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Doctoral Education: Group-Based Supervision as Leadership Development Pedagogy

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Abstract

Doctoral supervision in Africa is at a critical juncture. Traditional one-to-one models, though historically effective, often fail to prepare graduates for leadership in complex, digitally interconnected, and sustainability-driven contexts. This article presents an African case study of a group-based doctoral supervision model implemented at a private higher education institution. Drawing on data from 24 candidates and four supervisors, the model reframes doctoral education as a collective, leadership-development journey. The paper conceptualises group supervision as a strategic leadership incubator that develops graduate attributes such as critical reflection, collaboration, ethical decision-making, and resilience key competencies for Africa's sustainable knowledge economy.

Keywords: Doctoral education; Group supervision; Peer teaching; Graduate attributes; Leadership development; Collaborative learning; Supervision models; Academic development

1. Introduction

Doctoral education is a key mechanism for leadership renewal and knowledge production in Africa. However, many doctoral programmes continue to rely on the solitary master-apprentice model, which limits collaboration, leadership cultivation, and societal relevance (Huang, 2024). In the context of Africa's digital transformation and sustainability imperatives, universities must reconceptualise supervision as both leadership pedagogy and strategic practice (Leal Filho et al., 2018). This study explores the implementation of group-based supervision at a private higher education institution as a purpose-driven innovation aimed at fostering collaboration, leadership, and social impact. The model positions doctoral candidates not merely as researchers, but also as emerging leaders who learn to navigate diversity, dialogue, and complexity competencies essential for Africa's resilient future.

2. Context and Rationale

Doctoral education is increasingly recognised as a social practice rather than a solitary intellectual pursuit. Global scholarship (e.g. McCallin & Nayar, 2012; Huang, 2024) emphasises the need to cultivate communities of practice (CoPs) that support candidates' academic, professional, and emotional well-being. Group supervision aligns with this paradigm by providing a structured space for collective learning, peer critique, and shared responsibility for progress (Heron et al., 2024).

The pilot project was initiated at STADIO Higher Education as part of an institutional drive to rethink doctoral supervision for scalability, inclusivity, and quality assurance. With the institution's doctoral enrolments growing steadily, reliance on individual supervision models was becoming unsustainable. At the same time, the institution sought to enhance research culture, foster cross-disciplinary engagement, and address student feedback that highlighted feelings of isolation during the research journey.

Group supervision was thus introduced, not merely as an efficiency mechanism but also as a pedagogical innovation. It sought to promote collaboration, critical dialogue, and collective meaning-making key attributes of transformative doctoral education and the development of leadership graduate attributes.

3. Theoretical Foundation

This study is underpinned by theories of social constructivism, communities of practice, and peer learning.

3.1 Social Constructivism

According to Vygotsky (1978), knowledge is built through social interaction. Learning takes place within the "zone of proximal development", where peers and mentors support understanding. In doctoral education, group supervision places learning in a social environment where ideas are shared, challenged, and refined together. This mirrors the real work environment where knowledge is generated and decisions are made in meetings through collaboration around boardroom tables.

3.2 Communities of Practice

Lave and Wenger's (1991) concept of communities of practice (CoPs) offers a valuable perspective for understanding group supervision. Doctoral candidates collaboratively engage in activities that shape their academic identities: discussing literature, analysing data, and negotiating meaning. The supervision group becomes a small-scale reflection of the academic community, where legitimate participation develops into confident scholarly contribution. It fosters and encourages effective communication and idea development skills, which are crucial for leadership.

3.3 Peer Teaching and Collaborative Learning

The model also incorporates peer teaching theory, where learners simultaneously play the roles of both teacher and student. By explaining concepts, providing feedback, and participating in dialogue, candidates deepen their understanding and improve their academic communication skills. As Boud and Lee (2005) argue, peer learning in doctoral education challenges the hierarchy of expertise, and involves students as co-constructors of knowledge. This approach also supports leadership development.

