities to contribute to the knowledge economy in ways other than producing new academics (Cloete et al., 2015; Wilmot, 2021). A critical factor in this regard is generating innovative ideas, which should be based on intellectual capabilities. To accomplish this, suitable human capital must be produced to meet countries' future developmental requirements. According to Powell and Snellman (2004), innovative ideas lead to improved goods and services and organisational practices. To meet these demands, the literature has been dominated by debates about supervision models in universities that are relevant and suitable to produce suitable candidates at the postgraduate levels.

According to Laetitia (2021), several scholars have explored areas of emphasis related to the relevance and suitability of supervision models in response to such demands. In this regard, Laetitia explains that some authors argue that diversity, empowerment, critical analysis, and independence are essential for students. When it comes to the South African context, this can be so crucial. During colonialism and apartheid, South Africa was racially and tribally divided. Therefore, supervision models that take advantage of the unique characteristics of the South African context and seek social justice are crucial (Knowles, 2015).

After considering all these, Guerin et al. (2014) reveal three (3) supervision models: traditional one-on-one, team, and group. These authors argue that the three models dominate the debates about relevance and suitability, the measures needed to meet the demand for more postgraduates, particularly doctoral students, and how best universities can contribute to the knowledge economy.

Similarly, Bitzer and Albertyn (2011) indicate that traditional one-on-one, team, and group supervision are the prominent models currently in use. Despite these options, some researchers, including Laetitia (2021) and Wilmot (2021), find that the old one-on-one model, sometimes known as the expert-apprentice model, is still prevalent in South African humanities and social sciences. Guerin et al. (2014) contend that no single model is superior to others. Additionally, highlighting this issue, Ngulube (2021) notes that each supervision model has problems. Currently, postgraduate studies attrition and poor completion rates are significant concerns, leading to wasting money, resources and human energy. This evidence warrants a deliberate effort to place a high value on excellence in supervisory methods.

The paper identifies the critical roles of supervisors, one-on-one supervision, and co-supervisors in their responsibilities within postgraduate studies. It provides a model for a diversity of expertise and perspectives to be integrated into the supervision process towards research quality. In this model, tailored aid and guidance are given to supervisors and supervisees so they can excel in their research.

2. The Context of the Study

Although there are similarities, there are different definitions of supervision across the academic spectrum. According to Phillips and Johnson (2022), supervision is a formal process based on the relationship between a supervisor and a supervisee, with the supervisor's job being to assist the supervisee in developing professional behaviour and competence in professional activities. The term supervision also refers to work discipline and oversight. According to Hickey and Forbes (2022), good supervision generates a favourable social learning atmosphere. Nonetheless, Phillips and Johnson (2022) suggest that one of the most critical components of supervision is ensuring the supervisor understands his or her role as the supervisee. As a result, effective supervision strategies will emerge.

2.1 Supervisors roles and responsibilities

According to Van Rooij, Fokkens-Bruinsma, and Jansen (2021), a supervisor's role is to lead, advise, maintain scientific quality, and provide emotional support to supervisees. Different people have different perspectives on the supervisor's responsibilities. Some scholars believe that considering supervisees as autonomous researchers is better, while others argue that supervisees may depend on their supervisors. However, it has been recognised that supervisors must allow their supervisees to be at the centre for them to be both autonomous and reliant. Supervisors must set boundaries and balance things out. According to O'Donoghue and Engelbrecht (2021), spoon-feeding supervisees is incorrect and should not occur during the supervisory process. Supervisors should use their academic expertise to boost the self-esteem and confidence of their supervisees.

To establish the importance of supervision, Phillips and Johnson (2022) stated that supervisors must act as a guide or facilitator for their supervisees, as well as a constructive critic and counsellor. Most students expect competent supervisors to be available whenever they need them. As a result, supervisors should always be available to meet with supervisees and provide feedback on their dissertations and theses. Roach, Christensen, and Rieger (2019) emphasised the importance of supervisors being accessible and available to supervisees when needed. Furthermore, Neupane, Bastola, and Hu (2021) believe that encouragement and accessibility are the essential characteristics of a good supervisor. However, they also contend that effective supervisors are enthusiastic, encouraging, and approachable. Supervisors are expected to provide students with assistance, time, and encouragement, as well as resources, information, comments, and research writing ethics and standards.

