

Original Article

AI-Powered Supervision for International Postgraduate Students: Enhancing Inclusive Learning for NUL Academic Staff Studying Abroad

Relebohile Margrett Molulela

Department of Communication Sciences, Faculty of Humanities, Central University of Technology, Free State.

Corresponding Author : relebohilemolulela96@gmail.com

Received: 01 August 2026

Revised: 03 September 2026

Accepted: 18 September 2026

Published: 03 October 2026

Abstract - This study examines the role of AI tools in bridging barriers that are faced by NUL academic staff as international postgraduate students who are unable to be physically present at their respective universities for supervisory related matters. By investigating how AI allows remote supervision for NUL academic staff, this study highlights this practice as contributing to educational equity and inclusive learning, which aligns with the SDG-4. Employing an interpretivist paradigm, data was purposively selected from ten international Doctoral students, as well as from five supervisors of international NUL academic staff at their respective institutions. The study also draws on the theoretical underpinnings of critical pedagogy and transhumanism approach. The study finds that the use of AI tools and AI-supported technologies for supervisory purposes eases the financial burden on NUL academic staff as international postgraduate students, provides a sense of safety, as well as inclusivity, and it fosters accessibility to education, thus fulfilling its duty towards SDG-4 for 2030 Agenda. It is recommended that higher learning institutions hold training for both supervisors and students regarding the correct use of AI tools and AI-supported technologies in their supervisions, as well as to implement policies regarding the ethical use of such for supervisory purposes.

Keywords - Academic Staff, Artificial Intelligence, Inclusive Learning, International Postgraduate Students, Remote Supervision.

1. Introduction

Academic staff are scholarly personnel that have been employed at higher learning institutions, and they are differentiated from the general staff by their job scope, which is to teach and conduct research (Rastogi, 2022). Higher learning institutions require academic staff to keep on advancing themselves, so as to ensure quality education. Zwolińska-Gładys et al (2024) support this claim by indicating that the ongoing professional advancement of academic staff is essential for the objectives fulfilment of higher learning institutions. This, therefore, necessitates academic staff at NUL to pursue their studies in order to acquire new knowledge and competencies. Distance learning and supervision have become essential to ensure that academic staff advance academically, while still performing their work responsibilities.

Acknowledging that it is common practice for postgraduate students to participate in flexible or remote supervision, this study focuses on instances where physical student-supervisor interaction is crucial for academic progress. For National University of Lesotho (NUL) academic staff who are enrolled as international postgraduate students, challenges such as geographical location, financial constraints, safety issues, and logistical barriers can make physical attendance for supervisory meetings impossible.

Current scholarly work (Lockmun-Bissessur et al, 2024; Dubey, 2024) highlights the importance of providing inclusive learning to all, regardless of individuals' different challenges. Lockmun-Bissessur et al (2024) indicate that, by making education accessible to all, higher learning institutions are partaking in Sustainable Development Goal 4 (SDG-4), which advocates for inclusive learning. On that note, Dubey (2024: 287) emphasizes the importance of inclusive learning as a practice of adhering to students' unique needs, ignoring their different backgrounds and disabilities.

The term inclusive learning has often been affiliated with mainstreaming institutions to make them habitable to people with disabilities, however, it should be noted that in this study, as suggested by Dubey's (*ibid*) definition, it is affiliated with making education available to individuals whose geographical locations, logistics, financial strain and any other factors make it impossible for them to physically present themselves at institutions for their student-supervisor meetings.

There has been a growing discussion with regards to the use of Artificial Intelligence (AI) and AI-powered tools, being tools that have made the supervision process for students and supervisors a simple task through remote supervision. Simply, AI is the machine's capacity to



function in the same manner as a human being (Chinhamo et al, 2026:38). As such, the researcher defines AI-powered technologies as technologies whose functions have been advanced by AI to function in a human-like manner.

