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CHALLENGES AND OPPORTUNITIES POSTGRADUATE DOCTORAL STUDENTS FACED IN OPEN DISTANCE E-LEARNING

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Abstract:
Using qualitative multiple case study research design, this article expounds into the challenges and opportunities the postgraduate doctoral students faced in open distance e-learning. Interview schedule and field notes were used to collect data in which a criterion-based purposive sampling technique was used to select 40 postgraduate doctoral students, finished doctorate studies at open distance e-learning in Khomas, Omusati, and Oshana Regions in Namibia. Typological analysis, thematic analysis, content analysis using Atlas.ti and MAXQDA were used to analyse data. The study found that critical challenges are faced by postgraduate doctoral students inhibiting their doctoral studies completion, however a variety of learning opportunities exists that enhance their ability to facilitate the doctoral degrees studies completion. The study found that variety of mode of supervision exists to enhance postgraduate doctoral students' ability to increase their doctoral degrees studies completion. The study found that a number of factors determine the choice of the postgraduate doctoral studies aiming to promote, advance postgraduate doctoral degrees studies completion. The study found that a variety of factors determines the choice of open distance e-learning aim to advance postgraduate doctoral students' ability to enhance postgraduate doctoral degrees studies completion. Challenges and opportunities play a very critical role in the research supervision of postgraduate doctoral degrees, which affect completion of postgraduate doctoral studies. Postgraduate doctoral students should use open distance e-learning to facilitate teaching, learning, and assessment of postgraduate doctoral degrees to promote and enhance postgraduate doctoral degrees towards achieving the completion as part of terminal-dissemination process.

Keywords: postgraduate research supervision, postgraduate studies, student support, supervision models

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1. Introduction

According to the study carried out by Fathoni and Retnawati (2021), Open Distance e-Learning (ODeL) becomes a separate catalyst for the development of education, which utilises technology on the one hand and on the other hand, there are still many gaps evidenced in ODeL. According to Hamid *et al.* (2020) and Zhu *et al.* (2020), postgraduate doctoral students are facedwith negative physical and psychological challenges; they experienced the challenges pertaining to data reception, gadgets, interaction with supervisors, independent study, and learning activities during ODeL. However, in Arlinwibowo *et al.* (2020); Makawawa *et al.* (2021), postgraduate doctoral students are facedwith opportunities to deal with challenges and negative impediments by addressing potential and negative things in the future once they are resolved with their supervisors.

In Tamang and Reddy (2020), challenges faced by postgraduate doctoral students include a lack of knowledge, technical skills, financial constraints, and poor bandwidth connectivity. However, in Palvia *et al.* (2018) and Sarker *et al.* (2019), postgraduate doctoral students receive support from supervisors in the form of receiving feedback, online materials, technology support, instructions, and guidance. And according to Anshari *et al.* (2016) and Shahmoradi *et al.* (2018), postgraduate doctoral students receive support from their parents: financial support, moral support, supportive learning home environment, Wi-Fi, and locating online tutors for postgraduate doctoral students.

In McChesney *et al.* (2025), while some postgraduate doctoral students pursue a doctoral degree via ODeL, other postgraduate doctoral students work off-campus, some and/or all of the time, either by choice andor by necessity. According to Burford *et al.* (2024); Grant *et al.* (2022), these postgraduate doctoral students are invisible within higher education, resulting in these postgraduate doctoral students sometimes lacking access to support services, research culture, and a sense of institutional belonging. According to McChesney *et al.* (2024a); McChesney *et al.* (2024b), this invisibility and restricted provision raise equity concerns given that distance study is the route commonly used by the communities which are underserved by higher education. In Rainford and Guccione (2023), Rutter *et al.* (2023), this large and important cohort of postgraduate doctoral students deserves equitable provision, no matter the location of study, a call for practical changes to disrupt historic constructions of distance pathways as second-best.

According to Fast *et al.* (2022), the sharp transition of postgraduate doctoral students to ODeL has caused many challenges in organising the ODeL process. In Lekhetho (2022), the process of adaptation ODeL is challenging. According to Ishchenko and Gorbunovich (2021), reasons for the challenges of ODeL include the complexity of creating educational and methodological materials for ODeL and the lack of a centralised system of certification, accreditation of electronic courses, insufficient motivation of supervisors; shortage of supervisors who can develop ODeL courses in higher education. In Alebaikan *et al.* (2020); Cuschieri (2021), postgraduate doctoral students are facedwith opportunities to implement promising areas of online ODeL in the system of academic

and support staff, implementing a system approach to develop an online ODeL environment of educational institutions, and develop skills and abilities to use ODeL.

According to the study carried out by Wisker *et al.* (2021), there are five dimensions of ODeL journeys, including intellectual/cognitive, instrumental, professional/technical, personal/emotional and ontological dimensions. In Alebaikan *et al.* (2020), these five distinct dimensions account for postgraduate doctoral students' learning leaps or stuck places.

According to Kigadye (2022), challenges facing postgraduate doctoral students include spatial or temporal, workload, technological, giving feedback and cultural challenges. However, in Thulani (2025), clear communication and giving effective feedback, supportive relationships, and active engagement are the key elements of effective supervision in ODeL, enhancing postgraduate doctoral students' success in their doctoral studies. In Okeke-Uzodike (2021), supervisors play a crucial role by providing academic and emotional support through mentorship and motivation, which fosters postgraduate doctoral students' doctoral degree achievement.

According to Mahlangu (2021), inaccessibility of information and services provided by supervisors might contribute to the low quality of postgraduate doctoral students' success. In Sá (2021), the responsibility of institutions is to ensure facilities provided to supervisors are always appropriate in order to supervise postgraduate doctoral students in ODeL. In Giossos *et al.* (2009), Moore's Theory of Transactional Distance (TTD) assumes that distance is a pedagogical, not a geographic phenomenon. According to Van der Laan *et al.* (2021), it raises questions about understandings and perceptions, which might lead to communication gaps. In Cardilini *et al.* (2021), challenges in distance postgraduate supervision originate from the spatial and temporal distance and disconnection between the supervisor and the student. In Davies (2020), it is assumed that some universities may not have adequate staff with doctoral degrees to supervise postgraduate doctoral students. In Kara and Can (2019), the challenges of supervising postgraduate doctoral students include a lack of supervision skills, changing of supervisors, and the mode of supervision employed. In Güler *et al.* (2024), challenges include academic challenges, time-related issues, and supervisors and supervisors' colleague-related challenges. In Al Makhamreh (2020), opportunities faced by postgraduate doctoral students include an academic writing support program, effective feedback, access to databases, and materials support.

According to Aberra (2021), studying in ODeL system assists postgraduate doctoral students to develop professional competence, personality skills and computer skills. According to Sadeghi (2019), ODeL assists the postgraduate doctoral students to access doctoral studies materials; accomplish problem-solving research; study from the comfort of home while earning a living, access to rich library resources, and increased life skills such as research language and independent learning. According to Tareen and Haand (2020), although faced opportunities outweighed the faced challenges, the main challenge that still stands out is a lack of supervisory support coupled with a lack of motivation, procrastination, poor internet connections, lack of human touch, and lack of

support from employers. And according to Nyakuleha and Simengwa (2023), other noticeable challenges include a lack of sufficient time for study, lack of access to and use of ICT, ineffective feedback and lack of study materials.

In Wiitavaara and Widar (2025), challenges include increased demands on postgraduate doctoral students, remote communication and social interaction, and varying conditions for studying from home. In Kohnke *et al.* (2021), demands on self-leadership, social skills, and digital competence have increased compared to previous campus-based studies at a lower level. In Lange and Costley (2019), these challenges pinpoint the importance of taking into consideration postgraduate doctoral students' awareness and support regarding self-regulation of study planning, time allocation, and execution of assignments. According to Hooshyar (2019), these challenges pinpoint supervisors' awareness of creating a sense of community and avoiding a mere task orientation despite the ODeL context.

According to Hamakali and Josua (2023), many postgraduate doctoral students prefer the blended learning mode. In Demuyakor (2021), the blended learning mode is only possible if postgraduate doctoral students have access to technology devices to make it possible to engage in the learning processes involving the usage of technology. According to Kanyemba and Josua (2023), during ODeL some postgraduate doctoral students are facedwith challenges related to subject knowledge acquisition. In Faturoti (2022), the majority of postgraduate doctoral students preferred face-to-face or blended teaching/learning and assessment to ensure pedagogic access. In Kadhila and Nyambe (2021), postgraduate doctoral students' exposure to ODeL helps to improve skills: typing, internet information searching and general computer skills.

In Shapaka (2025), a close relationship and effective communication enhance postgraduate doctoral students' supervision. In Cvitković *et al.* (2024), the types of relationship, communication, academic, personal concern, and interest enhance postgraduate doctoral student supervision. In Bayona-Oré (2021), postgraduate doctoral students should use supervision practice to improve and enhance their performance. According to Haipinge *et al.* (2025), postgraduate doctoral student supervision is not taken as a means to enable pedagogic access. In Yun (2023), there is no institutional common procedure or model of postgraduate student research supervision, leading to academics adopting supervisory methods they are experienced with when they are supervised.

And according to Tladi and Seretse (2022), postgraduate doctoral students encountered varied supervision experiences. In Zaheer and Munir (2020), there are variations in student-supervisor relations and postgraduate doctoral students' research support for the doctoral degree programs. However, according to Netshitangani and Machaisa (2021), many postgraduate doctoral students felt supported by supervisors, while some strongly felt unsupported and neglected. Moreover, in Gohar and Qouta (2021), communication is mainly through emails, telephone, WhatsApp, and/or occasionally via personal meetings. And according to Wisker *et al.* (2020), whilst ODeL

enhance the support for postgraduate doctoral students, care needs to be taken that other tried and tested methods of support are not assumed to be anachronistic.

According to McChesney *et al.* (2025), there are societal, organisational, and/or individual-level challenges associated with ODeL. Wiitavaara and Widar (2025) aver thattheCovid-19 pandemic forced a rapid transformation of the higher education system, leading to a greater reliance on ODeL doctoral degree programs. In Shapaka (2025), this shift to ODeL resulted in changed study conditions for students and introduced new pedagogical challenges for supervisors, compared to the traditional campus-based teaching. In Haipinge *et al.* (2025), as the number of ODeL doctoral degree programs is expected to continue growing, it is likely that associated challenges will also increase. According to Thulani (2025), research on ODeL is primarily focused on issues related to instructional design and individual learning processes. According to Güler *et al.* (2024), much of the research tends to concentrate on specific doctoral degree programs. According to Netshitangani and Machaisa (2021), contexts and means through which postgraduate supervision is practised in contemporary universities reflect not only different, diverse needs of postgraduate doctoral students often off campus but also the emerging computer and communications technologies. In Shapaka (2025), all universities, whether they appreciate ODeL or declare ODeL, are becoming more ODeL universities. In Yun *et al.* (2023), given this context, postgraduate doctoral research supervision is then worth considering ODeL research. In Burford *et al.* (2024), there is a limited number of studies on ODeL. Further research on postgraduate doctoral students in ODeL, perceived challenges and opportunities postgraduate doctoral students faced in ODeL can be a valuable research endeavour to prevent future challenges and thereby increase opportunities in postgraduate doctoral students' doctoral studies.

The problem is that despite provisions of postgraduate doctoral research supervision, completion of doctoral studies has been very low. According to Costa (2018), postgraduate doctoral students in higher education generally find it very challenging to complete postgraduate doctoral research supervision within a specified timeframe. In Rutter *et al.* (2023), this problem becomes even more pronounced for ODeL postgraduate doctoral students, making it impossible to put in place proper postgraduate doctoral research supervision. And in Wiitavaara and Widar (2025), significant numbers of postgraduate doctoral students fail to complete their research within the timeframe or even fail to complete their programme of study due to incomplete doctoral studies. This study, therefore, aims to explore challenges and opportunities postgraduate doctoral students face in ODeL, starting from the postgraduate doctoral students' perspective. The overarching research questions the study explored were:

- What challenges did you face during your postgraduate doctoral supervision?
- What learning opportunities did you face during your postgraduate doctoral supervision?
- Which mode of supervision did you receive during your doctoral supervision?
- Which factors determine the choice of your doctoral study?
- Which factors determine the choice of your open distance e-learning?

2. Literature review

2.1 The conceptualisation of doctorateness in research supervision

According to Deem and Brehony (2000), a doctoral degree shall be awarded to a candidate who, having critically investigated and evaluated an approved topic resulting in an independent and original contribution to knowledge and demonstrated understanding of research methods appropriate to the chosen field, has presented and defended a thesis by an oral examination to the satisfaction of the examiners. According to the United Kingdom Council for Graduate Education (1997), doctorateness refers to mastery of subject, mastery of analytical breadth where methods, techniques, contexts and data are concerned, and mastery of depth, the contribution itself, judged to be competent, original and of high quality. According to Grant (2005), while doctorateness may seem odd, even a new word for some students, examiners and supervisors, its use does pose a particular type of question, inviting students to consider explicitly where in their thesis they have engaged explicitly with doctoral criteria. According to Maurice (2026), a doctoral degree is not merely a certificate; it is evidence of one's ability to conduct independent, original research. And in Wiitavaara and Widar (2025), a doctoral degree is the minimum requirement for supervising masters, doctoral students and for leading funded research projects as a principal investigator. In Burford *et al.* (2024), without a doctoral degree, an academic's role in knowledge production is inherently constrained.