Throne and Bourke's work (2022) proposed that supervisors must have a history so students can trust and help them accomplish their theses. Furthermore, personal characteristics and styles of supervisors, as well as a caring attitude, are critical in helping students feel at ease. This also goes along with clear communication, as it is essential to students during supervision. Dimitrov and Hadad (2022) state that flexibility and sensitivity can strengthen the supervisory relationship. Supervisors who can instil positive attitudes in their supervisees may assist them in remaining calm and seeing things. Positive emotions contribute to effective learning. Supervisors who consistently instil negative sentiments in their supervisees may produce uncreative supervisees. Unhelpful behaviour by supervisors toward supervisees may establish a barrier that prevents them from progressing as expected. As a result, supervisors' attitudes toward their supervisees are critical during supervision. Islam, Ahmad, Kaleem, and Mahmood (2021) point out that when supervisees are struggling for assistance, supervisors frequently give direction and provide guidance to ensure that research projects under their supervision are accomplished within schedule.

According to Islam et al. (2021), *supervisors require continuous* supervisory training to bolster their knowledge. Furthermore, supervisors must effectively manage their relationships with their supervisees. Supervisors must be supportive, accessible, and approachable to supervisees for the relationship to thrive smoothly. Dual commitment from the supervisor and the supervisee has a positive impact. Furthermore, supervisors and supervisees must be present and on time during scheduled meetings. To ensure that supervisees take their studies seriously, supervision sessions should be planned and managed, with deadlines assigned (Nash, 2021). Personal characteristics of the supervisor, such as openness, adaptability, permissiveness, and responsiveness, are also crucial for research project success.

2.2 Co-supervision

Co-supervision is defined as the formal agreement of two or more supervisors to supervise a research student, and it has become common in postgraduate settings in the Eastern Cape. Suppose supervision by a single supervisor becomes challenging due to personal issues. In that case, the presence of a co-supervisor will assist in minimising the attrition rate in the project's completion.

Since co-supervision entails collaboration, some universities' supervision policies often impose a strict hierarchy at universities where the researchers for this study work; there is widespread practice for study co-supervision that requires one supervisor to bear the ultimate accountability for the student's research. This supervisor is called the chief supervisor, and the others are called associate supervisors. This hierarchical structure is expected to lessen the supervisors' workload and address the supervisees' significant expectations (Grossman & Crowther, 2015). As stated in the policies examined, this is one of the dominant models of supervision practised at advanced research levels like master's and doctorate degrees. Next is the One-on-one supervision.

2.3 One-on-one Model

One of the perceived gratifying types of supervision is the one-on-one supervision model. According to Wilmot (2021), the one-on-one supervision model is carried out through the interaction between the supervisor (Master) and student (apprentice). However, it can also be accomplished through co-supervision, also known as two-on-one supervision. The supervisor is seen as the “guru” in a one-on-one or dyadic interaction, with the student drawing on the supervisor’s superior knowledge and expertise (Bitzer & Albertyn, 2011).

As demonstrated above, the dyadic paradigm is still widely used in South African and British higher education institutions (Chiang, 2003 in Ngulube, 2021). The One-on-one supervision model is appropriate if the supervisor and student have a good working relationship. Ngulube (2021) offers the following benefits of the one-on-one supervision model:

- it fosters the skills and knowledge required to conduct rigorous research;
- the supervisor is not required to carry the burden of other colleagues;
- no contradictory feedback to students;
- managing a single relationship is simple, and there are no disagreements among supervisors;
- one supervisor has complete control and total commitment to the research project.

Despite the preceding, Ngulube (2021) identifies the following disadvantages of the one-on-one supervision model:

- conforms to conventional ideas while avoiding creativity and risk-taking;
- students may be subjected to insufficient support and resources.
- The supervisor may impose their preferences while disregarding the student's scope and methodology;
- may limit diversity and multiplicity of viewpoints.
- transparency may be lacking;
- without a mediator, tensions between supervisor and student may be challenging to address.

Based on the discussed benefits and disadvantages, a student's success in the one-on-one model depends entirely on the student's capabilities and the supervisor's guidance. In other words, the student has no other options for assistance during their studies. In this regard, Wilmot (2021:3) concurs that “the apprentice is dependent on her innate ability and the master’s influence for her success”. As a result, the one-on-one model fails to consider that students’ supervisory needs vary, as some may be more willing to seek different perspectives and support from others. Thus, this necessitates considering the team supervision model in the following discourse.