Some scholars (Dubey, 2024; Murire and Gavaza, 2026) corroborate that intersecting AI and education, especially for postgraduate supervision, has given rise to improving efficiency of the supervision task, student-supervisor communication, which has, as a result, optimised inclusive education. However, while there is broad research on AI's role in inclusive education, there is a notable gap regarding the specific, context-driven use of AI-powered remote supervision for international postgraduate students, who are also university employees, and not just traditional students. International students are any learners that are enrolled into a higher learning institution based in a country that is not their country of origin (Uerpaiojkit et al, 2023). By investigating how AI tools and AI-supported technologies are currently used to facilitate remote supervision for NUL academic staff pursuing international postgraduate studies, this research focuses on how these technologies help overcome barriers to in-person supervision, promote educational equity and inclusivity, and contribute to fulfilling the objectives of SDG-4 (Quality Education) for the 2030 Agenda. This is hoped to be achieved by exploring the challenges faced by NUL staff-international postgraduate students regarding physical attendance for supervision at their respective universities; by assessing the effectiveness of AI tools and AI-supported technologies that are currently being used by these institutions in facilitating remote supervision; and by analysing how the use of AI tools and AI-supported technologies for remote supervision aligns with SDG-4 for Agenda 2030.

By investigating how AI tools and AI-supported technologies are currently used to facilitate remote supervision for NUL academic staff pursuing international postgraduate studies. The study focuses on how these technologies help overcome barriers to in-person supervision, promote educational equity and inclusivity, and contribute to fulfilling the objectives of SDG-4 for the 2030 Agenda.

2. Literature Review

The section reviews some past scholarly works to establish what has been done in terms of integration of AI in higher learning institutions. Having explained earlier in the study that AI is the incorporation of human intelligence by machines, in the educational context, AI-powered systems are being increasingly used by students and educators, or, in the case of this study, supervisors. This section highlights the opportunities presented by the pursuit for inclusive and quality education through SDG-4 for Agenda 2030, for higher learning institutions. This is done through the investigation of recent research on AI as a transformative enabler that facilitates online and/or inclusive learning. To weigh the importance of incorporating AI to education, especially to remote supervision for international students,

particularly for NUL academic staff studying abroad, this review further investigates the importance of AI in education, against its disadvantages.

2.1. Artificial Intelligence for International Inclusive Learning

The main aim of higher learning institutions is to promote inclusivity and accessibility to all, regardless of their backgrounds or circumstances. SDG-4 specifically advocates for “inclusive and equitable quality education and promote lifelong learning opportunities for all” (Lockmun-Bissessur et al., 2024). As such, AI has been identified as a transformative enabler in achieving this goal, especially for marginalized groups such as international students, especially those in geographically remote or underserved areas (Dubey, 2024; Apata et al, 2026). This indicates that AI has presented significant opportunities for higher institutions to cater to international students’ academic development, thus partaking in SDG-4 for Agenda 2030. Choudhary’s (2025) study supports the claim made above by indicating that discusses AI has a transformative impact on education, by emphasizing increased accessibility for students coming from disadvantaged backgrounds. Thus suggesting AI’s ability to positively impact education. Sharing the same sentiments is Apata et al (2026), by indicating that:

AI technologies are increasingly used to promote inclusive education, particularly for minority and underserved groups (Apata et al., 2026: 340).

Both views by Choudhary (2025) and Apata et al (2026) clearly inform the current study by highlighting the role of AI in promoting inclusive education for underserved groups; focusing on mainstreaming institutions for people facing general access barriers, thus emphasizing the importance of AI for inclusive learning of international students, and consequently contributing to SDG-4 which emphasizes on the need for inclusive, equitable, and quality education for all.

Particularly touching on the subject of AI for inclusive learning is Duke (2026), who underscores the transformative role of AI in enhancing inclusive and sustainable international education, particularly through its capacity to address language barriers and to support diversity, equity, and inclusion. The scholar makes an example of instances where AI may be applicable in solving and in addressing language barriers as a way of supporting diversity and promoting inclusion for international students at a higher learning institution. They exemplify that AI has translation tools that may foster understanding where more than one language is being spoken (*Ibid*, 2026: 174). This example clearly indicates the importance of AI and its potential to make learning more accessible and inclusive to international students by overcoming some language barriers that could hinder supervision. Therefore, the intersection of AI and education has given rise to transformative possibilities, particularly in the realm of inclusive education (Dubey, 2024).