4. Methodology

A qualitative case study design documented one year of implementation across four supervision groups (n = 24). Data sources included supervisors' reflective journals, students' quarterly reports, and transcripts of group sessions. Thematic analysis (Braun & Clarke, 2006) identified recurring themes related to motivation, peer learning, critical reflection, and leadership skills development. The study employs a qualitative case study approach, facilitating an in-depth exploration of experiences and

processes within a specific context (Yin, 2018). It examines the implementation and impact of a group-based doctoral supervision model during its initial year of rollout. Ethical clearance was obtained from the relevant institution prior to conducting the research.

4.1 Participants and Structure

The project involved four supervisors, each assigned to a group of six doctoral students, resulting in a total of 24 participants. The groups were diverse, comprising students from various disciplines, including education, business, and social sciences. Each group met monthly via the Microsoft Teams online platform.

4.2 Data Collection

Data sources included:

- Supervisor observation notes from group sessions
- Student reflection reports submitted quarterly
- Supervisors' bi-monthly reflective meetings
- Informal feedback collected during and after sessions.

This combination of data provided a rich understanding of both the process dynamics and perceived outcomes of the model.

4.3 Data Analysis

The data were analysed thematically using Braun and Clarke's (2006) approach. Codes were inductively derived from participant reflections and organised into themes such as peer support, confidence-building, academic growth, motivation, and collaboration. Supervisor notes were triangulated with student feedback to validate the findings.

5. Findings and Discussion

5.1 From Isolation to Collective Leadership

Participants experienced a shift from solitary research towards shared accountability and collaborative leadership. Students learned facilitation, empathy, and negotiation –key qualities of distributed leadership in academic and organisational contexts. They consistently reported that group supervision made their doctoral journey less lonely. Regular interaction with peers fostered a sense of community and accountability. One student remarked, "The monthly sessions remind me that I am part of something bigger we are all climbing the same mountain."

This sense of community motivated students to maintain momentum and achieve milestones. As one participant expressed, "I do not want to fall behind my group; their progress pushes me to stay on track."

5.2 Peer Learning as Strategic Capability

Students' reciprocal feedback and mentoring boosted intellectual agility and self-efficacy, which are essential for leading interdisciplinary projects. This aligns with the principles of collaborative supervision and communities of practice (CoPs). Group supervision created a lively environment of mutual learning. Students shared academic resources, including journal articles, reference management

tools, and recordings of relevant webinars. They also exchanged practical strategies for developing frameworks, sharpening research questions, and managing data. Supervisors noted that peer explanations often clarified concepts more effectively than top-down instruction, as peers used relatable language and examples based on similar challenges.

5.3 Reflective Practice and Ethical Growth

Regular reflection embedded ethical sensitivity and humility, supporting the development of leadership character and identity as part of the doctoral process. The dialogic nature of group discussions nurtured students' ability to engage critically with their own and others' work. Presenting draft chapters or conceptual models for peer feedback enhanced students' capacity to evaluate arguments, identify logical inconsistencies, and articulate constructive critique. Many reported personal growth in confidence and intellectual maturity, noting that "arguing my case in front of peers helped me refine my thinking and own my research voice".

5.4 Digital Collaboration and African Context

Online group meetings via Microsoft Teams facilitated participation across provinces and disciplines, demonstrating how digital literacy can democratise doctoral mentorship in resource-limited African institutions. Students began to support each other beyond formal sessions reading each other's chapters, reviewing abstracts, and encouraging persistence during difficult phases. Informal mentorship networks arose, often crossing disciplinary boundaries. Supervisors found that these horizontal relationships reduced dependency on the supervisor and boosted students' sense of agency.

5.5 Leadership and Graduate Attributes

Evidence showed the development of leadership-oriented competencies: resilience, teamwork, communication, strategic thinking, and systems awareness. Through consistent peer interaction, students made significant gains in academic communication, teamwork, resilience, and reflective capacity. The supervision group became a training ground for the "soft skills" essential in academia and professional life. Students learned to negotiate differing opinions, give and receive feedback, and work collaboratively competencies aligned with contemporary doctoral outcomes.