2.4 Team Supervision Model

Based on the above discussions, one can deduce that the disadvantages of the one-on-one model have led to the establishment of a team supervision model, which often happens through co-supervisory arrangements. One reason for using teams to supervise postgraduate students is that individual supervisors could only have a partial range of knowledge and skills to support students, particularly at the doctoral level. Therefore, the identified weakness can be avoided by using team supervision (Watts, 2010; Bitzer & Albertyn, 2011).

According to Manathunga (2012), most universities regard team supervision or co-supervision as effective supervision pedagogy, which has also become a policy principle of several universities worldwide. Manathunga (2012:29) further states, “It is believed that the team supervision will provide students with a broader range of intellectual and social support during their candidature.”

As a result, when forming teams or co-supervision arrangements, most universities worldwide consider the ‘coaching’ or ‘mentoring’ model. In this model, an experienced supervisor collaborates with a new or inexperienced supervisor. In this way, the student is supported while a colleague develops the necessary skills for supervision. This model or arrangement has a higher potential for smoother working relationships between supervisors than co-supervising a student by supervisors of equal status. The power dynamics between supervisors can be problematic if unclear (Watts, 2010). According to this author, communication between the supervisors can be difficult, and at times, none of them will take overall responsibility for monitoring the completion of the research project.

Co-supervision necessitates a good relationship and constant communication between supervisors to ensure that individual students are supported for their success. To realise this, South African universities should begin to advocate for the postgraduate students’ voices to be heard. Models of pedagogical supervision that promote students’ voices must be encouraged. This would allow students to question some supervision practices that are not beneficial to them. According to Nkoane (2014:701), who cites Giroux (1994), “this type of supervision practice provides opportunities; encourages collaboration and inclusion; and provides space for a pedagogy of hope and compassion”.

When all the above assertions are considered, there is a need for university policies to provide guidelines on factors that should be considered for the establishment of a co-supervision model and who should take the responsibility in such a relationship to ensure that the student eventually achieves it. Mhlahlo (2020) agrees that university faculties should have protocols to guide supervision relationships to avoid power play and failure to take responsibility for students’ success. Again, supervisors should have a humane relationship with their students. Supervisors should be compassionate when interacting with students and take a patriotic stance to achieve the goal of producing the necessary human capital.

2.5 Group supervision model

According to Guerin et al. (2014), group supervision is based on one supervisor and many students. According to these authors, who cite Samara (2006), group supervision models assist supervisors in working effectively due to the pressure on academics caused by large numbers of students being supervised. However, this does not imply that group supervision is the best or most appropriate model.

According to authors such as McFarlane (2010), group supervision has yet to receive widespread acceptance in universities worldwide. As a result, some supervisors are still determining whether the model has the potential to promote adequate supervision. According to McFarlane (2010), who cites Sales and Navarre's (1970) findings, students in group supervision indicated that time was always wasted by engaging in irrelevant discussions. Furthermore, students claimed their supervisors needed to give them individual attention to their problems. Again, due to the diverse student population in South Africa, most students had varying levels of academic proficiency.

McKenna (2017) advocates for program projects that bring together supervisory teams and provide mentorship and support spaces for the supervisors participating. This paradigm should foster a process recognising the supervisory relationship involving competent personal supervisors and an embracing academic community.

Wilmot (2021), on the other hand, sees the South African diversity context, including culture, language, educational background, age, and social class, as positive attributes that enrich the learning experience. As a result, diversity fosters various perspectives and experiences in the learning environment, which benefits candidates, students, and supervisors.

Given the preceding, the group supervision model has advantages and disadvantages that must be managed. While the advantage of this model is the ability to work effectively with multiple students at the postgraduate level, issues concerning individual problems or the individuality of candidates must still be addressed. On the other hand, diversity within the South African context must be carefully managed.

When considering the three supervision models discussed in this study, one gets the impression that South African universities should have policies and guidelines in place that clearly outline how to manage relationships between supervisors (principal supervisor and co-supervisor) and students, as well as relationships amongst students themselves in case of the group supervision. The following section focuses on the Walter Sisulu Higher Degrees Policy and Postgraduate Research Guide.