According to LoBiondo-Haber and Wood (2009), making an original contribution involves three key components of originality, creativity and innovation. In Parahoo (2009), originality, seen as the first principle of doctoral research, is the core component of doctoral training, which refers to the advancement of knowledge through original research. According to Malfoy and Webb (2000) and Sackett (2010), creativity refers to the capability to make, do or become something fresh and valuable with respect to others as well as ourselves. And in Price and Money (2002), innovation refers to the process of transforming invention into practical application.

According to Barnacle (2005), originality means moving beyond surface-level assessment of originality, requiring attention to the development of the original thought and original work. In Perkins (2006), for the former, new knowledge might be generated as a result of a doctoral thesis, or existing knowledge might be applied to result in a new understanding. In Trafford (2007), for the latter, developing a musical score or a painting can indicate original work. And according to the United Council for Graduate Education (1977), not only are the doctoral students required to assess and categorise existing bodies of knowledge through this process, but they also draw conclusions regarding knowledge and make decisions about implementation. In Barnacle (2005), the originality may be evident in the study's design, knowledge synthesis, the implications or the way in which the research is presented.

Parahoo (2009) defines creativity as anything deemed as both original and/or task-appropriate within a particular socio-cultural-historical context, such as an academic

discipline. According to Trafford (2007), creativity can be traced back to the Greek word "krainein", which means to fulfil. In Bennich-Bjorkman (1997), individuals who fulfil their potential, who express an inherent drive and capacity, can be seen as creative. LoBiondo-Haber and Wood (2009) define creativity as the capability to make, do or become something fresh and valuable with respect to others as well as ourselves.

In Brown (2010), innovation is the capacity for promoting the cultural, social and technological innovation, and that to meet the challenges of the twenty-first century requires technological and social innovation that will solve problems as they arise and ensure economic success. In Gatfield (2005), innovation as part of doctoral research requires the production of the knowledge that is economically useful, either in terms of technological advances or societal use. According to Malfoy and Webb (2000), technological innovation may relate to marketable technologies, for example, developing patents. In Price and Money (2002), social innovation may relate to applied research aimed at improving societal conditions or solving societal problems. Examples include prevention of mother-to-child transmission of HIV/Aids in health care and improving literacy rates in education (Deem & Brehony, 2000).

According to Trafford (2007), doctorateness relates to the three notions, namely doing, achieving and thinking or conceptualising. And according to the United Kingdom Council for Graduate Education (1997), doing refers to acting in a doctoral way in terms of how postgraduate doctoral students identify his/her research problem, through to how he/she present the outcomes of his/her proposed study. In LoBiondo-Haber and Wood (2009), achieving refers to completing a body of work that possesses the hallmarks of a doctoral enquiry in terms of the complexity of ideas, depth and size of work produced. According to Sackett (2010), thinking or conceptualising refers to developing his/her study with awareness that he/she must make an original contribution to the knowledge and that this can be demonstrated at all points of the research process, namely, study conceptualisation, planning, empirical phase and dissemination.

According to Grant (2005), the strength of doctoral degrees is evaluated through their quality, quantity and consistency. In Barnacle (2005), quality refers to the extent to which a study's design, implementation and analysis minimises bias. And in Brown (2010), quantity refers to the number of studies that have evaluated the research question, including overall sample size across studies as well as the strength of the findings from the data analysis. And according to Deem and Brehony (2000), consistency refers to the degree to which studies that has similar and different designs, but investigates the same research question, report similar findings.

2.2 Challenges postgraduate doctoral students faced in open distance e-learning

According to Kigadye (2022), postgraduate doctoral students are faced with new challenges due to the transition of distance education to ODeL. In Alebaikan *et al.* (2020), the transition of distance education to ODeL has led to the transformation of practices of the supervisors and postgraduate doctoral students who are expected to work with ODeL materials online. According to Cuschieri (2021), this practice has created a challenging

situation in higher education systems pertaining to retraining academic and teaching staff. According to Thulani (2025), challenges of introducing ODeL in higher education systems in general and in particular to postgraduate doctoral students have not been sufficiently studied and developed. In Okeke-Uzodike (2021), the situation can be described as an antithetical dichotomy.

According to Aberra (2021), there are three levels of readiness within higher education systems to use ODeL: the level of supervisors, the level of postgraduate doctoral students and the level of the universities. However, in Sá (2021), ODeL can be a challenge for postgraduate doctoral students due to lack of skills in independent research: occurs due to the dominance of mostly reproductive activities within the academic programs, curricula in postgraduate programs, and the lack of initiative: due to lack of attention to leadership qualities of postgraduate doctoral students, challenges in optimising the independent work of postgraduate doctoral students in the triad of professional activity for employed postgraduate doctoral students: due to balancing the studies with employment responsibilities and household problems. According to Alhattab (2021), postgraduate doctoral students have their own families, which also require increased attention to combine learning, personal life, and professional activities. According to Van der Laan *et al.* (2021), this indicates the need to study challenges and opportunities for the development of ODeL in the context of the postgraduate doctoral students' training and supervision. In Mahlangu (2021), in terms of age, indicators of professional orientation, competence, professional self-determination, and general conscious attitude to learning, this group of postgraduate doctoral students is clearly the most profitable in the entire vertical of higher education.

According to Güler *et al.* (2024), postgraduate doctoral supervision has become remote, largely gone ODeL. However, in Davies (2020), it is not until now that academics on a broad scale have engaged in ODeL postgraduate doctoral supervision. According to Kara and Can (2019), ODeL postgraduate doctoral supervision has merged, and sometimes confuses professional and private, the home and the institution, and the physical and the digital. In Al Makhamreh (2020), the home has become a proxy of the institution in a very tangible manner. In Aberra (2021), the digital has become a predominant characteristic of any supervisory or research meeting between individuals. In Sadeghi (2019), the notions of supervision, being and becoming academics and the notions of academia have changed in lasting ways.

In Demuyakor (2021), supervisors are also faced with challenges when they are not familiar with their postgraduate doctoral students' strengths and weaknesses, an acute problem which often stems from insufficient consultation during the postgraduate doctoral students' selection process. In Kanyemba and Josua (2023), financial constraint is one of the significant challenges for postgraduate doctoral students in ODeL, especially at large institutions. And according to Faturoti (2022), the absence of physical contact can lead to feelings of isolation among postgraduate doctoral students. In Faturoti (2022), supervisors must provide not only academic but also financial support to their postgraduate doctoral students where possible.

According to Maurice (2026), a new trend is emerging, one that challenges the very logic of the system. In Rutter *et al.* (2023), across African universities, many non-PhD academic staffs have become what might be termed perpetual trainees. And in Yun *et al.* (2023), the phrase ongoing PhD student has become a permanent feature in academic profiles, sometimes spanning decades. What was intended as a transitional phase has, for some, become a career endpoint. In Haipinge *et al.* (2025), even more striking is the growing push, often through the academic staff unions, to secure permanent and pensionable terms for these transitional positions. These developments raise difficult questions. Can a role designed as a stepping stone be transformed into a permanent destination without undermining the integrity of the academic system? Can universities maintain global competitiveness while normalising sub-terminal qualifications among their teaching staff?

The argument advanced by proponents of permanency is not without a merit. Fast *et al.* (2022) point to the heavy teaching loads, limited funding for doctoral studies, and systemic barriers that make doctoral degree studies completion difficult whereas Ishchenko and Gorbunovich (2021) emphasise the value of experience, particularly for non-PhD academics with extensive industry backgrounds. In Fathoni and Retnawati (2021), in a continent striving to expand access to higher education, flexibility is necessary, but flexibility, if unchecked, can easily become compromise. According to Hamid *et al.* (2020), and Zhu *et al.* (2020), the push for permanent and pensionable terms has been further reinforced by a growing trend in which non-PhD academic staff remain in academia for their entire working lifetime, sometimes spanning 40 years and/or more, ultimately retiring in the same entry or transitional positions.

In Namibia, according to public service commission, the mandatory retirement age for academic staffs in public universities, research institutions, and/or equivalent bodies brings this reality into sharp focus. Non-PhD academic staffs will retire at 60 years, in line with non-teaching staff. In contrast, the PhD holders will benefit from extended retirement ages of 65 years for lecturers and senior lecturers and up to 70 years for associate professors and professors. This distinction sends a clear message and is a very wakeup call: academic advancement is not optional, and non-PhD academic staff would be wise to treat it as an urgent priority if they wish to serve longer.

Maurice (2026) posits that the uncomfortable truth is that Non-PhD academic staffs are not, in the strictest sense, complete academic staffs. In Palvia *et al.* (2018), they are works in progress individuals on a defined path toward a PhD. In Sarker *et al.* (2019), to treat them otherwise is to dilute the very meaning of academic qualification. In Tamang and Reddy (2020), while they may competently deliver lectures, they cannot supervise postgraduate research, lead major grants, or anchor the research mission of the university, in these sense, they risk becoming liabilities rather than assets if their progression stalls.

2.3 Opportunities postgraduate doctoral students faced in open distance e-learning

According to Sudarsana *et al.* (2020), online learning stands for learning within a network, often referred to as daring online learning. And in Yuliani *et al.* (2020), the transition from face-to-face to ODeL through an online system is an effort to reduce challenges postgraduate doctoral students faced in the distance e-learning. According to Alhattab (2021), ODeL has become a catalyst for the development of education that utilises technology**.** In Murphy (2020), the use of technology and information is vital in ODeL. In Menteri and dan Kebudayaan (2020), ODeL is an appropriate crisis response measure, and according to Yuliani *et al.* (2020), the transition from a face-to-face system to ODeL system becomes a form of obligation to reduce challenges faced by postgraduate doctoral students.

According to Palvia *et al.* (2018), online education is rapidly transforming the education system and is influencing the way postgraduate doctoral students approach their learning. In Anshari *et al.* (2016), technology has become more practical in terms of operational economical aspects. In Cvitković *et al.* (2024), learning online is very convenient as one can access resources anywhere and anytime with just a touch of a finger, and it offers flexibility to postgraduate doctoral students. In Güler *et al.* (2024), it is very efficient for postgraduate doctoral students to learn through mobile applications as long as there is internet connectivity and access to a website. In Fathoni and Retnawati (2021), globally, most educational institutions of higher learning adapt to this change.

In Hamid *et al.* (2020), the use of Information Communication Technologies (ICT) has become a part and parcel of every teaching and learning process at most educational institutions of higher learning. In Zhu *et al.* (2020), almost every postgraduate doctoral student, irrespective of their educational levels, is using ICT in one way or another for preparing a report or to collaborate with others. According to Arlinwibowo *et al.* (2020), in today's digital era, where learning takes place beyond the four walls of the classroom, good internet connectivity with high bandwidth is crucial for accessing online resources and services for the postgraduate doctoral student. In Makawawa *et al.* (2021), as the majority of postgraduate doctoral students show interest in online learning, there is a need to improve the quality of online education. According to Tamang and Reddy (2020), this can be done by giving due recognition to online education by considering it on par with traditional classroom-based education. However, in Sarker *et al.* (2019), when it comes to the development of the learning management system, there exists no one model fits all approach, hence a right to blend cultural, technological, and context-based systems needs to be realised.

In Tareen and Haand (2020), the ODeL system of education delivery is considered the most practical means of increasing educational access, advocating peer-to-peer collaboration, giving postgraduate doctoral students a greater sense of independence and responsibility for learning. In Nyakuleha and Simengwa (2023), ODeL is fast becoming accepted and a very important part of mainstream systems in education in both developed and developing countries, with particular emphasis on the latter. In Wiitavaara and Widar (2025), effective supervision in postgraduate studies involves

providing comprehensive guidance to postgraduate doctoral students, encompassing both personal and career aspects. In Kohnke *et al.* (2021), a crucial goal of this guidance is to ensure the timely completion of studies. In Lange and Costley (2019), academic discourse worldwide has a critical focus on enhancing the performance of postgraduate doctoral students, as universities are expected to increase their success rates.

According to Hooshyar (2019), effective postgraduate supervision is a two-way communication. In Hamakali and Josua (2023), ODeL is characterised by an effective communication interaction between postgraduate doctoral students and supervisors, with modern technologies serving as the primary medium of communication. And in Kadhila and Nyambe (2021), ODeL makes it possible to establish open communication channel and a strong relationship between supervisors and postgraduate doctoral students, contributing to higher attrition rates in ODeL institutions. In Mahlangu (2021), however, postgraduate doctoral students in ODeL are struggling to complete qualifications within the stipulated time, largely due to a deficiency in direct, in-person interaction.