6. Challenges and Strategic Responses

Supervisors faced challenges in managing group dynamics, maintaining academic rigour, and balancing workloads. These were addressed through rotating facilitation by group members, structured agendas, and hybrid (individual and group) mentoring sessions. Encouraging quieter students to present and reflect helped promote inclusivity over time. Strategically, supervisors adopted a facilitative leadership style modelling collaboration rather than control. While the model proved highly effective, several practical challenges emerged.

Some supervisors initially worried that the group format might dilute academic depth. However, rigour was maintained through structured peer critique templates, clear expectations for each session, and continuous triangulation of feedback by supervisors. Group sessions complemented rather than replaced individual consultations for specific methodological or conceptual issues.

Balancing group and individual supervision commitments required careful scheduling. Supervisors used shared calendars and collaborative platforms to track progress. Collective meetings reduced duplication of effort, as common issues were addressed once for all participants.

In resource-constrained African contexts, uneven digital access and high supervisory workloads remain structural constraints. While group-based supervision can initially increase coordination demands, participants reported that structured group engagements reduced the need for repetitive individual consultations over time. Hybrid models combining group sessions with targeted one-to-one supervision emerged as a pragmatic response, balancing efficiency with personalised scholarly development.

7. Discussion

The findings affirm the potential of group supervision as a transformative pedagogical practice in doctoral education. It reconceptualises supervision not as a unidirectional transfer of expertise, but as a collaborative learning partnership. This aligns with the growing body of literature advocating co-learning and distributed supervision models. Group supervision fosters academic communities that mirror real-world research collaboration, preparing candidates for postdoctoral teamwork, multidisciplinary projects, and institutional citizenship.

Furthermore, the model helps to democratise knowledge exchange. Power is shared rather than concentrated, and diverse voices contribute to the collective construction of meaning. This flattening of hierarchy is significant in contexts where supervision has historically reflected colonial or patriarchal academic structures.

From a pedagogical perspective, group supervision applies principles of peer teaching, in which learning occurs through articulation, explanation, and feedback. This dynamic shifts supervision from a private mentoring relationship to a public scholarly practice, thereby strengthening academic literacy and social learning.

8. Implications for Policy and Practice

Institutions seeking to enhance doctoral education and improve leadership development through doctoral studies can learn several valuable lessons from this initiative. They should consider adopting hybrid supervision models that blend group and individual guidance to ensure a balance between personalised support and collaborative learning. It is equally vital to invest in supervisor training so that supervisors develop facilitation and group management skills alongside traditional supervision competencies. Implementing structured protocols such as clear agendas, rotating roles, and feedback rubrics helps foster productive and equitable engagement among participants.

Additionally, promoting digital collaboration through online platforms can help overcome geographical barriers, encouraging diverse participation and ongoing interaction. Finally, both students and supervisors should be encouraged to keep reflective journals to support ongoing improvement and boost research outputs. Collectively, these practices not only improve doctoral completion rates and research quality, but also strengthen the institution's overall research culture and identity, and contribute to the development of the candidates' graduate attributes.

8.1 Operationalising Group-Based Supervision

To operationalise the Group-Based Supervision Leadership Framework (GBSLF), institutions require modest but intentional resource allocation. Core requirements include: (a) a stable digital collaboration platform (e.g. Microsoft Teams or equivalent), (b) structured supervision templates (agendas, feedback rubrics, reflection prompts), and (c) trained supervisors capable of facilitating group learning. Implementation can be phased over a 6- to 12-month pilot cycle,

beginning with supervisor training, followed by cohort onboarding, and culminating in iterative evaluation. Table 1 below provides a visual overview.

Table 1: Implementation Table

Component	Resource Required	Timeline
Supervisor training	2-3 short workshops (facilitation; ethics; digital pedagogy)	Months 1 to 3
Pilot cohorts	4-6 students per group	Months 3 to 12
Digital infrastructure	Existing Learning Management System Teams	Immediate
Evaluation	Reflection logs and progress tracking	Ongoing

8.2 Evaluation indicators

Continuous monitoring and evaluation are critical to sustaining the effectiveness of group-based supervision. Institutions may use a combination of qualitative indicators (reflective journals, peer feedback on quality, leadership self-assessments) and quantitative indicators (progress milestones, completion rates, supervisor workload distribution). Periodic reflective review sessions involving both supervisors and candidates can serve as formative evaluation points, enabling iterative refinement of supervision practices.