3. The Outlook of Higher Degrees Policy a Selected Institution In The Eastern Cape

Providing coverage of higher degree policies used in higher education, among others, this reviewed the postgraduate and higher degree policy of Walter Sisulu University in the Eastern Cape of South Africa. According to Section 1.4 of the Walter Sisulu University (WSU) Higher Degrees Policy, WSU ensures that the research it supports adheres to national and international best practices, among other things. In this regard, this Section also indicates that WSU is following global trends related to research development. Furthermore, Section 1.5 states: *Without being over-prescriptive towards the approaches that researchers and their postgraduate protégés adopt in their search for knowledge about and scientifically derived solutions to societal problems, the University expects its doctoral students and their supervisors to act with the highest standards of ethics, integrity, and professionalism in developing research proposals, seeking research funding, carrying out research, and producing research publications.* (WSU, 2020:1&2)

The policy needs to be more active in discussions on the pronouncements that dictate how supervision models should be established, particularly regarding the challenges raised in this study. Although Section 1.5 states that the University does not want to be overly prescriptive on the approaches that supervisors and students may choose, guidelines must be provided. However, the policy also refers to WSU's Procedures for Postgraduate Programmes, which could refer to the Postgraduate Research Guide (2019) (Guide, 2019, hereafter).

The Guide (2019) states in its preamble that the document is intended to be a resource for postgraduate students and supervisors. Furthermore, the University "acknowledges that postgraduate research implies a relationship and agreement between the candidate, supervisor, ..., each having their respective responsibilities. The Guide will

hopefully assist in ensuring that each of these role players performs optimally and that quality administration and supervision services and postgraduate research outputs will result” (Guide, 2019, p. 4).

Regarding working relationships, the Guide (2019) states that because a good working relationship between the candidate and the proposed supervisor is critical, supervisors and candidates should be kept separate. Both parties must be willing to collaborate. This gives students and supervisors the authority to decide how they should relate and interact throughout the student’s research project. This also implies that assigning students to supervisors requires negotiation with both parties and cannot be done solely by the Head of the Department (HOD) or some other person.

Furthermore, the Guide (2019) specifies the composition of co-supervision arrangements, stating that the principal supervisor should be someone who has previously supervised a student to completion, while a co-supervisor should be someone who has not previously supervised and who is to learn from the mentor (principal supervisor). This co-supervision arrangement is consistent with Mhlahlo’s (2020) proposal. Although this arrangement may be appropriate for addressing the power play between the supervisor and the co-supervisor, it undermines the usefulness or intention of harnessing the required range of skills to expose a student to and achieve success. The Guide also provides guidelines on conditions that require a student to have multiple supervisors (see Ngulube, 2021) and the supervisor’s role and responsibilities.

In the literature reviewed, most higher education institutions, unfortunately, neither the Policy nor the Guide stipulates anything about group supervision practices. This is a cause for concern, especially when one considers what was discussed in the introduction to this study about global trends on issues of diversity and massification, the time it takes students to complete their studies, and the trajectory that the world’s countries have taken toward producing the required human capital. In the case of WSU, one can conclude that the University has not yet effectively positioned itself to provide the necessary guidance on supervision models that should assist in responding to the National Development Plan (NDP): Vision 2030, which seeks to increase the number of doctoral students.

To achieve an exceptional supervision framework that may promote success and quality in postgraduate studies, the entire process must be considered a continuous commitment to knowledge creation and research education pedagogy. According to the findings from the reviewed literature, a sound supervisory model with clearly defined roles for both the supervisor and the supervisee would assist in driving supervision and enhance productivity. The researchers developed the framework shown below.

4. Method

Given the preceding explanations, it is critical that this study provide an analogy of the process followed to develop the framework suggested by the researchers, which is envisaged to strengthen the three established supervisory models. As a result, the researchers will first address the three supervision models, followed by what the researchers refer to as “The Triple C and Double T Models.” Without fieldwork, the study findings were derived from a literature review and policies. In other words, the study used document analysis as an approach or method to arrive at the recommendations. The sources for the study included Google Scholar, Web of Science, books, and book chapters. Figure 1 shows a summary of all the reviewed and sampled studies.



Figure 1. Flow Diagram of the Desktop Review and Studies reviewed

From the literature review, 160 articles were identified as being relevant to this study. Subsequently, a more focused search strategy identified 36 publications of direct relevance to the purpose of this review. The study was confined to publications published between 2010 through 2023.