According to Alhamoud and Alhassan (2026), a more disciplined approach is urgently needed. In Al Makhamreh and Stockley (2020), non-PhD academic staff should remain on fixed-term contracts, with clear and enforceable timelines for academic progression. In Bayona-Oré (2021), the maximum number of contract renewals should correspond to the standard duration required to obtain the next qualification, two to three years for a master's degree, and four to five years for a PhD. In Cuschieri (2021), beyond this, continued employment without advancement should not be an option. According to Fathoni and Retnawati (2021), such a policy would restore the integrity of the training pipeline while preserving opportunities for emerging scholars.

According to Gohar and Qouta (2021), universities must address the structural barriers that hinder PhD completion. And in Güler *et al.* (2024), this includes providing adequate funding, reducing teaching loads for doctoral candidates, strengthening mentorship systems. In Haipinge et al. (2025), the goal should not be punitive enforcement but supportive progression.

According to Hamakali and Josua (2023), the question of who qualifies as a legitimate academic is not merely semantic. In Hamid *et al.* (2020), it goes to the heart of the university's mission. And in Ishchenko and Gorbunovich (2021), if universities are to remain centres of excellence, innovation, and critical inquiry, they must uphold the highest standards of academic qualification. In Kigadye (2022), in that context, the PhD is not an optional extra; it is the defining threshold. According to Kanyemba and Josua (2023), anything less risks turning universities into glorified teaching colleges, busy, expansive, but intellectually diminished.

2.4 Models of supervision in postgraduate doctoral students' supervision

In Alebaikan *et al.* (2020) and Cuschieri (2021), supervisors need to be assessed to determine whether they have the information and requisite skills critical to supervision at ODeL. According to Haipinge *et al.* (2025), they need to be trained in the specific skills

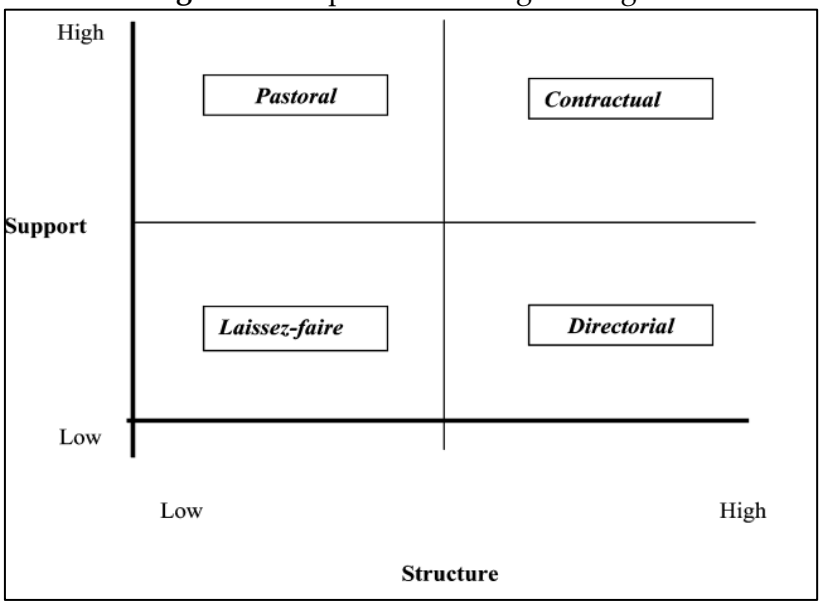
in ODeL supervision through a practical demonstration. In Shapaka (2025), challenges in compatibility between a student and supervisor may result in changes of supervisors in the middle of the research process. In Cvitković *et al.* (2024), this change may be more of a disruption rather than a benefit, as a result of which the quality of the research report might be compromised.

According to Bayona-Oré (2021), co-supervision can be problematic because of the diversity in views, which can be confusing for the student. In Yun (2023), there may also be those supervisors who strive to gain students' favour by discrediting other supervisors. And according to Tladi and Seretse (2022), conflicts can get out of hand to an extent that the main or principal supervisor is unable to control, unfortunately affecting not only the quality of supervision but also the students' rate of completion. In Zaheer and Munir (2020), among the challenges of the postgraduate ODeL supervision are engaging in the research cultures of universities, dealing with isolation, self-regulating learning, and ineffective use of ODeL communication. In Netshitangani and Machaisa (2021), while working with postgraduate doctoral students, ODeL supervisors should maintain a system of communication and support throughout the research process, prepare postgraduate doctoral students for the research writing and the new forms of communication, and be sensitive to postgraduate doctoral students' personal lives and work demands. In Gohar and Qouta (2021), postgraduate doctoral supervisors are expected to provide constructive feedback, opportunities, ODeL spaces, technologies for communication, and maintain dialogue toward successful reciprocally satisfying research processes.

According to Kara and Can (2019), ethical approval needs to be given for the study by the university's ethics committee. In Davies (2020), time pressure is a very acute element within the supervisory relationship, with emphasis on timely completions for postgraduates and the workload pressures facing academic supervisors. Cardilini *et al.*(2021) believe that supervisors have the responsibility to give guidance and/or feedback on critical thinking, written communication, and relevant discipline knowledge to the postgraduate doctoral students. In McChesney *et al.* (2024), postgraduate doctoral students' expectations are that more guidance on developing their academic independence, their collaboration skills, and maintaining motivation should be provided by supervisors. In Fathoni and Retnawati (2021), some supervisors may think they have little or no responsibility in guiding postgraduate doctoral students in the qualitative attributes. In Sá *et al.* (2021), the role played by the supervisor in the monitoring process of the design, preparation, and presentation of the end-of-programme project by postgraduate doctoral students is undeniably important. In Hamid *et al.* (2020) and Zhu *et al.* (2020), it is up to supervisors to make sure that postgraduate doctoral students follow the timetable agreed upon at the beginning of the process, attain the objectives of the project, and deliver a quality product, always in an iterative relationship with postgraduate doctoral students. Therefore, according to studies by Arlinwibowo *et al.* (2020) and Makawawa *et al.* (2021), supervisors' postgraduate doctoral supervision activities and/or tasks should be characterised by flexibility, iteration, continuous

feedback and/or constructive criticism, in the sense that supervisors train postgraduate doctoral students with the investigative competences in the teaching and learning process, although with the very specific characteristics. In particular, Gatfield (2005) put forward a supervisory management model with four quadrants that categorise different supervisory styles of the research supervisors into four groups: laissez–faire, pastoral, directorial and contractual, as clearly depicted in Figure 2.1 below.

Figure 2.1: Supervisor management grid



Adapted from Gatfield (2005)

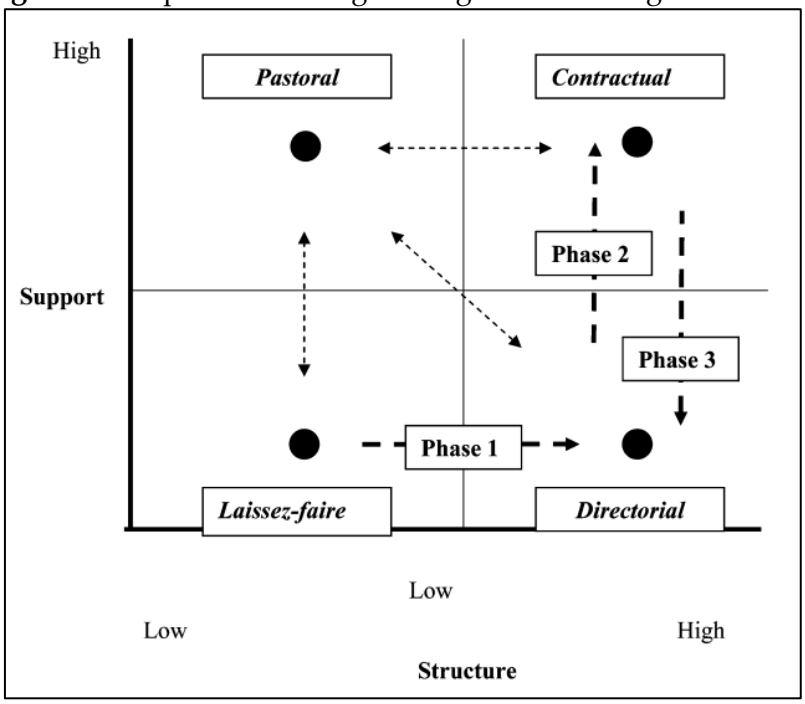
According to Gatfield (2005), the laissez-faire style offers limited support, is low on structure, usually suits research students who are low on motivation and management skills, and supervisors are non-interfering to a great extent. In Haipinge *et al.* (2025), the pastoral style is typically low on structure, high on support, where the supervisor offers considerable personal care and support but not necessarily in a task-driven directive capacity. In Gumbo (2019), in the African context where cultures value human relationships and the relationship between the supervisor and student is valued, the pastoral style appears to be particularly meaningful. In Hamakali and Josua (2023), this is because, in this cultural context, students value the socio–emotional support which is best achieved through regular face-to-face contact.

In Kadhila and Nyambe (2021), the directorial style fits self-directed research students who need less support but who follow the structure, such as meeting deadlines on their own, with supervisor interaction being limited to ensuring compliance with structural aspects of the research project. In McCallin and Nayar (2012), the fourth style, the contractual style, is high on both support and structure, suiting the contexts such as where funding structures demand high research outputs and supervisors are required to graduate students promptly.

Gatfield (2005) maintains that no specific style is better than the other, but that the needs of the student, institutional objectives and preference of the supervisor determine

which style one can use. In Haipinge *et al.* (2025), the supervisor might move between the different styles with one student within the course of a research project, or use different styles when working with different students, at the same or different institutions. Figure 2.2 below sums up the supervisor management grid with changes over time.

Figure 2.2: Supervisor management grid with changes over time



Adapted from Gatfield (2005)

According to Gatfield (2005), Figure 2 shows how the initial stages of a research project may well be suited to a laissez-faire style, where students are still finding their feet and exploring literature to identify research gaps. In Kadhila and Nyambe (2021), once the stage moves to the research methodology and the design stages, the supervisor may need to play a more active role, hence the change to directorial. However, in Gumbo (2019), once the student moves to data collection, the student may need support, but also the need to comply with institutional structural issues like timeline and the use of correct procedures. In the write-up stage, though structure is needed, a degree of support is reduced, hence the move back to the directional style. In Hamakali and Josua (2023), in reflection on the practice of postgraduate student research supervision and the types of students at the institution of higher learning, one would argue that supervisors prefer to use the directorial style for the most of their research supervision where they provide postgraduate research students with the documents and guiding them on what is expected of them, but offer minimal support, mainly due to the heavy teaching workload and the large number of research students assigned to each supervisor. However, in Haipinge *et al.* (2025), student research needs indicate that they require the use of the pastoral style, with more support needed. In McCallin and Nayar (2012), only when deadlines approach, when research projects ought to be submitted and graded, does

supervisors usually move to the contractual quadrant. In Hamakali and Josua (2023), therefore, there is a need for critical reflection on how to determine the supervision style used and how students' needs and institutional contexts play a role.

2.5 Factors that determine the choice of open distance e-learning

According to McChesney *et al.* (2025), irrespective of opportunities for ODeL, there exist factors that need to be considered before developing any ODeL courses. According to Burford *et al.* (2024), first and foremost, two common factors include a lack of infrastructural support and then the financial constraints. In Grant *et al.* (2022), one factor that was the most agreed upon by researchers is limited internet connectivity or poor internet bandwidth connection which restricts access to ODeL platforms. According to McChesney *et al.* (2024a), McChesney *et al.* (2024b), other factors include inadequate support and lack of ODeL knowledge, limited technological skills, postgraduate doctoral student resistance to change, problems in accessing technology and lack of logistic supports for supervisors. In Rainford and Guccione (2023), without addressing such factors, postgraduate doctoral students and supervisors cannot avail the full benefit of ODeL education.

According to Rutter *et al.* (2023), ODeL education has recently risen to prominence, but it remains a longstanding phenomenon. In Lambrev and Cruz (2021), there is an established body of research in the field which has considered the social connectedness of ODeL postgraduate doctoral students' experiences of learning, community and the management of postgraduate doctoral assessment at ODeL. In Wisker *et al.* (2022), another key consideration in the field is the relationship between ODeL doctoral education and concerns of equity, diversity, and/or inclusion in higher education. According to Fast *et al.* (2022), researchers have examined the particular importance of ODeL routes for minoritised populations in higher education systems, including also women, disabled students, and those living in remote and rural areas that may not otherwise be able to access doctoral education. In Lekhetho (2022), there is currently limited data on how many doctoral students study at ODeL, and to what extent doctoral students who may be registered as on-campus are based solely or partly in other locations. According to McChesney *et al.* (2024), the reasons students undertake doctoral study away from the campus can intersect with other equity considerations, such as caring responsibilities, health and well-being challenges. In Ishchenko and Gorbunovich (2021), higher education institutions should learn more about this uncounted and often invisible population of students to ensure that students based off-campus have equitable access to learning opportunities and support provided at the doctoral level.