More precisely, AI tools and AI-supported technologies prove to be advantageous for postgraduate students and their supervisors as they enable communication, and for work to be done even if the two parties are not in the same place. Murire and Gavaza (2026: 245) are in agreement with this statement as they make an indication that, through the use of AI tools, supervisors and students are able to maintain timely communication. And supervisors are able to deliver regular and quality feedback, and ultimately monitor the ongoing progress of their students. Although these scholars highlight that AI enhances communication between students and supervisors, their study does not examine the specific context of university-employed academic staff as students.

Although focusing on disabled scholars, Dubey (2026) highlights the importance of AI tools and AI-supported technologies in addressing various unique needs of students, in an attempt to foster inclusive learning. These scholars highlight the significance of AI as it offers inclusive education to students by reducing barriers that come with distance, varying learning needs, and accessibility to institutions. Their research provides a background for investigating how some universities leverage AI tools and AI-supported technologies in order to support NUL academic staff who are international postgraduate students, which consequently enhances inclusive learning through remote supervision.

Together, studies by Choudhary (2025), Apata et al (2026), Duke (2026), Dubey (2026) and Murire and Gavaza (2026) show the significant role played by artificial intelligence in promoting inclusive education to international students, which directly translates into the importance of AI at promoting inclusive education to NUL academic staff as international postgraduate students. This highlights the significance to undertake research, looking particularly at NUL academic staff as postgraduate students, in order to investigate roles associated to the contribution played by AI to SDG-4, and to the bigger spectrum that is Agenda 2030.

2.2. Disadvantages of Artificial Intelligence in Education

The implementation of AI tools in higher learning institutions has its own challenges. Having documents the potential of AI for inclusive learning for international students at higher learning institutions in the prior section, this section highlights on some recorded drawbacks. This is done for fair representation and to avoid bias conclusions. Literature to be reviewed in this sub-section seeks to highlight some major challenges that are associated to the successful implementation of AI in higher learning institutions. What seems to be a unified challenge across research is the lack of adequate training, ethics, and digital training for lecturers/ supervisors and students.

Although higher learning institutions are under significant pressure to implement AI tools and AI-supported technologies to improve institutional performance, through practices such as teaching and supervision, scholars such as Kumar (2025), Melo-López et al (2025), and Murire and

Gavaza (2026) have recorded some hindrances posed by the use of AI in promoting inclusive learning. Kumar (2025: 98) and Melo-López et al (2025) are in unison as they view the core risk in employing AI for inclusive learning as inadequate training on the use of AI for lecturers and students. Being specific to problems to the use of AI tools for learning is Murire and Gavaza (2026: 245), who highlight some postgraduate students may blur ethical lines, especially with regards to their roles in writing their academic papers. Although AI has been previously embraced for assisting with competitive research outcomes, it is clear from these scholars that, there are some obstacles that still persist, and these lie in inadequate training for lecturers and supervisors in order to understand how AI tools and AI-supported technologies can assist them in remote supervision, as well as in the potential misuse of AI tools and AI-supported technologies by students due to lack of understanding on ethical issues surrounding its use.

It is a known fact in academia that research has to be a new, unexplored idea that is free from plagiarism. William (2024: 284) postulates that plagiarism is an academic offence that is attributed to presenting someone else's work, or even one's previous work, without acknowledging it. With the use of AI chatbots and without proper training on the ethical use of AI tools, some students may find themselves giving all their ideas to AI to construct research papers on their behalf. Murire and Gavaza (2026: 253) rule this out as "blurred traditional boundaries of authorship", which risks academic integrity due to the misuse of AI-generated content, where students may submit work that is not their own original output (Choudhary, 2025; Kumar, 2025), which supervisors could flag out, as most AI-generated content becomes more common, which may sound different to the scholar's own authentic voice. More precisely, Melo-López et al (2025) indicate that the lack of clear policies regarding data management raises concerns regarding privacy and the potential misuse of data.