The time period was selected to keep the research reviews tight with current literature and contemporary perceptions of supervision models adopted in higher education. The researchers limited their focus to publications released in the last 13 years. Such a methodology enabled the researchers to access the wisdom and experience of scholars to develop an advanced supervision model.

5. Conceptual Model

The review of the literature and policies in the previous sections offered an in-depth insight into the research and the advantages and disadvantages of each of the three models. The focal focus of the discussions was the triple supervision models used in higher education and postgraduate policies, as well as the challenges that constrain research production. These formed the basis of the proposed conceptual model, accompanied by principles that will guide the implementation of the three models. Figure 2 depicts the triple supervision models related to the Triple C and Double T principles (see Figure 2).

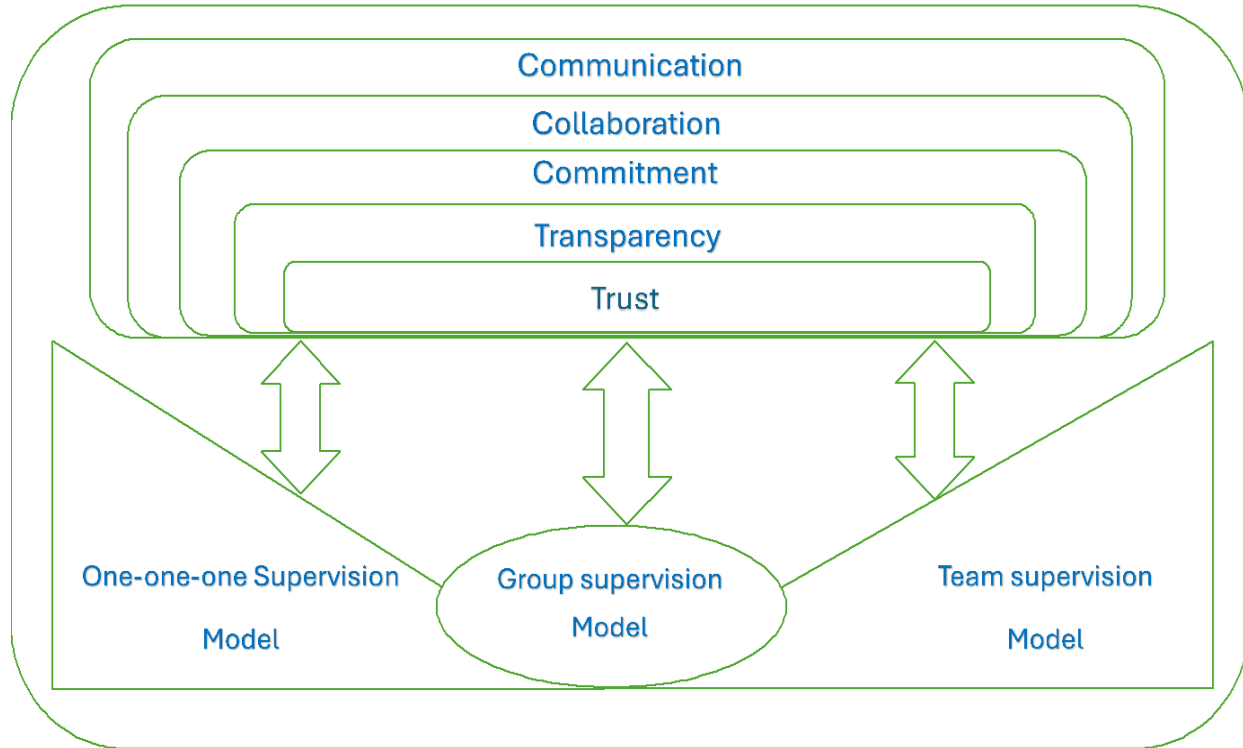


Figure 2. The Triple C and Double T Supervisory Model

Source: Authors own

In conjunction with the policies and the literature reviewed, the researchers developed the model in Figure 2 above, which depicts the triple supervision models connecting all Triple C and double T variables that may enhance the quality and quantity of supervision in postgraduate studies. This would assist in avert looming attrition and ensure the success and timely completion of postgraduate studies among students.

Supervision is a form of interaction between two individuals who may have different viewpoints but share the same goals. Wood and Louw (2018) define supervision as an "intensive, interpersonally focused one-to-one relationship between a supervisor and the student."