3. Moore's theory of transactional distance

Several theories have been used in ODeL, but this study has found the Theory of Transactional Distance (TTD) by Moore (1991) to be the most relevant to situate this study. In his TTD, Moore avers that in distance learning, the separation between the

teacher and the students can lead to communication gaps, a psychological space of potential misunderstandings between behaviours of the instructors and those of the students (Moore & Kearsley, 1996). Moore's (1991) TTD posits that the distance is not simply a geographical separation of learners and teachers, but most importantly, is a pedagogical concept. It is a concept describing the universe of the teacher-learner relationship that exists when learners and instructors are separated by space and time. In McIsaac and Charlotte (1996), particularities of space and time pertaining to teacher and learner, which characterise the distance learning, create particular behavioural models for teacher and learner, a psychological communication distance between them, and an insufficient understanding of each other. With this separation, there is a psychological and/or communication space to be crossed to facilitate teaching and learning. According to Moore (1997), the nature of transactions developed between the teacher and the students in distance learning needs to take into account three factors, namely, dialogue, structure, and learner autonomy.

In Giossos *et al.* (2009), dialogue refers to more than simply two-way communication, but takes into account all forms of interaction, within the context of a clearly defined educational target, cooperation and the understanding on the part of the teacher, and it culminates in solving the learners' problems. In Moore (1997), the important consideration relates not to the frequency of dialogue, but to its quality and the extent to which it is effective in enabling the resolution of learning problems that distance learners may be experiencing. Dialogue refers to all forms of student-teacher interactions within the context of clearly defined educational targets, enabling the resolution of learning problems towards the achievement of intended outcomes.

The second factor Moore (1997) refers to is the nature of the course structure, which is described as the level of the course's rigidity or flexibility. In Zhang (2003), this factor includes the extent to which course goals and objectives are prescribed, the pedagogical model used in teaching the course, the nature of course assessment, and the ability of the course to accommodate individual student needs. Structure defines the extent to which prescribed goals are to be met. This includes issues of a pedagogical model in teaching and the ability of the course to accommodate student needs.

According to Giossos *et al.* (2009), the third factor, learner autonomy, is reliant upon the previous two, in that it refers to the sense of both independence and interdependence perceived by learners as they engage in the course. In Zhang (2003), learner autonomy is tied in with a learner's sense of self-direction, self-determination and self-drive in their learning, and this can be affected by dialogue, level of rigidity or flexibility inherent in the course design and delivery, and the extent to which a learner exerts control over learning procedures. It emphasises the importance of the need for learners developing confidence and independence by taking full responsibility for their learning. According to Moore (1997), transactional distance necessitates special organisations and teaching procedures. Student transactional distance connotes interplay among the environment, the individual, and the patterns of behaviours in a situation (Moore, 1997).

3.1 Usefulness of Moore's theory in open distance e-learning

According to McIsaac and Charlotte (1996), Moore's TTD asserts that an inverse relationship exists between dialogue, structure, and learner autonomy, in that increases in one could lead to corresponding decreases in others. In Chen (2001a, 2001b), a course with an inflexible structure could lead to a decrease in the quality of dialogue and the sense of learner autonomy, thereby increasing learners' perception of transactional distance. Although Moore (1997) does not specify a threshold, he also notes that when the course structure decreases below a particular threshold, the sense of transactional distance learning could actually increase, due principally to the potential for learner confusion or dissatisfaction. In Gorsky and Caspi (2005), although not unanimously accepted, several studies (Garrison, 2000; Jung, 2001) generally confirm the usefulness of Moore's TTD as a framework against which to analyse distance education practice. As Garrison (2000) intimates, the TTD is invaluable in guiding the complex practice of a rational process such as the teaching and learning at a distance; while Jung (2001) avers that TTD provides a useful conceptual framework for defining and understanding distance education in general. And according to Moore and Kearsley (1996), the supervision of students is, by its nature, psychological and communication-related, which makes this theory appropriate for this study.

4. Material and Methods

4.1 Research design

Using a qualitative multiple case study research design, this study expounds into challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati, and Oshana Regions in Namibia. In a study by Dey (2003), a theoretical underpin constructivism as applied to learning theory is an interpretivist notion. In Creswell and Creswell (2018) and Ling and Ling (2017), it represents an untruth about the ways individuals learn. According to Haipinge *et al.* (2025), a constructivist approach is the most suitable one because postgraduate doctoral students' research output contributes to the process of knowledge creation, resources that they can interact with to create and share knowledge with others. Therefore, this study believes that postgraduate doctoral students' research output contributes to the process of knowledge creation.

In this study, the position is taken that the research paradigm takes a prime position, meaning researchers should be certain about the research paradigm in which research is carried out. According to Ling and Ling (2017), this is important to make sure that research aspects endeavour are congruent, research exercise is coherent, outcomes are appropriate, and defensible. Considering the above, the interpretivist paradigm was used to provide evidence, coherent and subjective insight into and understanding of challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati, and Oshana Regions in Namibia.

The emerging nature of this study is best suited to a constructivist research design that can yield a rich understanding of key issues by minimising distance between

researcher and participants to develop practical and theoretical understanding; generate new and alternative understanding into concepts, issues under study, and argumentations, as also echoed by Leedy and Ormrod (2023). According to Dey (2003), the purely dominant positivist research design has adversely affected the relevance of resulting research because the researcher needs not only to consider technical aspects but also the social aspects and their continuous interaction concerning the study, research design to which the constructivist worldview is suited.

When a researcher is interested in immediate responses to a particular situation, it may require that the researcher use subjective data since it is unlikely that objective data would have been collected at precisely the right times, instances. This is not to devalue positivist research design but to suggest that an alternative research design can supplement and strengthen this study, since quantitative research design cannot reveal this study's complete story.

Investigation of the challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati, and Oshana Regions in Namibia cannot be studied outside of its natural setting, with its focus on this contemporary issue. The issue is that control and manipulation of the challenges and opportunities postgraduate doctoral students face in ODeL is not possible. Theoretical knowledge on the issue under investigation is limited and not yet mature. The case study method was thus a suitable method for this study; argumentations also have echoed by Dey (2003).

4.2 Participants

Forty postgraduate doctoral students who completed their doctorate studies through ODeL were chosen for this study. Postgraduate doctoral students were selected for this study because they graduated with doctoral degrees and were also involved in teaching and learning in Khomas, Omusati, and Oshana Regions in Namibia.

A criterion-based purposive sampling technique was used to select 40 postgraduate doctoral students who completed doctoral studies via ODeL. This technique helps the researcher to explore, learn and understand the challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati, and Oshana Regions in Namibia. A researcher used a criterion-based purposive sampling technique, and/or only postgraduate doctoral students with seven years of experience and/or above in teaching and learning in Khomas, Omusati, and Oshana Regions were selected. There are five campuses in Khomas, Omusati, and Oshana Regions in Namibia; they are Edward Dosantos, Hifikepunye Pohamba, Ogongo, Oshakati and Windhoek campuses. The researcher selected eight postgraduate doctoral students from each campus.

Data were collected through an interview schedule and field notes to find participants' views on the challenges and opportunities postgraduate doctoral students faced in ODeL. Data were collected using an interview schedule in which the same interview schedule was used to find the participants' views on the challenges and opportunities postgraduate doctoral students faced in ODeL. The study used an

interview schedule with a written list of questions, which were covered during interview sessions and were administered to the participants. These questions include the five questions mentioned in the introduction. The same interview schedule was used for participants; however, indication showed that answers given by participants from Edward Dosantos, Hifikepunye Pohamba, Ogongo, Oshakati and Windhoek campuses gave another dimension to research, possible findings and recommendations. There was one interview session per participant per region for up to one hour and 20 minutes, depending on the number of responses to the research questions. Participants were interviewed individually because they came from different regions, and every participant was different. Field notes were taken during interview sessions. A pilot test ensured the instruments accuracy, reliability, and appropriateness. Qualitative research experts reviewed interview questions for clarity and relevance.

In this study, data were analysed using typological analysis, content analysis, thematic analysis, Atlas.ti and MAXQDA. Categories pertaining to the challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati; Oshana Regions in Namibia were used to create patterned and/or thematic meaning from qualitative data. Major themes were derived from questions of the study, a description of each theme was done, analysed, interpreted critically and objectively. The researcher used Atlas.ti and/or MAXQDA to conduct thematic analysis, explore their coded material, and systematically analyse their data. While the name "MAXCODA" does not directly appear in the search results, MAXQDA is a prominent tool for content analysis tasks.

Following the advice of Creswell and Creswell (2018), Dey (2003), Leedy and Ormrod (2023) and Ling and Ling (2017), data were analysed using five levels of analysis (Levels 1 through 5) with an additional level which considers data collection and/or recording process itself as the first level of analysis (Level 0) as discussed explicitly below.

First, the researcher reviewed his notes immediately after each interview and added additional notes for clarity and detail. He then transcribed interviews in the same order that they were conducted as soon as he returned from fieldwork, using a de-naturalistic transcription style where idiosyncratic elements of speech, such as stutters, pauses, nonverbal and involuntary vocalisations, were removed.

Second, the case study narrative was both thematic and chronological because the narrative explains the use of data, systems, and information in relation to the challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati and the Oshana Regions in Namibia. The following are primary themes which were established as the key focal points for case narratives based on the interview schedule and notes which were taken:

- Challenges postgraduate doctoral students faced in ODeL;
- Opportunities postgraduate doctoral students faced in ODeL;
- Models of supervision in postgraduate doctoral students' supervision;
- Factors that determine the choice of doctoral study;
- Factors that determine the choice of ODeL.

The researcher shared case narratives with participants using member checking, asked them if there were any inaccuracies, misunderstandings, or missing content they were unhappy with for any reason, and they kindly let him know within two weeks; after that, he assumed they agreed with the write-up of interviews. The researcher used member checking to determine the accuracy of qualitative findings by taking the themes back to participants and determining whether participants felt that they were accurate. The researcher triangulated information from the interview schedule and field notes to strengthen the depth of its findings, as data from one source supported data from another. The researcher checked transcripts to ensure they did not contain apparent transcription errors, compared data with codes, and wrote memos on codes and their definitions. The researcher examined each information source, found evidence to support the themes, and ensured that the study was accurate.

Third, the priori method was used with themes established before analysis based upon descriptors in the challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati and Oshana Regions in Namibia.

Fourth, the researcher compared the findings from the previous level to what has been reported in empirical literature.

Fifth, the researcher used identified themes and connections to explain his findings by considering what it all meant and what was necessary. The researcher developed a list of key points and important findings while thinking about what things he has learned, what the major lessons were, and what possible application to another setting was. The researcher studied what those who used the findings of the study would be most interested in knowing. In other words, the researcher interpreted data by attaching meaning and significance to the analysis through developing a list of critical points, essential findings that he discovered as a result of categorising and sorting data. The researcher then used direct quotations and descriptive examples to illustrate his points, bringing data to life.

Finally, the researcher opted to present case narratives from Level 1 of analysis as stories, compare cases in Level 2 of analysis and formalise his cross-case analysis findings in Level 3 of analysis. The researcher compared the findings to the extant literature in Level 4 of analysis, included his description, commented and protected the participant anonymity by assigning numbers to cases, changed names, and/or omitted them to identify details without sacrificing rich description. The researcher opted to present implications of findings on challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati and Oshana Regions in Namibia.

After all required permissions were sought and granted; the researcher sent a letter to participants informing them about the information concerning the study to avoid the reality and appearance of coercion. Participants were informed of the rationale, recording, transcriptions and/or safekeeping of audio-taped interviews. The researcher made sure that the participants signed informed consent, ensuring privacy in subsequent interviews, guarding against manipulating participants during data collection, and reporting processes. Anonymity and confidentiality were observed when reporting on

the utterances and narratives of participants. Participants' names were replaced by pseudonyms to protect participants' identity, and participation was voluntary.

5. Findings

5.1 Challenges postgraduate doctoral students faced in open distance e-learning

This section presents findings on the challenges and opportunities postgraduate doctoral students faced in ODeL. The section comprises the views of 40 postgraduate doctoral students who participated in this study. Some of the participant responses were summarised and were presented in descriptive forms; others were reported verbatim and were presented in italics. The theme presented in this section is derived from thematically analysed data obtained from the interviews and field notes, with 40 selected postgraduate doctoral students from Khomas, Omusati, and Oshana Regions. The theme is on challenges and opportunities postgraduate doctoral students face in ODeL. It is worth noting that the theme relates to the manner in which the interplay between challenges and measures of opportunities could be constructed and developed to find interplay between them. In this study, the researcher has to determine whether 40 postgraduate doctoral students understand the interplay between them. This was then done to respond to the question: What challenges did you face during your postgraduate doctoral supervision? The thematic analysis of the interview schedule and field notes data revealed five core themes, which reflected challenges postgraduate doctoral students faced during their postgraduate doctoral supervision, and these themes include poor ICT infrastructure, lack of support from both supervisors and employers, lack of students' motivation and ineffective supervisors' instructional supervision.