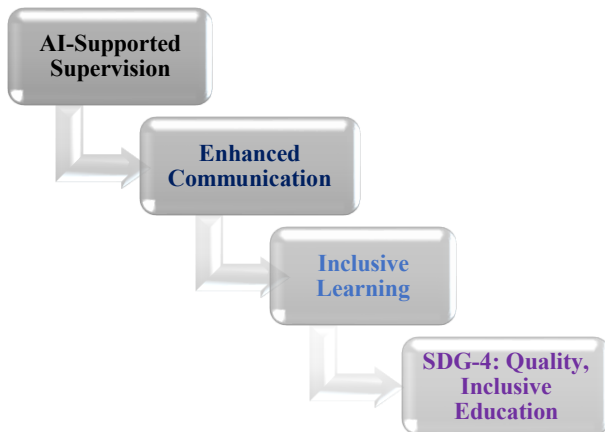
Again, although literature has evidenced that remote supervision, through AI-enabled tools, is essential for international postgraduate students, misuse of AI tools in research may present dire challenges in AI-powered supervision at higher institutions, such as having students that are dependent on AI tools to a point of not being able to place themselves, and owning up to their work. Choudhary (2025: 429) highlights that being too dependent on AI tools can reduce one's understanding, and Apata et al (2026: 431) are in unison to this statement as they add that the use of AI tools could lead to students plagiarising and losing academic integrity in the process.

2.3. Conceptualisation

The reviewed literature suggests that AI-Powered supervision seeks to improve academic interactions. This is achieved through enhanced communication; achievable by breaking learning barriers associated with distance and accessibility. The result of this is inclusive learning, where international students are given equitable opportunities to learn. This directly supports SDG-4, which aims for

inclusive and quality education for all. This is exemplified in a diagram below:

2.3.1. Diagram 1



2.4. Conclusion

In summary, existing substantial literature demonstrates that the integration of AI tools in education improves academic interactions in the pursuit of inclusive education. However, literature indicates that a majority of research tends to focus on the broad potential of AI to facilitate accessibility, as a result, the current study identifies a significant gap regarding context-specific research on AI-powered remote supervision for academic staff as international postgraduate students, with a gap for studies that closely examine the twofold role faced by academic staff who must balance their employment, international study commitments, and the challenges of remote supervision. Thus, the need for the current study that seeks to examine how AI-powered supervision specifically addresses the challenges faced by higher institutions' academic staff while balancing their work responsibilities.

3. Methodology

This section presents the research method employed in the investigation of the use of AI for supervision purposes of NUL academic staff that are enrolled as international postgraduate students at some institutions abroad. The section is outlined into five sub-sections, namely; research design, research paradigm, sampling technique and data collection, data analysis approach, and ethical considerations.

3.1. Research Design

The study adopts a qualitative method of research, which is a research method that is used to obtain non-numerical data. Lim (2025: 200) emphasizes that this method of research captures human experiences and their perspective; which is achievable by answering the 5W1H "what, why, when, where, who, and how" questions related to people's behaviour.

3.2. Research Paradigm

In order to understand the realities of NUL academic staff, that are enrolled at their respective universities as international postgraduate students, and those of their

supervisors, the study employs an interpretivist paradigm, which concerns itself with individuals' viewpoint, lived experiences, their thoughts, and feelings (Junjie and Yingxin, 2022: 11). The study employs this paradigm as it emphasises understanding the subjective experiences of individuals, instead of imposing an objective standpoint. Alharahsheh and Pius (2020:43) emphasise its relevance to the study by explicating that, paired with a qualitative method of research, the paradigm enables researchers gain clarity and understanding on a phenomena.

3.3. Sampling Technique and Data Collection

Employing purposive sampling, through academic networks, the researcher was able to deliberately identify ten (10) NUL academic staff enrolled for a PhD programme in varying universities in South Africa, as well as five (5) supervisors of such NUL academic staff from the various higher learning institutions in South Africa, where NUL academic staff are enrolled. Data employed for the purpose of this study, therefore, comprises fifteen (15) participants. Hennink et al (2017: 608) and Hennink and Kaiser (2022:9) are of the view that for a qualitative study, a small sample of about nine to seventeen (9-17) participants is sufficient, hence the sample size is considered sufficient to gather insights from both students and supervisors, yet manageable for analysis.

3.3.1. Inclusion Criteria

Participants' inclusion eligibility was based on the following criteria:

- International postgraduate students were also NUL academic staff that are currently enrolled for a PhD programme at any university in South Africa.
- Supervisors are those that are directly responsible for the academic supervision of the identified NUL academic staff pursuing their postgraduate (PhD) abroad.