Throughout the thesis or research activity, the supervisor-student relationship is critical, and the interaction between the supervisor and the student determines the practical completion of the study (Da Costa, 2016). The traditional supervision model with a single supervisor prepares students for independent research. This model suits intelligent, self-directed students who can become independent researchers with minimum supervision. However, students may miss broader discussions, and isolation may limit the development of researcher capabilities. Students will be exposed to multiple approaches and vast knowledge learned from individual supervisors if they have more than one supervisor.

Group supervision, a unique and uncommon practice in today's university system, allows for supportive cohort interaction. Schefer-Wenzl and Miladinovic (2022) state that group supervision does not necessarily promote scholarly development. However, students must gain in-depth knowledge and overcome the educational gap. Integrating the Triple C and Double T framework with any of the three supervision models foresaw additional value to the process. The model can be adapted to different supervision types and aims to promote efficiency and

effectiveness. A community of students conducting research on one topic concurrently under one seasoned supervisor suggests that knowledge transfer and sharing will improve among them, and scholarly writing groups may influence student attitudes toward writing. This model is envisaged to enhance the supervisory process, especially when there is a shortage of supervisors. This will fit well with undergraduate, diploma, and Honours level supervision. Wilmot (2022) discovered that a peer-based approach may offer advantages such as a higher study completion rate on time, more excellent student involvement throughout the process, and lower failure rates.

Co-supervisors must create trust, respect, and confidence in one another, including relying on one another to react appropriately to unexpected situations (every day when working with students). Hawken and Worral (2002) emphasise the importance of mutuality, equality, and rapport during supervision.

Communication was discovered to be a factor impacting supervision. The co-supervision pyramid depicts several points of contact that co-supervisors, supervisees, and the universities have. These communication paths must be recognised and identified in their diversity and complexity. These channels can function effectively provided transparent, open, and equitable communication is developed. Clear communication was critical for students and the institution in promoting quality research. As co-supervisors, this contact also includes providing and getting regular feedback from one another. Multiple communication channels may increase the likelihood of conflict, yet working as a team will assist in reducing friction in the process.

A substantial body of literature, including Moin, Wei, Khan, Ali, and Chang (2022), showed the importance of commitment to supervision. The authors emphasise the importance of commitment in supervision and maintain that a mutual and shared dedication of both the supervisor and co-supervisor over the student and their study has been recognised as essential to successful co-supervision by all stakeholders. One of the most advantageous aspects of co-supervision was that it did not rely on the availability of a single individual. In the absence of one, the other can work with the student to ensure that the students are not delayed.

Transparency, one of the principles of Triple C in the framework, allows for open communication and decision-making with the student. Openness in supervision allows authority to be acknowledged and negotiated (Nelson, 2019). Transparency is critical for both the institution and the students. It provides students with a proper modelling environment in which to participate successfully.

6. Conclusion and Recommendations

This study focused on discussions about the three supervision models that dominated the debate about their relevance and suitability for postgraduate students. The goal of the model discussions was also to gain knowledge from the literature to eventually analyse supervision models about their directives and the implementation of those models. As a result, the following models were used to guide the discussions:

- one-on-one supervision model,
- Team supervision model, and
- Group supervision model.

The literature revealed that all three models have advantages and disadvantages. However, the literature demonstrated that those models should also be based on current trends and circumstances. In other words, the current global circumstances dictate the model universities should use to respond to the increasing demand for postgraduate degrees. However, while this may be a required practice to keep up with global trends, the needs of individual students, supervisors, and research projects should be considered. The Triple C and Double T framework can be used with the triple models to improve productivity. It is recommended that institutions similar to WSU revise their strategic plans to incorporate the framework to reduce research completion attrition and maximise productivity.

Adopting group supervision at the lower postgraduate level, such as Honours dissertation, can reduce attrition associated with fewer supervisors. Subsequently, it is imperative to allow doctoral students to be exposed to diverse ways or alternatives of learning to generate the necessary knowledge through their research projects. Departmental seminars, for example, could be especially useful in this situation and could be organised for each chapter of postgraduate students' dissertations or theses. The hybrid supervision model should also be considered at institutions of higher learning.