5.1.1 Poor ICT infrastructure

> *"These challenges include students being challenged by poor ICT infrastructure, lack of access to computer laboratories, and unstable power supply. Students have responsibilities at work and home, which consume their study time."* (Postgraduate doctoral student#1, Khomas)

> *"The inability to operate ICT, poor infrastructure, and student support services such as tutorials, library services can be regarded as institutional challenges. Personality factors can be described as students' perceptions of ODeL mode of education, such as its provisions and demands, time management skills and procrastination."* (Postgraduate doctoral student#2, Oshana)

5.1.2 Lack of support from supervisors

"Students sometimes do not get support from their supervisors; feedback from their supervisors sometimes arrives late or might not be adequate. (Postgraduate doctoral student#3, Omusati)

"Other challenges include delayed assignments by supervisors and slow or no responses from supervisors regarding submissions (proposals or chapters) by students. Challenges include slow delivery of books requested from the main campus library and search librarians taking too long to share requested materials." (Postgraduate doctoral student#4, Khomas)

5.1.3 Lack of support from employers

"Employers do not always give students the necessary support. These behaviours are the symptoms of underlying challenges facing ODeL students." (Postgraduate doctoral student#5, Oshana)

"One challenge is that distance education involves a lot of independent work that demands that students plan their time allocation to avoid conflicts between studies and work, family and social life. Distance education programs have a lower student retention rate than campus-based education, thereby resulting in both economic and practical consequences for students and universities." (Postgraduate doctoral student#6, Omusati)

5.1.4 Lack of students' motivation

"ODeL is often regarded as inferior to conventional education; such challenges negatively affect students' motivation and success, resulting in a high rate of student drop-out. One major challenge is the lack of personal, human touch between supervisors and students and also among the students, resulting in feelings of isolation." (Postgraduate doctoral student#7, Khomas)

"One of the major challenges is the late completion of programmes. Such a challenge has been found to be situational, attitudinal, psychological, pedagogical, institutional and socio-cultural related challenge." (Postgraduate doctoral student#8, Oshana)

5.1.5 Ineffective supervisors' instructional supervision

"These challenges are categorised into three dimensions, namely situational, institutional, and dispositional. Situational challenges involve students' responsibilities at work and in the house, which take away their time to concentrate on their studies." (Postgraduate doctoral student#9, Omusati)

> *"These challenges have been categorised into individual student, instructional and institutional. These challenges may include reduced funding by governments to public universities and other institutions of higher learning, which are deemed to be more affordable than private universities, a rise in competition for donor funding among private and public universities, an increase in the number of students needing university education and inefficiency in the use of the available resources by higher education institutions."* (Postgraduate doctoral student#10, Khomas)

> *"The effort required to complete the studies may be higher than expected, and family and friends might lack understanding of the priorities required. Experiences of loneliness and isolation have been linked to ODeL studies."* (Postgraduate doctoral student#11, Oshana)

Postgraduate doctoral students' responses seem to imply that the ICT infrastructure, continuous support from both the supervisors and employers, the level of students' motivation and instructional supervision strategies play a crucial role in organising ODeL platforms, equipping postgraduate doctoral students with knowledge and skills needed to complete their doctoral studies. Alternatively, postgraduate doctoral students' responses seem to imply that their absence seems to hamper and prolong the completion of their doctoral studies.

5.2 Opportunities postgraduate doctoral students faced in open distance e-learning

In order to determine opportunities postgraduate doctoral students faced in ODeL, the researcher asked the question: What learning opportunities did you face during your postgraduate doctoral supervision? Thematic analysis of interview schedules and field notes data revealed three core themes that reflected the learning opportunities postgraduate doctoral students faced during their postgraduate doctoral supervision, and/or these themes include the use of online digital format, use of contemporary media, and computer-based learning platforms.

5.2.1 The use of online digital format

> *"Distance education was developed from print and correspondence to the current fully online digital format. The nature of distance education presupposes employment of contemporary technology, with the main reason of bridging the gap in geographic separation and differences in time zones between students and supervisors."* (Postgraduate doctoral student#12, Omusati)

> *"If the student has the necessary information technology devices and internet connectivity, access to knowledge is possible, and the student does not need to go to a conventional classroom setting to learn. The ODeL enhances learning and human capital development."* (Postgraduate doctoral student#13, Oshana)

5.2.2 The use of media platforms

> *"Since the mid-1990s, ICT has made a significant change in the distance education platform. Media have changed from written to web-based online technologies that have changed ODL to ODeL, both in the process of teaching, learning and student support services."* (Postgraduate doctoral student#14, Khomas)

> *"The benefits of ODeL also include focusing on the individualised needs of students rather than on the needs of the supervisors and the institution. Students benefit from gaining knowledge and qualifications without being affected by cultural diversity and physical ability."* (Postgraduate doctoral student#15, Omusati)

5.2.3 The use of computer-based learning platforms

> *"There are currently many different computer-based learning platforms and delivery methods available, including multimedia, educational programming, simulations, games, and the usage of new media on fixed and mobile platforms, which are used as approaches to online learning and are thus applicable to all ODeL programs."* (Postgraduate doctoral student#16, Oshana)

These responses seem to mean that the online digital format, media platform and computer-based learning platforms assist postgraduate doctoral students' work while also helping them to work independently.

5.3 Models of supervision in postgraduate doctoral student supervision

In order to determine the models of supervision in postgraduate doctoral student supervision, the researcher asked the question: Which mode of supervision did you receive during your doctoral supervision? The thematic analysis of interview schedules and field notes data revealed five core themes that reflected the models of supervision in postgraduate doctoral student supervision, and these themes include the blended learning mode, the technology-assisted teaching, learning and assessment mode, the modular object-oriented dynamic learning environment, online instructional methods and the use of ICT.

5.3.1 The blended learning mode

> *"Higher education institutions prefer the blended learning mode, which uses both face-to-face and online teaching, learning and assessment. The global outbreak of the corona virus has sped up the implementation of online learning, requiring putting measures in place such as social distancing."* (Postgraduate doctoral student#17, Khomas)

5.3.2 Technology-assisted teaching, learning and assessment mode

"Technology-assisted teaching, learning, and assessment mode has become an essential component of higher education institutions as a way of improving learning and capitalising on the availability of modern technology. Structures have been revised to enable implementation of online teaching, learning and assessment." (Postgraduate doctoral student#18, Omusati)

"It is such major changes which have prompted decision makers in the Namibian education setting to consider online teaching, learning and assessment pedagogies as alternative ways of moving forward academically. As much of a relief as it is, the shift of academic activities to online provision is both an enabling and constraining factor, given that academic institutions were caught off guard technologically." (Postgraduate doctoral student#19, Khomas)

5.3.3 Modular object-oriented dynamic learning environment

"Face-to-face instruction was suspended, teaching, learning, and assessment depended mainly on online facilitation via the Modular Object Oriented Dynamic Learning Environment (Moodle) platform. Although some courses were offered on Moodle, the academic writing for postgraduate doctoral students' course was only migrated to the online mode as a result of the pandemic." (Postgraduate doctoral student#20, Oshana)

5.3.4 Online instructional methods

"Institutions of higher learning are prompted to shift teaching to online instructional methods, as an alternative to enable continuation of academic activities. Academic institutions are, however, caught off guard in terms of technology use, supervisors, and students needed to acquaint themselves with the new normal of online pedagogies." (Postgraduate doctoral student#21, Khomas)

"Shifting to online instructional methods comes with the assumption that educational institutions have all the capacity and the infrastructure necessary to ensure the undisturbed progression of remote and online teaching and learning. Amongst the technologies which are playing a role in education is ICT, which provides information through telecommunication." (Postgraduate doctoral student#22, Oshana)

5.3.5 The use of ICT

"Institutions are not prepared in terms of their human capital, as supervisors have to acquaint themselves with online technological facilities to be able to carry out online teaching. Students also need to familiarise themselves with online learning platforms,

tools, upgrade their computer skills, and ensure that they have access to the internet all the time." (Postgraduate doctoral student#23, Omusati)

"Harnessing the ICT to improve learning requires that students and supervisors have adequate access to digital technologies and the internet, thus allowing the availability of high-quality and culturally responsive digital content. However, the use of most of these platforms has only been common among distance e-learning students who have no access to the traditional face-to-face classroom." (Postgraduate doctoral student#24, Khomas)

A possible interpretation for this finding could be that the use of blended learning mode, modern technology, Moodle, instructional methods, and ICT enhance the postgraduate doctoral students to complete their doctoral studies. However, postgraduate doctoral students need extra time to do this.

5.4 Factors that determine the choice of doctoral study

In order to determine factors which, determine the choice of doctoral study, the researcher asked the question: Which factors determine the choice of your doctoral study? The thematic analysis of interview schedules and field notes data revealed three core themes, which reflected factors that determine the choice of the doctoral study, and these themes include employability, personal satisfaction and institutional readiness.

5.4.1 Employability

"Students access a multitude of information on the web, social interaction amongst them is enhanced, they get knowledge and certification, which in turn expands their employability, self-employment or otherwise. Some students use doctoral study for personal gain; they make constructive use of their time by getting engaged in doctoral study." (Postgraduate doctoral student#25, Oshana)

"Doctoral study has been introduced due to the need for lifelong learning and further education, given the increase in unemployment rates and changing labour market conditions. The trend towards more remote work and online distance education experienced rapid growth and challenged the view that physical presence in various work and education activities was needed." (Postgraduate doctoral student#26, Khomas)

5.4.2 Personal satisfaction

"Doctoral study is a student-centred learning system where students are self-directed to decide what and when to learn and where to get individualised support. Students are made to learn independently with minimal guidance from the supervisor." (Postgraduate doctoral student#27, Omusati)

"Doctoral study allows students to take control of their studies, provides them with opportunities to learn at their own pace at times, and places compatible with their life commitments. Doctoral study is very flexible, not affected by time and geographic location." (Postgraduate doctoral student#28, Khomas)

5.4.3 Institutional readiness

"Technological and societal developments have increasingly led to doctoral study programs being offered online over the past decade. The need for expanded, quality-enhanced doctoral study has been motivated by a lack of staff with required skills in rural areas, geographic inequality in access to higher education." (Postgraduate doctoral student#29, Oshana)

"Factors contributing to dropout in doctoral study include workload misjudgement, unrealistic course expectations, the students not being used to the digital platforms or online course format, cognitive challenges, and family responsibilities. Factors which promote doctoral study retention include online interaction, relationships, realistic assessment of time and demands, the ability to balance competing school work and home demands, computer familiarity, commitment to online studies and discussions." (Postgraduate doctoral student#30, Omusati)

"Doctoral study program places different demands on course design and performance compared to a traditional campus-based program. It requires professional digital teaching skills, which not all supervisors currently have. Digital competence is required of the students, regardless of age or educational background. Introduction of new digital technologies and digitally supported study practices can be a challenging endeavour. Digital transformation of educational systems places demand on both supervisors and students, which can become a source of stress and work-related ill health." (Postgraduate doctoral student#31, Khomas)

Although participants' responses have rated employability, personal satisfaction and institutional readiness as predominant factors, other dominant factors rated by the participants include time constraints, official restrictions, irregular contacts and technology. By contrast, the factors rated for the supervisors include how they relate to their postgraduate doctoral students.

5.5 Factors that determine the choice of open distance e-learning

In order to determine the factors which determine the choice of ODeL, the researcher asked the question: Which factors determine the choice of your open distance e-learning? The thematic analysis of interview schedules and field notes data revealed three core themes that reflected the factors that determine the choice of ODeL, and these themes include internet connectivity, access to online library and the use of technology.

5.5.1 Internet connectivity

> *"ODeL expands access to education; students who reside in remote areas can access education provided that they have a mobile phone and internet connectivity. ODeL is affordable to many students as compared to conventional education."* (Postgraduate doctoral student#32, Oshana)

> *"In higher education, distance education implies a changed educational situation for supervisors and students, with new opportunities compared to traditional campus studies and teaching. Students have the opportunity to study regardless of time and physical location, and thereby also the possibility of combining work, family life and studies."* (Postgraduate doctoral student#33, Khomas)

5.5.2 Access to online library

> *"ODeL is facilitated via a library which houses multitudes of peer-reviewed journals and which is accessed online by students. ODeL enables countries to train a larger number of students in a shorter time, with lower costs than conventional campus-based education."* (Postgraduate doctoral student#34, Omusati)

5.5.3 The use of technology

> *"ODeL allows the flexibility of what to learn, when to learn and at what pace. ODeL considers students' health issues when students may need to regularly visit health institutions and cannot sit in conventional education."* (Postgraduate doctoral student#35, Khomas)

> *"ODeL is not affected by age, gender, ethnic origin, physical ability, the nature of work. ODeL is contextualised in access to quality educational materials."* (Postgraduate doctoral student#36, Omusati)

> *"Factors that play a role in postgraduate doctoral student success include quality of supervision, cordial relationship between supervisors and students, and student characteristics and motivation. Mismatch between the supervisor's expectations and student capabilities, supervisor's high workload, and predominant use of technology play a role in postgraduate doctoral student success."* (Postgraduate doctoral student#37, Oshana)

These findings can be attributed to the fact that internet connectivity, access to online libraries, and the use of technology boost postgraduate doctoral students to complete their doctoral studies. Alternatively, postgraduate doctoral students' responses

seem to imply that their absence seems to hamper and prolong the completion of their doctoral studies.