Method of data collection employed for the study's purpose is questionnaires. The questionnaires contained a mixture of fifteen (15) on students and supervisors' experiences of AI and AI-Powered tools for the purpose of remote supervision, and these were both open-ended and closed, which the researcher distributed to the identified participants.

3.4. Ethical Considerations

Although the study did not obtain formal institutional ethics clearance, all research activities were conducted in strict accordance with established ethical research standards. Considering the sensitive nature of supervisory experiences and supervision dynamics, the researcher sought to protect the dignity and rights of the study participants. First, the researcher fully informed the participants about the purpose of the study and acquired consent from participants before proceeding with data collection. It was clearly stated to the participants that it is their right to either accept or decline to partake in the study. And it was further clearly stated in the questioners that participation is voluntary. The researcher also advised

participants were against including their names in the questioner forms; this was to ensure that their responses remain confidential and anonymous.

3.5. Data Analysis

Data collected was analysed using a thematic analysis approach, which Clarke and Braun (2016) outline as a method relevant for identifying patterns, analysing participant's lived experiences, and interpreting perspectives and behaviours into themes in a qualitative study. This approach was used to identify similar themes as reflected by participants' lived experiences as a result of AI-powered supervision. The identified themes were named as Barriers to in-person supervision for international postgraduate students; Differing perceptions on the use of AI for remote supervision; and AI towards SDG-4 fulfilment: inclusive learning and accessibility, in order to support quotations extracted for the study's analysis. Critical pedagogy, paired with the transhumanism framework are also be adopted for the purpose of the study's data analysis.

4. Theoretical Framework

Supported by the Transhumanism approach, Paulo Freire' (1970) Critical Pedagogy framework has been adopted in order to analyse whether the current trends of remote supervision for NUL academic staff enrolled as international postgraduate students are effective.

4.1. Critical Pedagogy

Critical pedagogy is deemed appropriate for the analysis of the study due to its transformative educational nature, as it interrogates power relations, equity, and social justice within teaching and learning environments. It is aimed to empower students by emphasising that they be critical analysts that facilitate, and are committed to social change (Aliakbari and Faraji, 2011: 77; Nayir et al, 2024: 103). The framework is particularly relevant for investigating the role of AI-powered tools in remote supervision of NUL academic staff that are enrolled as international postgraduate students abroad, where issues of inclusivity and access to education are central to producing learning that is in alignment with SDG-4. A key principle of critical pedagogy, as recorded in Aliakbari and Faraji's (2011:82), that is relevant to this research is; Emphasis on Dialogue, which stipulates that learning necessitates dialogical engagement that respects and integrates learners' lived experiences. Without dialogue, there is no communication, and without communication, there can be no true education.

4.2. Transhumanism

Transhumanism promotes an interdisciplinary approach to understanding and evaluating the opportunities for enhancing and augmenting human capabilities through technology, so that human intellectual limitations can evolve beyond its current state (Bostrom, 2005: 1; Ali, 2022: 15). This clearly suggests that, the core aims of transhumanism are to promote an interdisciplinary approach to understanding and evaluating the opportunities for

enhancing the human condition (Terentiava, 2023); to overcome human limitations by augmenting one's capacity; and to accelerate the intelligence of a human through technology.

Together, critical pedagogy and transhumanism interrogate how international postgraduate students, together with their supervisors, are able to keep up with their tasks due to emerging technologies (AI). These frameworks further ensure that the study centres on educational equity, inclusivity, and emancipation of international postgraduate students by analysing the impact of AI within such institutions.

5. Findings and Discussions

This section presents and discusses findings based on participatory responses from the questioners by both supervisors of, and NUL academic staff enrolled as postgraduate students internationally. The discussion is classified into three themes, namely; barriers to in-person supervision for international postgraduate students; differing perceptions on the use of AI for remote supervision; and AI towards SDG-4 fulfilment: inclusive learning and accessibility.

5.1. Barriers to In-Person Supervision for International Postgraduate Students

Both international postgraduate students and supervisors were in unison that barriers to in-person supervisory meetings significantly lie in financial constraints for students. What stood out student responses was their emphasis on travel costs and accommodation logistics. One supervisor acknowledged that:

"It has come to my attention that, when I have requested in-person meetings, it usually takes time for international postgraduate students to make the trip to attend our campus appointments, and often they blame it on travel arrangements, more specifically, travel costs. This sometimes hinders their academic progress work."