Co-supervision and one-on-one supervision were hazy as a point of departure, yet power dynamics hampered these connections. Supervisory education should be considered a pedagogy and teamwork that needs trust and commitment to achieve sound research output. Detaching the Triple C and Double T principles from the postgraduate supervision policy or the triple supervision model will render efforts by supervisors, supervisees, and institutions futile, whereas integrating the framework will enhance research productivity in the postgraduate studies spectrum.

As a point of departure, the researchers developed the Triple Supervision Model to improve the quality of postgraduate studies and assist in the timely completion of research projects. Using a combination of traditional supervision and peer group/work supervision, this model allows a level of co-supervision that aims to overcome the weaknesses of individual models by recommending a wider variety and levels of expertise, trust, commitment, and collaboration. This flexible model can be used with different types of supervision.

7. Limitations

The main limitation of this study is that it relied solely on secondary data and did not use empirical data. Future research may use the conceptual model developed by the researchers to formulate research questions, testable hypotheses, and research objectives that may assist in addressing supervision-related challenges, reducing attrition in research project completion, and increasing research output in higher education institutions.

References

- Bitzer, E. M., & Albertyn, R. M. (2011). Alternative approaches to postgraduate supervision: A planning tool to facilitate supervisory processes. *South African Journal of Higher Education*, 25(5), 875-888.
- Dautel, J. B. (2020). Applying a Collective Academic Supervision Model to the Undergraduate Dissertation. *Psychology Teaching Review*, 26(1), 18-26. <https://doi.org/10.53841/bpsptr.2020.26.1.18>
- Dimitrov, S., & Hadad, E. (2022). Pension tracking system application: A new supervision challenge in the EU. *International Journal of Economic Sciences*, 11(2), 48-57. <https://doi.org/10.52950/ES.2022.11.2.004>
- Grossman, E. S., & Crowther, N. J. (2015). Co-supervision in postgraduate training: Ensuring the right hand knows what the left hand is doing. *South African Journal of Science*, 111(11-12), 1-8. <https://doi.org/10.17159/sajs.2015/20140305>
- Guerin, C., Kerr, H., & Green, I. (2015). Supervision pedagogies: Narratives from the field. *Teaching in Higher Education*, 20(1), 107-118. <https://doi.org/10.1080/13562517.2014.957271>
- Hey-Cunningham, A. J., Ward, M. H., & Miller, E. J. (2021). Making the most of feedback for academic writing development in postgraduate research: Pilot of a combined programme for students and supervisors. *Innovations in Education and Teaching International*, 58(2), 182-194. <https://doi.org/10.1080/14703297.2020.1714472>
- Islam, T., Ahmad, S., Kaleem, A., & Mahmood, K. (2021). Abusive supervision and knowledge sharing: moderating roles of Islamic work ethic and learning goal orientation. *Management Decision*, 59(2), 205-222. <https://doi.org/10.1108/MD-08-2019-1069>