6. Discussion

6.1 Challenges postgraduate doctoral students faced in open distance e-learning

This section discusses findings on challenges and opportunities postgraduate doctoral students faced in ODeL in Khomas, Omusati, and Oshana Regions in Namibia. The discussion is based on the views of 40 postgraduate doctoral students who participated in this study. The first question answered by the study was: What challenges did you face during your postgraduate doctoral supervision? As the study has witnessed, a variety of challenges are faced by postgraduate doctoral students, inhibiting postgraduate doctoral students' doctoral studies completion. And according to Auma and Achieng (2020), impending challenges need focused attention and due investment by higher education institutions and the government. In Sichone (2026a), postgraduate doctoral student perceptions also need to be meticulously managed at all times, and intentional efforts need to be conducted to build the positive perceptions using different means, including intentional ongoing sensitisation of both students and supervisors.

The prominent issues which emanated from the findings were that there is a direct link between the challenges faced by postgraduate doctoral students and the opportunities postgraduate doctoral students faced, which also has a direct influence on postgraduate doctoral students' completion of doctoral studies. Researchers, including Alhamoud and Alhassan (2026), have suggested that embedding metacognitive thinking skills through the School Wide Optimum Model (SWOM) should be linked with meaningful gains in digital skills learning and with more positive doctoral students' attitudes. In Sichone (2026d), there is a very urgent need to deliberate on relevant infrastructure investment and exposure to emerging educational technology.

Another issue emanated from the findings was that the challenges faced by postgraduate doctoral students prolonged their doctoral degree completion, resulting in a too stressful and unbearable situation for postgraduate doctoral students. According to Sichone (2026c), a healthy ODeL culture does not yet exist in most institutions' digital infrastructure and needs to be complemented with robustly thriving corporate digital fluency or eCulture. In Sichone (2026b), in an all-pervasive digital world, ODeL continues to be impacted heavily.

6.2 Opportunities postgraduate doctoral students faced in open distance e-learning

The second question answered by the study was: What learning opportunities did you face during your postgraduate doctoral supervision? As this study has documented, a variety of learning opportunities are available to postgraduate doctoral students to enhance their ability to boost their doctoral degree studies completion through ODeL. According to Espiritu and Budhrani (2019), relevant enabling structures to support online research supervision are available to support postgraduate doctoral students with their

doctoral degree studies. However, in Gumbo (2019), although alternative digital credentials are not as preferred by postgraduate doctoral students, a good portion of postgraduate doctoral students do not mind which route they have studied to acquire that credential.

In this study, the principal issue encompassing these findings is that this link is attributed to the manner in which ODeL is applied to facilitate the teaching, learning, and assessment of doctoral degrees via ODeL, thus confirming a similar study by Abera *et al.* (2023) who argue that the present ODeL research supervision practice, process require urgent reform by all relevant stakeholders. However, in Auma and Achieng (2020), more intentional investment into digital educational technologies enhances digital pedagogical skills capacity building, ensuring that state-of-the-art technologies are in place.

The sample of this study revealed that the postgraduate doctoral students use ODeL to assist postgraduate doctoral students to work while helping them to work independently. Postgraduate doctoral students are given opportunities to enhance and promote their postgraduate doctoral studies. Postgraduate doctoral students, too, are drilled on how to apply ODeL. That said, it should be noted that the concern in this study was on challenges and opportunities postgraduate doctoral students faced, not vice versa (cf. Methodology Section). However, the possible interpretation for this finding can be that there are arrangements for the implementation of ODeL within the institution of higher education setting (Gumbo, 2019). And as a result of these arrangements (Alhamoud& Alhassan, 2026), some postgraduate doctoral students may have challenges adapting and changing the status quo. However, anomalies like these should be addressed by involving the supervisors and the postgraduate doctoral students during the planning, implementation, evaluation, and reflection process (Abera *et al.*, 2023).

6.3 Models of supervision in postgraduate doctoral student supervision

The third question answered by the study was: Which mode of supervision did you receive during your doctoral supervision? As this study has demonstrated, a variety of modes of supervision are used to enhance postgraduate doctoral students' ability to boost their doctoral degree studies completion through ODeL. In a study conducted by Kelsey and Löfström (2021), ODeL earn credentials in doctoral supervision compared to traditional credentials. However, according to Kusumawati *et al.* (2020), practice and process of ODeL require urgent reform by all relevant stakeholders.

In Shapaka (2025), studies have shown that postgraduate supervision at ODeL lacks mentoring ethics and practices, impeding postgraduate doctoral students from completing their doctoral studies. According to a study carried out by Espiritu and Budhrani (2019), this delay is not acceptable at all; higher learning management at institutions should redress this practice. In a study conducted by Kiley and Mullins (2024), supervisors must have expert power and/or pedagogical skills, able to apply those, considering postgraduate doctoral students' needs and expectations. In particular, Moore's (1991) TTD posits that distance is not simply a geographical separation of learner and teacher, but most importantly is a pedagogical concept that describes the universe of

the teacher-learner relationship existing when learner and/or instructor are separated by space and time. Considering such a relationship is very crucial in postgraduate doctoral research supervision.

Another principal issue noteworthy from the study is that postgraduate doctoral students use ODeL to monitor learning and enhance their doctoral degree studies completion via ODeL. According to Netshitangani and Machaisa (2021), while working with students, supervisors should maintain a system of communication and support throughout the research process, prepare students for the research, writing, and new forms of communication, and be sensitive to students' life and work demands. However, according to Alebaikan *et al.* (2020) and Cuschieri (2021), supervisors need to be assessed to determine if they have the information and the requisite skills critical to supervise at ODeL. In Moore (1997), separation between the teacher and the students can lead to communication gaps, a psychological space of potential misunderstandings between the behaviours of the instructors and those of the students

6.4 Factors that determine the choice of doctoral study

The fourth question answered by the study was: Which factors determine the choice of your doctoral study? As the study has indicated, quite a number of factors determine the choice of doctoral studies aiming to promote and advance their doctoral degree studies completion via ODeL. According to Trafford (2007), doctorateness relates to the three notions, namely doing, achieving and thinking or conceptualising.

In this study, the principal issue encompassing these findings is that postgraduate doctoral students predominantly consider employability, personal satisfaction, and institutional readiness as important critical factors that determine the choice of their doctoral study. These distinct factors contribute to how postgraduate doctoral students perceive them to strike the balance between work, study and personal life. However, according to Grant (2005), the strength of doctoral degrees is evaluated through their quality and quantity and their consistency. According to Moore (1997), the nature of transaction developed between teachers and students in distance learning needs to take into account learner autonomy.

6.5 Factors that determine the choice of open distance e-learning

The fifth question answered by the study was: Which factors determine the choice of your open distance e-learning? As this study has encountered, a variety of factors determine the choice of ODeL, aiming to enhance postgraduate doctoral students' ability to advance their doctoral degree studies completion through ODeL. According to a study by McChesney *et al.* (2025), irrespective of opportunities of ODeL, there exist factors that need to be realised before developing any ODeL courses. In Burford *et al.* (2024), the first and foremost common factor includes the lack of infrastructural support and financial constraints.

In this study, the principal issue encompassing these findings is that postgraduate doctoral students have predominantly considered the internet connectivity, access to

online library and the use of technology as critical factors advancing their doctoral degree studies completion through ODeL. These distinct factors are attributed to the fact that once technology is available, installation follows, and only then the library will be connected online. In Grant *et al.* (2022), one factor which is mostly agreed upon by researchers is limited internet connectivity or poor internet bandwidth connection which restricts access to ODeL platforms. In McChesney *et al.* (2024a); McChesney *et al.* (2024b), other factors include inadequate technological support, lack of ODeL knowledge, limited technological skills, challenges in accessing technology and lack of technological logistic supports for supervisors. These findings are then attributed to the fact that there should be interplay between the challenges, opportunities, models of supervision and factors that determine both the choice of doctoral study and ODeL and the performance dimensions of both the supervisors and the doctoral students. In Grant *et al.* (2022), the argument that students should use ODeL to enhance their outcomes may underestimate structural constraints such as institutional limitations, digital inequality, and socio-economic factors. This perspective could be interpreted as placing excessive responsibility on students rather than addressing systemic issues, a concern also raised by McChesney et al. (2024a, 2024b) in their discussion of equity in distance education.

7. Conclusion

Based on the design used and findings of the study, critical challenges inhibit the postgraduate doctoral studies completion, however, a variety of opportunities exists to promote postgraduate doctoral degrees studies completion whereas a variety of mode of supervision exists to enhance postgraduate doctoral degrees studies completion. A number of factors determine the choice of postgraduate doctoral studies aiming to promote, advance postgraduate doctoral degrees studies completion, whereas a number of factors determine the choice of ODeL aiming to advance, promote postgraduate doctoral degrees studies completion. This then suggests that challenges and opportunities play critical role in the postgraduate research supervision of the postgraduate doctoral degrees via ODeL which affects the completion of the postgraduate doctoral studies through ODeL. It was then evident from the study that postgraduate doctoral students should use ODeL to facilitate teaching, learning, and assessment of postgraduate doctoral degrees through ODeL to promote, enhance their postgraduate doctoral degrees towards achieving the completion as part of terminal-dissemination process.

In view of the findings of the study, the following recommendations are made for practice: First, postgraduate doctoral students should use ODeL to promote their postgraduate doctoral degrees. Second, postgraduate doctoral students should apply ODeL to facilitate the teaching, learning and assessment of postgraduate doctoral degrees. Lastly, postgraduate doctoral students should revisit the application of OdeL, apply ODeL to optimise their postgraduate doctoral degrees.

I acknowledge that this research has limitations. Only 40 postgraduate doctoral students were selected for the interview sessions, and the field notes in which the challenges and opportunities postgraduate doctoral students faced in ODeL were of interest. The researcher used a criterion-based purposive sampling technique, and/or only postgraduate doctoral students who completed postgraduate doctoral studies through ODeL were selected and/or the researcher used criterion purposeful sampling technique and/or only the postgraduate doctoral students with seven years of experience and/or above in teaching and learning in Khomas, Omusati, and Oshana Regions were selected. This selection may have influenced the responses. However, its scope is confined to the Khomas, Omusati, and Oshana Regions, which broaden the generalisability of its findings and thus broaden the applicability of its findings to the three Regions. I acknowledge the reliance on self-reported data, which can introduce bias as postgraduate doctoral students' perspectives might be influenced by their experiences and perceptions of their own effectiveness. However, this study has applied a multi-method approach in which more than one data collection technique with corresponding data analysis procedures was used to strengthen the analysis and possibly to enhance the robustness of findings. Based on the findings of this study, the following recommendation is made for future research: future research should conduct longitudinal comparative studies across different regions, exploring challenges and opportunities postgraduate doctoral students faced in ODeL to enable a deeper understanding of how ODeL operates, or varies in different systemic conditions. This also allows for more context-sensitive, longitudinal, evidence-based explorations of ODeL in different settings.

Conflict of interest statement
This study was free of any potential conflicts as it was an independent work.

About the Author
Born at Okanya Village, Ongandjera, Namibia, in 1967, this author became an ordinary teacher in the Ministry of Education, Arts and Culture in 1990, Head of Department in 2005, and school principal in 2007. Author's educational background include Doctor of

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References

Aberra, T. G. (2021). *Benefits and challenges of ODeL in postgraduate education: The case of Unisa, Ethiopia*. University of South Africa Press. https://doi.org/10.25159/UnisaRxiv/000018.v1

Alebaikan, R., Bain, Y., & Cornelius, S. (2020). Experiences of distance doctoral supervision in cross-cultural teams. *Teaching in Higher Education*, 1-18. https://doi.org/10.1080/13562517.2020.1767057

Alhamoud, A., & Alhassan, R. (2026). Enhancing digital literacy through metacognitive instruction: A study of the School Wide Optimum Model (SWOM) effect on achievement and attitudes in eighth-grade computer education. *Journal of Education and Practice, 17*(1), 161-174. Retrieved from https://www.iiste.org/Journals/index.php/JEP/article/view/63677/65825

Alhattab, S. (2021). *At least 200 million schoolchildren live in countries that remain unprepared to deploy remote learning in future emergency school closures – UNICEF*. Retrieved from https://www.unicef.org/press-releases/least-200-million-schoolchildren-live-countries-remain-unprepared-deploy-remote

Al Makhamreh, M., & Stockley, D. (2020). Mentorship and well-being: Examining doctoral students' lived experiences in doctoral supervision context. *International Journal of Mentoring and Coaching in Education, 9*(1), 1-20. https://doi.org/10.1108/IJMCE-02-2019-0013

Anshari, M., Alas, Y. Hj., Mohd Y., N., Pg. Hj. Sabtu, N. I., Sheikh A., & Hamid, M. H.(2016). Online learning: Trends, issues, and challenges in the big data era. *Journal of E-Learning and Knowledge Society*, *12*(1), 121-134. https://doi.org/10.20368/1971-8829/1003