Less popular constraints among NUL academic staff enrolled as international postgraduate students included safety concerns due to recurring migrant attacks, which impact access to supervision. More specifically, one student reported that:

"My supervisor and I had to cancel one of our in-person meetings because, as a foreigner, my safety could not be guaranteed as there were some migrant attacks doing rounds at the time."

The data underscores that in-person supervision can be expensive, and is straining towards international postgraduate students, especially those that are doing part-time who are not necessarily required to be around campus frequently. It also reveals that although not a popular concern, some students may have some restrictions towards enrolling to further their studies abroad due to fears instilled by migrant attacks. These constraints threaten to disrupt

continuous and effective interaction between students and supervisors, going against the critical pedagogy which harmonises that, in educational institutions, there should be no inequalities and oppressive power relations (Aliakbari and Faraji, 2011: 77).

5.1.1. Challenges to AI-Powered Supervision

The analysis highlights some persistent challenges to AI-Powered supervision for NUL academic staff, as international postgraduate students in their respective universities abroad. The reported challenges are technical challenges and digital literacy gaps.

Some NUL academic staff – international postgraduate students explicated that, during remote supervision meetings, they were often technologically challenges due to issues such as unreliable internet connectivity and limited access to up-to-date devices. They specifically indicated that there is sometimes a persistent obstacle to hold successful remote supervision due to poor network coverage in one's location.

Some supervisors recorded that they sometimes have a hard time getting in touch with their mentees due to digital literacy gap that exists between them. They record that some mentees may have not acquired a certain level of digital competency to effectively use AI and AI-Powered tools.

5.2. Differing Perceptions on the Use of AI for Remote Supervision

In defining remote supervision, Opešemowo et al (2025: 782) reiterate that it is the practice of communicating with distant students through technologies to provide guidance and feedback. This practice clearly lowers the traditional way of doing postgraduate for international; that is, the practice of doing in-person sessions with supervisors. The subsections below analyse differing opinions of NUL academic staff enrolled as international postgraduate student, and those of supervisors of such international postgraduate students on the use of AI tools for supervision.

5.2.1. AI and AI-powered tools as Enablers for Remote Supervision

Majority of the participants, both students and supervisors, recorded that to break barriers of in-person supervision, they employed varying scheduling platforms, AI, and AI-powered tools to facilitate the supervision process, where in-person meetings could not be possible. To exemplify the use of scheduling and AI-Powered tools, NUL academic staff pursuing their postgraduate studies abroad, alongside their supervisors, recorded that:

Supervisor 1: *"To instil accountability for mine and my supervisees' work, at the end of every check-in session, we agree on deadlines for upcoming tasks and schedule the next check-in using Google Calendar."*

Scholar 1 *"During meetings with my supervisor that were held on Microsoft Teams, my supervisor would prompt for Read AI transcriptions so that I do not divide my*

attention between listening for feedback and taking notes. This helped me to focus in the meeting, knowing I can always come back to the transcriptions to read for corrections."

Supervisor 1 and Scholar 1, above, have recorded in their responses that *Google Calendar* and *Microsoft Teams* scheduling platform have primarily been used to facilitate, organize, and calendar manage their supervisory meetings. Although they do not inherently utilize artificial intelligence, it is worth mentioning in this study, as some AI tools and AI-Powered tools operate alongside it. Thus indicating that the effectiveness of remote supervision often depends on its seamless integration to other AI and AI-Powered tools. That being said, scholar 1, above, has also recorded that they make use of AI-Powered platforms such as *Read ai* which leverage advanced AI capabilities such as speech recognition, automated summarization, and transcription, to generate real-time supervisory meetings' transcriptions during their virtual meetings, which allows students to focus on the conversation without worrying about manual note-taking.