8.3 Multi-Actor Value Proposition

The strategic value of the model is summarised in Table 2 below.

Table 2: Model Value Proposition

Actor	Benefit
Institutions	Improved completion rates, leadership-aligned graduate attributes, and scalable supervision models
Supervisors	Shared intellectual labour, reduced isolation, enhanced leadership and facilitation skills
Doctoral candidates	Peer learning, leadership development, resilience, and scholarly identity formation

9. Conceptual Contribution: Group-Based Supervision Leadership Framework (GBSLF)

The value of the GBSLF is summarised in Table 3 below.

Table 3: The GBSLF

Core Dimension	Pedagogical Mechanism	Leadership Outcome
Relational Engagement	Trust, empathy, shared accountability	Ethical and inclusive leadership
Dialogic Learning	Collective reflection and critique	Strategic thinking and resilience
Collaborative Practice	Peer mentoring, distributed facilitation	Collective reflection and critique
Reflexivity	Ongoing self-assessment and feedback	Self-aware, values-driven leadership
Digital Connectivity	Virtual group spaces, resource sharing	Digital literacy and global collaboration

10. Implications for African Higher Education

Embedding leadership competencies within doctoral outcomes enhances strategic alignment by supporting institutional transformation and advancing continental priorities, including Agenda 2063

(African Union, 2025). To ensure sustainability, policy reform is crucial, with doctoral schools encouraged to institutionalise hybrid supervision models and digital communities of practice. Additionally, capacity building should be prioritised through supervisor development programmes that include training in facilitation, ethical leadership, and digital pedagogy, thereby enabling supervisors to lead effectively in changing academic and technological environments.

11. Limitations and Future Directions

As an ongoing case study, the full outcomes will only become visible upon the graduation of the participating students. Future research will track:

- The long-term impact of group supervision on completion time and thesis quality.
- Students' career trajectories and research productivity post-graduation.
- The scalability of this model across disciplines and institutional types.

Further comparative studies could also explore how cultural and institutional contexts influence group supervision dynamics in African higher education.

12. Conclusion

Group-based doctoral supervision in Africa goes beyond pedagogical reform; it serves as a leadership strategy for systemic change. By fostering collaboration, reflection, and purpose-driven innovation, it prepares doctoral candidates to not only graduate, but also to lead with impact in academia, industry, and society. The pilot project shows that group-based supervision offers a powerful, humanising alternative to the traditional one-to-one model. By promoting peer learning, mutual accountability, and a shared academic identity, it addresses many of the structural and emotional challenges of the doctoral journey.

Students who participated in the model reported increased motivation, confidence, and scholarly engagement. Supervisors observed more dynamic discussions, higher-quality drafts, and greater student independence. Most importantly, the experience redefined supervision as a collective intellectual endeavour rather than a hierarchical process.

As doctoral education continues to develop in the era of massification, digitalisation, and interdisciplinarity, such models provide pathways to bridge the gaps between supervisor and student, between isolation and community, and between individual learning and collective scholarship. Group supervision, when framed as peer teaching, not only enriches the doctoral experience, but also exemplifies the collaborative spirit essential to knowledge creation in the 21st century.

While grounded in a single institutional case, the GBSLF offers a scalable and context-sensitive framework that can be adapted across African doctoral schools seeking to align scholarly excellence with leadership development and sustainable impact.

13. Use of Large Language Model (LLM) and Artificial Intelligence (AI)

The work presented in this article is the researcher's genuine work. Grammarly has been used for language editing. Perplexity has been utilised to help identify academic sources, and ChatGPT was used for brainstorming the research concept.

Competing Interests

The author declares that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Conflict of Interest Statement

I declare that there is no conflict of interest in the conduct of this study. All interactions with participants were conducted in a professional and unbiased manner. The involvement of institutional staff and students did not influence the objectivity of data collection or analysis. Any risks of bias were minimised through the transparent procedures and adherence to research guidelines. Furthermore, no financial, personal, or professional affiliations exist that could be perceived to have influenced the outcomes or integrity of this research.

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