Arlinwibowo, J., Retnawati, H., Kartowagiran, B., &Kassymova, G. K. (2020). Distance learning policy in Indonesia for facing pandemic COVID-19: School reaction and lesson plans. *Journal of Theoretical and Applied Information Technology*, *98*(14), 2828-

2838. Retrieved from https://pep.pps.uny.ac.id/sites/pep.pps.uny.ac.id/files/67.pdf

Auma M. O., & Achieng, J. O. (2020). Perception of teachers on effectiveness of online learning in the wake of COVID-19 pandemic. *Journal of Humanities and Social Science (IOSR-JHSS), 25*(6), 19-28. Retrieved from https://www.semanticscholar.org/paper/Perception-of-Teachers-on-Effectiveness-of-Online-Auma-Achieng/38d39977fb9317d4962790074be5ed79cd85e317

Barnacle, R. (2005). Research education ontologies: Exploring doctoral becoming. *Higher Education Research and Development, 24*(2), 179-188. Retrieved from https://doi.org/10.1080/07294360500062995

Bayona-Oré, S. (2021). Perceptions of postgraduate students on the relationship between theses development and performance of a supervisor. *Journal of Turkish Science Education*, *18*(4), 559-573. Retrieved from https://files.eric.ed.gov/fulltext/EJ1339472.pdf

Bennich-Bjorkman, L. (1997). *Organising innovative research. The inner life of university departments*. Oxford: IAU Press, Pergamon. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000121357

Brown, L. (2010). Balancing risk and innovation to improve social work practice. *British Journal of Social Work, 40*, 1211-1228. Retrieved from https://www.jstor.org/stable/43687516

Burford, J., McChesney, K., Frick, L., & Khoo, T. (2024).Conceptualising distance doctoral study after COVID-19: Are we post-distance now? *Distance Education*. https://doi.org/10.1080/01587919.2024.2388216

Cardilini, A. P. A., Risely, A. & Richardson, M. F. (2021). Supervising the PhD: Identifying common mismatches in expectations between candidate and supervisor to improve research training outcomes. *Higher Education Research & Development*. https://doi.org/10.1101/2020.02.20.958520

Chen, Y.-J. (2001a). Transactional distance in World Wide Web learning environments. *Innovations in Education and Teaching International*, *55*(4), 327-338. https://doi.org/10.1080/14703290110074533

Chen, Y.-J. (2001b). Dimensions of transactional distance in World Wide Web leaning environment: A factor analysis. *British Journal of Educational Technology*, *52*(4), 459-470. https://doi.org/10.1111/1467-8535.00213

Costa, K. (2018). *A systematic review of challenges in research supervision at South African Universities*. Preprints. https://doi.org/10.20944/preprints201812.0305.v1

Creswell, *J.* W., & Creswell, J. D. (2018). *Qualitative, quantitative, and mixed methods approaches* (Fifth Edition). SAGE publications, Inc. Retrieved from https://books.google.ro/books/about/Research_Design.html?id=KGNADwAAQBAJ&source=kp_book_description&redir_esc=y

Cuschieri, S. (2021). *The initial steps towards a PhD. In to do or not to do a PhD?* (pp. 9-14). Springer, Cham. https://doi.org/10.1007/978-3-030-64671-4_2

Cvitković, D., Jakab, A. W., & Stošić, J. (2024). Remote learning and stress in mothers of students with attention deficit and hyperactivity disorder during the Covid-19 lockdown. *Center for Educational Policy Studies Journal*, *14*(3), 171-188. https://doi.org/10.26529/cepsj.1496

Davies, S. E. H. (2020). The introduction of research ethics review procedures at a university in South Africa: review outcomes of a social science research ethics committee. *Research Ethics,* *16*(1-2) 1-26. Retrieved from https://philpapers.org/rec/DAVTIO-58

Deem, R. & Brehony, K. J. (2000). Doctoral students access to research culture: Are some more unequal than others? *Studies in Higher Education, 25*(2), 149-165. https://doi.org/10.1080/713696138

Demuyakor, J. (2021). COVID-19 Pandemic and higher education: Leveraging on digital technologies and mobile applications for online learning in Ghana. *Shanlax International Journal of Education,* *9*(3), 26-38. https://doi.org/10.34293/education.v9i3.3904

Dey, I. (2003). *Qualitative data analysis: A user-friendly guide for social scientists*. Routledge. https://doi.org/10.4324/9780203412497

Espiritu, J. L., &Budhrani, K. (2019). Cultivating an eLearning culture. *Scientia Padagogica Experimentalis,* *56*(1), 3-32. Retrieved from https://www.researchgate.net/publication/331889039_Cultivating_an_eLearning_Culture

Fast, O., Semenog, O., Vovk, M., Buhaichuk, N., &Golya, G. (2022). Examining the practices and challenges of distance education of PhD candidates in the context of COVID-19. *Journal of Learning for Development,* *9*(1), 73-88. https://doi.org/10.56059/jl4d.v9i1.581

Fathoni, A., &Retnawati, H. (2021). Challenges and strategies of postgraduate students in online learning during the Covid-19 pandemic. *Jurnal Prima Edukasia, 9*(2), 233-247. https://doi.org/10.21831/jpe.v9i2.37393

Faturoti, B. (2022). Online learning during COVID19 and beyond: A human right based approach to internet access in Africa. *International Review of Law, Computers & Technology, 36*(1), 68-90. https://doi.org/10.1080/13600869.2022.2030027

Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. *The International Review of Research in Open and Distributed Learning, 1*(1), 1-17. https://doi.org/10.19173/irrodl.v1i1.2

Gatfield, T. (2005). An investigation into PhD supervisory management styles: Development of dynamic conceptual model and its managerial implications. *Journal of Higher Education Policy and Management,* *27*(3), 311-325. https://doi.org/10.1080/13600800500283585

Grant, B. (2005). Unfinished business: Subjectivity and supervision. *Higher Education. Buckingham.* Open University Press. https://doi.org/10.1080/07294360500062953

Grant, B., M., Nerad, C., Balaban, R., Deem, M., Grund, C., Herman, A., Mrčela, S., Porter, J., Rutledge, L., &Strugnell, R. (2022). The doctoral education context in the

twenty-first century: Change at every level. In *Towards a Global Core Value System in Doctoral Education*, edited by M. Nerad, D. Bogle, U. Kohl, C. O'Carroll, C. Peters, and B. Scholz, 18-42. London: UCL Press. https://doi.org/10.2307/j.ctv2f4v5mf.8

Giossos, Y., Koutsouba, M., Lionarakis, A., & Skavantzos, K. (2009). Reconsidering Moore's transactional distance theory. *European Journal of Open, Distance and E-learning, 12*(2), 1-6. Retrieved July 21, 2019, from http://www.eurodl.org/?p=archives&year=2009&halfyear=2&article=374

Gohar, A. S., & Qouta, M. M. (2021). Challenges of improving the quality of academic supervision of postgraduate studies at the faculty of education, Damietta University. *Journal of Educational Issues, 7*(1), 324-346. Retrieved from https://doi.org/10.5296/jei.v7i1.18292

Gorsky, P., & Caspi, A. (2005). A critical analysis of transactional distance theory. *Quarterly Review of Distance Education, 6*(1), 1-11. https://doi.org/10.1108/QRDE-02-2005-0002

Güler, M., Özmen, Z. M., & Güler, M. (2024). Graduate programs through the eyes of students: Challenges and needs. *Journal of Pedagogical Research, 8*(4), 48-65. https://doi.org/10.33902/JPR.202429447

Gumbo, M. T. (2019). Online or offline supervision? Postgraduate supervisors state their position at university of South Africa. *South African Journal of Higher Education, 33*(1), 92-110. https://doi/org/10.20853/33-1-2673

Haipinge, E., Kadhila, N., & Josua, L. M. (2025). Reflectivity towards improving postgraduate student research supervision. A digital lens on the University of Namibia. *South African Journal of Higher Education, 39*(1), 94-113. https://dx.doi.org/10.20853/39-1-6282

Hamakali, H. P. S., & Josua, L. M. (2023). Engendering technology-assisted pedagogy for effective instructional strategy in the University of Namibia language centre. *Research in Educational Policy and Management, 5*(1), 18-32. https://doi.org/10.46303/repam.2023.3

Hamid, R., Sentryo, I., & Hasan, S. (2020). Online learning and its problems in the Covid-19 emergency period. *Jurnal Prima Edukasia, 8*(1), 86-95. https://doi.org/10.21831/jpe.v8i1.32165

Hooshyar, D., Kori, K., Pedaste, M., &Bardone, E. (2019). The potential of open learner models to promote active thinking by enhancing self-regulated learning in online higher education learning environments. *British Journal of Educational Technology, 50*(5), 2365-2386. https://doi.org/10.1111/bjet.12826

Ishchenko, R., & Gorbunovich, I. (2021). Efficiency of distance learning of physics of students of technical specialties in quarantine conditions. *Physical and Mathematical Education, 29*(3), 63-67. https://doi.org/10.31110/2413-1571-2021-029-3-010

Kadhila, N., & Nyambe, J. (2021). Barriers to the quality of emergency online pedagogies in higher education during the COVID-19 pandemic: A case study from the

University of Namibia. *Journal of Learning for Development, 8*(3), 516-531. Retrieved from https://files.eric.ed.gov/fulltext/EJ1325052.pdf

Kanyemba, S., & Josua, L.M. (2023). Learning with digital media: A systematic review of students' use in African higher education. *Journal of Learning for Development, 10*(1), 109-121. https://doi.org/10.56059/jl4d.v10i1.857

Kara, M. & Can, G. (2019). Master's students' perceptions and expectations of good tutors and advisors in distance education. *International Review of Research in Open and Distributed Learning*, *20*(2), 161-179. Retrieved from https://files.eric.ed.gov/fulltext/EJ1214380.pdf

Kelsey, I. & Löfström, E. (2021) Remote doctoral supervision experiences: Challenges and affordances, *Innovations in Education and Teaching International, 58*(6) 612-623. https://doi.org/10.1080/14703297.2021.1991427

Kigadye, E. (2022). Supervising distance students: Practice and experience at the Open University of Tanzania. *West African Journal of Open & Flexible Learning, 10*(2), 164-181. Retrieved from https://wajofel.org/index.php/wajofel/article/view/102

Kiley, M. & Mullins, M. (2024). *Quality in postgraduate: Making end meet.* University of Adelaide. Retrieved from https://www.semanticscholar.org/paper/Quality-in-postgraduate-research%3A-Making-ends-meet-Kiley-Mullins/8219c3217eeab92b5ee0682b51d1384b3c26d778

Kohnke, L., Zou, D., & Zhang, R. (2021). Pre-service teachers' perceptions of emotions and self-regulatory learning in emergency remote learning. *Sustainability, 13*(13). https://doi.org/10.3390/su13137111

Kusumawati, N. A., Purandina, I. P. Y., Sutriyanti, N. K., Sudiani, N. N., Adnyani, N. W., Iragraha, S. M. F., Winaya, I. M. A., Siswadi, G. A., & Aryana, I. M. P. (2020). *COVID-19: Perspektif pendidikan*. Yayasan Kita Menulis.

Lambrev, V. S., & B. C. Cruz. (2021). Becoming scholarly practitioners: Creating community in online professional doctoral education. *Distance Education, 42*(4), 567-581. https://doi.org/10.1080/01587919.2021.1986374

Lange, C., & Costley, J. (2019). The negative impact of media diversity on self-regulated learning strategies and cognitive load. *Issues in Educational Research*, *29*(1), 158-179. Retrieved from https://www.researchgate.net/publication/330997762_The_negative_impact_of_media_diversity_on_self-regulated_learning_strategies_and_cognitive_load

Leedy, P. D., & Ormrod, J. E. (2023). *Practical research: Planning and design*. Pearson. Retrieved from https://pce-fet.com/common/library/books/51/2590_%5BPaul_D._Leedy,_Jeanne_Ellis_Ormrod%5D_Practical_Res(b-ok.org).pdf

Lekhetho, M. (2022). Postgraduate students' perceptions of support services rendered by a distance learning institution. *International Journal of Higher Education, 11*(7). https://doi.org/10.5430/ijhe.v11n7p24

Ling, P., & Ling, L. (2017). *Methods and paradigms in education research: Employing paradigms in education research.* In L. Ling & P. Ling (Eds.), *The Power of the Paradigm: Methods*

and Paradigms in Education Research (pp. 19-41). IGI Global. http://dx.doi.org/10.4018/978-1-5225-1738-2.ch02

LoBiondo-Haber, L & Wood, W. (2009). *Evidence-based practice in health care. New-York*. Jones & Bartlett Publishers.