When asked of their use of writing and plagiarism detection tools, some NUL academic staff that are enrolled as postgraduate students internationally said the following:

Scholar 2 *"I personally use Grammarly before submissions, to check for grammatical and structural mistakes before submitting to my supervisors. I have noticed that this particular AI tools helps eliminate some inane mistakes that could reduce my credibility as a scholar, and that could make my supervisor doubt my commitment to my work."*

Scholar 3 *"After writing, I usually check the similarity index using Quillbot, to reduce the similarity score even before submitting to my supervisor, so that I have done paraphrases and reduced the score even before it is brought to me."*

Scholar 4 *"The school provides Turnitin to its students, so my supervisor and I have agreed that for every chapter submitted, it must have first went through this tool. This helps my supervisor to focus on important parts of my research, and to provide timely feedback."*

Scholar 2 and 3 have recorded that they employ AI tools, namely *Grammarly* and *Quillbot*, for language correction, to improve writing, and to reduce similarity index, thus reducing the chances of their work being mistook as plagiarised. Similarly, scholar 4 has recorded using an AI-Powered tool names *Turnitin* in order to detect these similarity indexes that may lead to patterns of academic misconduct or even AI-generated work.

Consequently, NUL academic staff enrolled as postgraduate students abroad, along with their supervisors, agree that scheduling platforms and AI-Powered tools have eased communication and their overall experience of the

supervision journey. These findings align with claims made by Wisker et al (2021: 615) and Murire and Gavaza (2026: 257) that through AI-enabled tools, remote supervision breaks barriers of physical distance, costs, and politics, and helps with continuous and timely feedback. Based on the experiences of these students and supervisors, through remote supervision, AI tools facilitate inclusion of international postgraduate students, serving as beneficial assistive technology in education, allowing students to achieve their full potential (Nayir et al, 2024: 103). Critical pedagogy necessitates dialogue engagement for communication, and ultimately for education Aliakbari and Faraji's (2011: 82), and the tools discussed above seem to enable this by increasing interaction quality. Supervisors particularly highlight how some AI tools assist their supervision tasks by permitting responsive, AI-powered meetings that arrange meetings, foster dialogues between them and the international postgraduate students, and help track the progress of students.

5.2.1. AI as an Enabler for Ghost Authorship

Although a majority of shared sentiments towards AI-powered supervision were positive, there are still some minority differing opinions regarding the risk of the human element risking being lost that were shared. Some international postgraduate students and supervisors of international postgraduate students were not convinced regarding the effectiveness of AI tools for supervision. They are of the view that the emergence of AI has led to academics that are no longer fully invested in their thesis and dissertations, as they believe AI tools can do them better for them. Sinkala and Kariyana (2026: 67) observed similar risks in their study, and they highlighted that the use of AI tools for ghost authorship exists and can lead to hallucinations in findings, as well as plagiarism, as there is no privacy. There are potential risks of breach of one's work, which undermines originality and the integrity of research.

Although a minority, the study records that a specific NUL academic staff enrolled as an international postgraduate student recorded their differing opinions by specifying that,

Scholar 5 *"Truly speaking, I am very negative towards the use of AI for remote supervision, particularly for academic writing. I have been negative since I learned of its invention, as I believe people that make use of AI have built dependency on it, and they cannot proudly say they own their research fully."*

Opposed to the positive opinions held by majority of NUL academic staff, it is evident from a comment made by scholar 5 above that, while AI tools offer substantial benefits for remote supervision and inclusive learning, as mentioned in the previous section, their misuse poses significant risks to academic integrity. Scholars such as Sinkala and Kariyana (2026) and Choudhary (2025) warn that overreliance on AI for academic writing may blur the boundaries of authorship, which may lead to potential

plagiarism and loss of originality. For example, AI-generated content may not accurately reflect the student's own understanding, making it challenging for supervisors to assess genuine learning outcomes.

Based on the premises of transhumanism, which aims at enhancing human abilities and overcoming human limitations through technology (Nayir et al, 2024: 111), this differing view by scholar 6 advocates for correct use of AI tools and AI-supported technologies to be ethically employed to complement human supervision and human writing, not simply replace them. Hence, Dubey (2024) suggests that for teachers [and students] to integrate AI tools into inclusive education, proper training aimed at shedding knowledge on technology needs to be had. This is to say that training initiatives are essential in higher learning institutions in order to upskill both supervisors and students to employ AI ethically and effectively, to safeguard the core values of scholarly work, and of scholarly writing.