- Knowles, C. (2015). Reflections on the decolonisation of knowledge in the strengthening postgraduate supervision course. Department of Higher Education and Training, RSA. (Nuffic) Netherlands Organization for International Cooperation in Higher Education.
- Laetitia, C.R. (2021). Relationships, power, and accountability: Reflections on transformative postgraduate supervision workshops at a South African University School of Public Health, 2014-2020. *Innovation in Education and Teaching International*, 101-111 <https://doi.org/10.1080/14703297.2021.1952888>
- Louw, I., & Wood, L. (2018). Reconsidering postgraduate "supervision" from a participatory action learning and action research approach. *South African Journal of Higher Education*, 32(4), 284-297. <https://doi.org/10.20853/32-4-2562>
- Manathunga, C. (2012). Supervisor watching supervisors: The deconstructive possibilities and tensions of team supervision. *Australian Universities' Review*, 54(1): 29-37.
- Masinde, M., & Coetzee, J. (2023). Modelling research productivity of university researchers using research incentives to crowd-in motivation. *International Journal of Productivity and Performance Management*, 72(5), 1509-1530. <https://doi.org/10.1108/IJPPM-12-2020-0669>
- McFarlane, J. (2010). Group supervision: an appropriate way to guide postgraduate students? *Acta Academica*, 42(4), 148-170.
- Mhlahlo, A. (2020). Reflecting on supervision experiences: honours students' research projects in development studies at the Nelson Mandela University. *South African Journal of Higher Education*, 34(2), 164-176. <https://doi.org/10.20853/34-2-3565>
- Miladinovic, I., & Schefer-Wenzl, S. (2017). A highly scalable IoT architecture through network function virtualisation. *Open Journal of Internet of Things (OJIOT)*, 3(1), 127-135.
- Moin, M. F., Wei, F., Khan, A. N., Ali, A., & Chang, S. C. (2022). Abusive supervision and job outcomes: A moderated mediation model. *Journal of Organizational Change Management*, 35(3), 430-440. <https://doi.org/10.1108/JOCM-05-2020-0132>
- Mojica, E. R. (2022). Mentoring Undergraduate Research in Different College/University Settings. *African Journal of Inter/Multidisciplinary Studies*, 4(si1), 57-67. <https://doi.org/10.51415/ajims.v4i1.1027>
- Nash, C. (2021). Improving mentorship and supervision during COVID-19 to reduce graduate student anxiety and depression aided by an online commercial platform narrative research group. *Challenges*, 12(1), 11. <https://doi.org/10.3390/challe12010011>
- Nelson, L. K. (2019). To measure meaning in big data, do not give me a map; provide me with transparency and reproducibility. *Sociological Methodology*, 49(1), 139-143. <https://doi.org/10.1177/0081175019863783>
- Neupane Bastola, M., & Hu, G. (2021). Supervisory feedback across disciplines: Does it meet students' expectations? *Assessment & Evaluation in Higher Education*, 46(3), 407-423. <https://doi.org/10.1080/02602938.2020.1780562>
- Ngulube, P. (2021). Postgraduate supervision practices in education research and creating opportunities for knowledge sharing. *Problems of Education in the 21st Century*, 79(2), 255-272. <https://doi.org/10.33225/pec/21.79.255>
- Nkoane, M. M. (2014). Revisiting pedagogic practices: A case for sustainable learning environments for postgraduate supervision studies: Part 1: Exploration of the critical relationship between higher education and the development of democracy in South Africa. *South African Journal of Higher Education*, 28(3), 697-706.
- O'Donoghue, K., & Engelbrecht, L. (Eds.). (2021). *The Routledge International Handbook of Social Work Supervision*. Routledge. <https://doi.org/10.4324/9780429285943>
- Phillips, E., & Johnson, C. (2022). *Ebook: How to Get a PhD: A Handbook for Students and Their Supervisors 7e*. McGraw-Hill Education (UK).
- Powell, W. W., & Snellman, K. (2004). The knowledge economy. *Annu. Rev. Sociol.*, 30, 199-220. <https://doi.org/10.1146/annurev.soc.29.010202.100037>
- Roach, A., Christensen, B. K., & Rieger, E. (2019). The essential ingredients of research supervision: A discrete-choice experiment. *Journal of Educational Psychology*, 111(7), 1243. <https://doi.org/10.1037/edu0000322>

Throne, R., & Bourke, B. (2022). Online research supervisor engagement: Fostering graduate student researcher positionality. In *Research Anthology on Doctoral Student Professional Development* (pp. 398-412). IGI Global. <https://doi.org/10.4018/978-1-6684-5602-6.ch026>

van Rooij, E., Fokkens-Bruinsma, M., & Jansen, E. (2021). Factors influencing PhD candidates' success: the importance of PhD project characteristics. *Studies in Continuing Education*, 43(1), 48-67. <https://doi.org/10.1080/0158037X.2019.1652158>

Walter Sisulu University. (2019). Postgraduate Research Guide. Available at: www.wsu.ac.za

Walter Sisulu University. (2020). Walter Sisulu University Higher Degrees Policy. Available at: www.wsu.ac.za

Watts, J. H. (2010). Team supervision of the doctorate: Managing roles, relationships, and contradictions. *Teaching in Higher Education*, 15(3), 335-339. <https://doi.org/10.1080/13562511003740908>

Wilmot, K. (2022). 'Fail early and fail fast': the value of group supervision for doctoral candidates. *Higher Education Research & Development*, 41(6), 2108-2121. <https://doi.org/10.1080/07294360.2021.1969543>

Zaheer, M., & Munir, S. (2020). Research supervision in distance learning: issues and challenges. *Asian Association of Open Universities Journal*, 15(1), 131-143. <https://doi.org/10.1108/AAOUJ-01-2020-0003>

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