Mahlangu, V. P. (2021). Exploring challenges of supervising postgraduate students in open distance learning in higher education setting. *Bulgarian Journal of Educational Research and Practice, 3*(1), 15-29. Retrieved from https://files.eric.ed.gov/fulltext/ED614073.pdf

Makawawa, J. C., Mustadi, A., Septriwanto, J. Van, Sampouw, F., &Najoan, R. A. O. (2021).Primary school teachers' perception of technological pedagogical content knowledge in online learning due to Covid 19. *Jurnal Prima Edukasia, 9*(1), 86-96. https://doi.org/10.21831/jpe.v9i1.35245

Malfoy, J. & Webb, C. (2000). *Congruent and incongruent views of postgraduate supervision*. In Perkins, D. (2006). Constructivism and troublesome knowledge. In R. Land & J. H. F. Meyer (Eds.),Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge, 33-47, London: Routledge. Retrieved from https://supervision.ukcge.ac.uk/resources/resource-library/congruent-and-incongruent-views-of-postgraduate-supervision

McCallin, A., & Nayar, S. (2012). Postgraduate research supervision: A critical review of current practice. *Teaching in Higher Education, 17*(1), 63-74. https://doi/org/10.1080/13562517.2011.590979

McChesney, K., J. Burford, L. Frick, & T. Khoo (2024). *Doing doctoral research at a distance: Flourishing in off-campus, hybrid, and remote pathways*. Abingdon, Routledge. Retrieved from https://www.routledge.com/Doing-Doctoral-Research-at-a-Distance-Flourishing-In-Off-Campus-Hybrid-and-Remote-Pathways/McChesney-Burford-Frick-Khoo/p/book/9781032368474

McChesney, K., Burford, J. & Frick, L.(2024a). Living the best way possible: Distance doctoral students navigating care for others and themselves. *Access: Critical Exploration of Equity in Higher Education 12*(1), 106-128. Retrieved from https://novaojs.newcastle.edu.au/ceehe/index.php/iswp/article/view/223

McChesney, K., Burford, J., Frick, L. & Khoo, T. (2024b). *Doing doctoral research at a distance: Flourishing in off-Campus, hybrid, and remote pathways*. Abingdon, UK: Routledge. Retrieved from https://www.routledge.com/Doing-Doctoral-Research-at-a-Distance-Flourishing-In-Off-Campus-Hybrid-and-Remote-Pathways/McChesney-Burford-Frick-Khoo/p/book/9781032368474

McChesney, K., Burford, J., & Frick, L. (2025). Improving the experiences of doctoral students at a distance: recommendations for policy and practice. Perspectives: Policy and practice in higher education. https://doi.org/10.1080/13603108.2025.2506473

McIsaac, M. S., & Charlotte, N. G. (1996). *Distance education: Handbook for research on educational communications and technology*. In Jonassen, D. H. (Ed.), *Association for Educational Communications and Technology,* (pp. 403-437). Simon & Schuster

Macmillan. Retrieved from https://www.taylorfrancis.com/chapters/edit/10.4324/9781410609519-22/distance-education-charlotte-nirmalani-gunawardena-marina-stock-mcisaac

Menteri Pendidikan dan Kebudayaan RI. (2020). *Surat edaran nomor 4 tahun 2020 tentang pelaksanaan kebijakan pendidikan dalam masa darurat penyebaran corona virus disease (Covid-19)*. Retrieved from https://bpmpkalteng.kemendikdasmen.go.id/surat-edaran-mendikbud-4-2020-pelaksanaan-kebijakan-pendidikan-dalam-masa-darurat-penyebaran-corona-virus-disease-covid-19/

Moore M. G. (1991). *Editorial: Distance education theory. The American Journal of Distance Education, 5*(3), 1-6. https://doi.org/10.1080/08923649109526758

Moore, M. (1997). *Theory of transactional distance*. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 22-38). Routledge. Retrieved from https://www.researchgate.net/publication/262488021_The_Theory_of_Transactional_Distance

Moore, M. G., & Kearsley, G. G. (1996). *Distance education: A system view*. Wadsworth. Retrieved from https://books.google.ro/books/about/Distance_Education_A_Systems_View_of_Onl.html?id=8A0KzgEACAAJ&redir_esc=y

Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy, 41*(3), 492-505. https://doi.org/10.1080/13523260.2020.1761749

Netshitangani, T. & Machaisa, P. R. (2021). ODL institution in South Africa. *Cogent Social Sciences*, 7(19), 28-42. https://doi.org/10.1080/23311886.2021.1970442

Nyakuleha, O. H., & Simengwa, D. (2023). Blended open distance learning (ODL) challenges in 21st century: Primary findings from ODL students from Malawi. *Lagos University International, 6*(2), 415-433. https://doi.org/10.38087/2595.8801.204

Okeke-Uzodike, O. E. (2021). Postgraduate supervision in a South African transforming academic environment: a reflexivity approach. *Issues in Educational Research*, *31*(4), 11-75. https://iier.org.au/iier31/okeke-uzodike.pdf

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, *21*(4), 233-241. https://doi.org/10.1080/1097198X.2018.1542262

Parahoo, K. (2009). *Research, principles and process.* Buckinghamshire. Palgrave-Macmillan. Retrieved from https://books.google.ro/books/about/Nursing_Research.html?id=x_rIQAAACAAJ&redir_esc=y

Perkins, D. (2006). *Constructivism and troublesome knowledge*. In R. Land & J. H. F. Meyer(Eds.), Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge (pp. 33-47). London: Routledge. Retrieved from https://www.taylorfrancis.com/chapters/edit/10.4324/9780203966273-6/constructivism-troublesome-knowledge-david-perkins

Price, D. & Money, A. H. (2002). Alternative models for doctoral mentor organisation and research supervision. *Mentoring and Tutoring: Partnership in Learning, 10*(2), 127-135. https://doi.org/10.1080/1361126022000002446

Rainford, J., & Guccione, K. (2023). *Thriving in part-time doctoral study: Integrating work, life and research*. Abingdon, UK: Routledge. Retrieved from https://www.routledge.com/Thriving-in-Part-Time-Doctoral-Study-Integrating-Work-Life-and-Research/Rainford-Guccione/p/book/9781032122885

Rutter, N., E. Hasan, A. Pilson, & Yeo, E.(2023). It's the end of the PhD as we know it and we feel fine because everything is fucked anyway. Utilising feminist collaborative autoethnography to navigate global crises. *International Journal of Qualitative Methods,* 22, 1-12. https://doi.org/10.1177/16094069211019595

Sá, M. J., Santos, A. I. & Serpa, S. (2021). The academic supervisor of higher education students' final projects: A gatekeeper of quality? *Academic Journal of Interdisciplinary Studies, 10*(1), 152-160. https://doi.org/10.36941/ajis-2021-0013

Sackett, D. (2010). *Evidence-based practice in medicine: What it is and what it isn't.* London. Sage Medical. https://doi.org/10.1136/bmj.312.7023.71

Sarker, M. F. H., Mahmud, R. Al, Islam, M. S., & Islam, M. K. (2019). Use of e-learning at higher educational institutions in Bangladesh: Opportunities and challenges. *Journal of Applied Research in Higher Education*, *11*(2), 210-223. https://doi.org/10.1108/JARHE-06-2018-0099

Shahmoradi, L., Changizi, V., Mehraeen, E., Bashiri, A., Jannat, B., & Hosseini, M. (2018). Social support and self-care behavior study. *Journal of Education and Health Promotion, 7*(1), 1-6. https://doi.org/10.4103/jehp.jehp

Shapaka, R. K. (2025). Experiences of postgraduate doctoral students' supervision through distance education: A case of Oshana Region, Namibia. *Indonesian Journal of Education and Social Science, 4*(1), 164-175. https://doi.org/10.56916/ijess.v4i1.1095

Sichone, B. C. (2026a). An evaluation of perception shifts on eLearning within the HEI ecosystem in Zambia (2019-2023). *Journal of Education and Practice, 17*(1), 141-148. Retrieved from https://www.iiste.org/Journals/index.php/JEP/article/view/63674

Sichone, B. C. (2026b). Assessing contextual best-fitting ePedagogies for communal Zambia. *Journal of Education and Practice. 17*(1), 46-55. Retrieved from https://iiste.org/Journals/index.php/JEP/article/view/63667

Sichone, B. C. (2026c). Towards developing and enhancing an eLearning institutional culture in HEIs: The case for Zambia. *Journal of Education and Practice, 17*(1), 84-90. Retrieved from https://iiste.org/Journals/index.php/JEP/article/view/63670

Sichone, B. C. (2026d). Reflections on online research supervision in selected Zambian HEIs. *Journal of Education and Practice, 17*(1), 111-140. Retrieved from https://iiste.org/Journals/index.php/JEP/article/viewFile/63673/65821

Sudarsana, I. K., Lestari, N. G. A. M. Y., Wijaya, I. K. W. B., Krisdayanthi, A., Andayani, K.Y., Trisnadewi, K., Muliani, N. M., Dewi, N. P. S., Suparya, I. K., Gunawan, I. G. D., Tlali, T., Chere-Masopha, J., Sebatane, E., &Khalanyane, T. (2022). Challenges confronting postgraduate supervision at the National University of Lesotho:

Supervisors' perspectives. *International Journal of African Higher Education*, *28*(4), 110-128.

Sadeghi, M. (2019). A shift from classroom to distance learning: Advantages and limitations. *International Journal of Research in English Education* *4*(1), 80-88. https://doi.org/10.29252/ijree.4.1.80

Tamang, R., & Reddy, N. A. (2020). Postgraduate students' purpose, challenges, and support system towards online learning. *North-Eastern Hill University*, Shillong. https://doi.org/10.2139/ssrn.4069335

Tareen, H., & M. T. Haand. (2020). A case study of UiTM postgraduate students' perceptions on online learning: Benefits and challenges. *International Journal of Advanced Research and Publications* *4*(6), 86-94. Retrieved from https://www.researchgate.net/publication/342672493_A_Case_Study_of_UiTM_Post-Graduate_Students'_Perceptions_on_Online_Learning_Benefits_Challenges

Thulani, A. C. (2025). Postgraduate students' perceptions of effective supervision practice in an open-distance e-learning environment. *International Journal of E-Learning & Distance Education, 40*(20), 1-31. https://doi.org/10.55667/10.55667/ijede.2025.v40.i2.1373

Tladi, L. L., & Seretse, T. E. (2021). Students' perceptions of postgraduate research supervision at Botswana Open University. *University of South Africa Press, 42*(10001), 1-18. https://doi.org/10.25159/2663-5895/10001

Trafford, V. N. (2007). *Conceptual frameworks as a threshold concept*. In R. Land, J. H. F. Meyer, & J. Smith (Eds.), *Threshold concepts within the disciplines*, 273-288. Rotterdam: Sense Publications. https://doi.org/10.1163/9789460911477_021

United Council for Graduate Education (1977). *Practice-based doctorates in the creative and performing arts and design*. Coventry, UK.

Van der Laan, L., Ormsby, G., Fergusson, L. & Pau, M. (2021). The higher degree by research student as 'master': Utilising a design thinking approach to improve learner experience in higher degree research supervision. *Journal of University Teaching &Learning Practice, 18*(1). https://doi.org/10.53761/1.18.1.3

Wiitavaara, B., & Widar, L.(2025). Challenges and opportunities related to online studies in higher education. *Education and Information Technologies, 30*, 15001–15026. https://doi.org/10.1007/s10639-025-13406-x

Wisker, G., L. Highman, R. Spronken-Smith, & J. Waghorne. (2022). Across time and space: Examiner and candidate experiences of online doctoral visas. *Innovations in Education and Teaching International,* 59(2), 131-141. https://doi.org/10.1080/14703297.2021. 2022528

Wisker, G., Michelle, K., McGinn, S. S. E., Bengtsen, I. L., He, F., Solveig, C., Shosh, L., L. D., Nurhasanah, Suban, M. E., & Heru, K. (2020). Pandemic learning during the Covid-19. *Jurnal Teknologi Pendidikan*, *22*(1), 65-70. https://doi.org/10.21009/jtp.v22i1.15286

Yuliani, M., Simarmata, J., Susanti, S. S., Mahawati, E., Sudra, R. I., Dwiyanto, H., Irawan, E., Ardiana, D. putu Y., Muttaqin, M., &Yuniwati, I. (2020). *Pembelajaran daring*

untuk pendidikan: Teori dan penerapan. Yayasan Kita Menulis. Retrieved from https://kitamenulis.id/2020/08/23/pembelajaran-daring-untuk-pendidikan-teori-dan-penerapan/

Yun, D., Lai, S., Lim, C. P. & Liu, A. (2023). ChatGPT and its impact on research supervision: Insights from Australian postgraduate research students. *Australasian Journal of Educational Technology*, 39(4), 74-88. https://ajet.org.au/index.php/AJET/article/download/8843/2026

Jung, D. I. (2001). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal*, *13*(2), 185-195. https://doi.org/10.1207/S15326934CRJ1302_6

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

Zhang, A. M. (2003). *Transactional distance in web-based college learning environments: Toward measurement and theory construction* [Doctoral Dissertation]. Virginia Commonwealth University. Retrieved from https://www.learntechlib.org/p/117282/

Zhu, X.-R., Bei, Y.-L., & Qiao, S. (2020). An analysis of online teaching reform of college teachers under the background of Covid-19 epidemic: Taking advanced mathematics teaching as an example. *DEStech Transactions on Social Science, Education and Human Science*, 113–117. https://doi.org/10.12783/dtssehs/eelss2020/34601