5.3. AI towards SDG-4 Fulfilment: Inclusive Learning and Accessibility

Postgraduate students and supervisors unanimously agree that the use of AI in supervision aligns with SDG-4, which advocates for inclusive, equitable, and quality education for all. Inclusive education has no barriers to individuals from diverse backgrounds, either socio-economic, linguistic, or marginalized (Kumar, 2025: 93). When asked how AI tools have made supervision more inclusive to their learning, one NUL academic staff pursuing their studies internationally remarked that:

Scholar 6 *"With AI-powered supervision, I am able to receive 24-7 structured feedback, as my supervisor can schedule meetings to anytime, without waiting on in-person meetings that could take forever to schedule. This makes me feel supported and prioritized in my academic journey."*

Similarly, when asked how AI tools have made their supervision more inclusive for their learners, one supervisor mentioned that:

Supervisor 2 *"AI tools have enabled me to track and to monitor student performance, which helps me to attend to each student's needs accordingly."*

Critical pedagogy advocates for liberating, and empowering oppressed people in order to transform their life conditions (Aliakbari and Faraji, 2011: 77), while AI can help achieve SDG-4 (Smith et al, 2024: 14). From these points, it is anticipated that with the proper use of AI tools, higher learning institutions can transform the lives of international postgraduate students, by providing them with learning opportunities. More precisely, the above findings are indications of how the use of AI for supervisory purposes supports NUL academic staff who are faced with the responsibility of their work, but who are also faced with the responsibility of advancing themselves in the process. This clearly supports their postgraduate academic journey through the provision of timely and customised feedback; a commitment to improving educational access, which in the long run could directly contribute towards SDG-4.

6. Conclusion

The study concludes that there are limitations to conducting in-person supervisory meetings that are imposed on NUL academic staff as international postgraduate students. These limitations are categorised as financial constraints; travel costs, and accommodation logistics, as well as a less popular one, which is the safety of such international postgraduate students that are caused by foreigner attacks on non-locals in the respective countries. These limitations result in disruptions for continued in-person supervisory meetings. These have raised an obvious need for higher learning institutions to employ alternative means of supervision for international students, thereby necessitating remote supervision, which is supervision that is done by means of using technological tools, more precisely, for this study, AI tools, in instances where in-person supervision is impossible.

Scheduling platforms, AI-Powered, and AI tools that emerged in the study are used for transcription purposes, summarization purposes, writing and plagiarism detection, as well as for scheduling supervisory meetings. Collectively, these tools have recorded to ease communication and overall experience of the supervision journey for both international postgraduate students and supervisors of international postgraduates. The findings of this study demonstrate that, although there are some challenges that NUL academic staff enrolled as international postgraduate students are faced with, they mostly benefit from supervisory practices that actively leverage AI tools and AI-Powered tools, which suggests inclined progress towards more inclusive and equitable educational practices that may in future fulfil the SDG-4 for Agenda 2030. This aligns with the work of Apata et al (2026) and Dubey (2024), who highlight that the strategic adoption of AI in higher education fosters inclusive, equitable, and high-quality learning experiences for diverse student populations. Therefore, the integration of AI into supervisory processes at these institutions reflects a meaningful commitment to support the ongoing academic and professional

development of international postgraduate students, particularly NUL academic staff enrolled as postgraduate students.

Recommendations

The study notes that there were some opposing opinions to the effectiveness of AI and AI-supported technologies for supervisory purposes that resulted from some concerns regarding ghost authorship. As such, it is recommended that higher learning institutions hold trainings for both supervisors and students regarding the correct use of AI tools and AI-supported technologies in their supervision. It is also recommended by the study that higher learning institutions implement clear policies regarding the ethical use of AI tools and AI-supported technologies for supervisory purposes.

Limitations of the Study

While the study addresses a notable gap regarding context-specific use of AI-powered, it is worth noting that there is a chance of generalized findings as the scope of the study is limited only to a selected group of NUL academic staff and their supervisors. Additionally, due to the fast-evolving nature of AI tools, it is worth noting that some findings may become quickly outdated as new technologies emerge.

Conflicts of Interest

The author declares that there is no potential conflict of interest with respect to this article.

Funding Statement

This research did not receive any funding.

Acknowledgements

The author highly appreciates Dr. Mantoa Moletse (PhD promoter) for the constructive discussion that helped shape the focus of this research.

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